E-PRTR Review Report 2009

on the 2007 E-PRTR dataset

ETC/ACC Technical Paper 2009/15

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waste incineration plant "Spittelau" © Umweltbundesamt/Groeger

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Executive Summary

The European Pollutant Release and Transfer Register (E-PRTR) has been established by Regulation 166/266/EC from 18 January 2006[1]. The register contains key environmental data from about 24,000 industrial facilities in 65 economic activities in 27 European Union Member States and in Iceland, Liechtenstein and Norway from 2007 onwards. The register contains data on 91 pollutants released to air, water and land and transferred in water. In addition, both domestic and transboundary waste transfers are included.

This is the report of the first informal E-PRTR data review that was carried out in 2009 and covers the reporting year 2007. It has to be pointed out that this first E-PRTR review does not constitute a formal review as required by Article 17 of the E-PRTR Regulation. While some of the data review checks performed may be useful as an input for the future review in accordance with Article 17, this informal review has not been specifically developed to serve this purpose.

The main objective of this report is to provide summary information on the 2009 review process and on the review findings. Detailed results of automated stage 1 test were provided to countries on 18 August 2009 in form of country specific Excel tables and Word files. In addition, ETC ACC performed stage 1 tests for all countries on the database from 25 September. All review results can be downloaded from CIRCA by authorized users[2] under the following link:
http://eea.eionet.europa.eu/Members/irc/eionet-circle/e-prtr/library?l=/e-prtr/country_feedback/2009_2007_dataset/release_transfer&vm=detailed&sb=Title
The more detailed results of the stage 2 review were provided to the EEA and all countries in form of Excel files.

Stage 1 review results

The stage 1 review aimed at providing detailed feedback to countries concerning potential quality issues in order to assist the countries with future data quality improvement of the E-PRTR dataset.

Number of facilities

The total number of facilities reported under E-PRTR 2007 amounted to 24,313 (EU 27, Iceland, Liechtenstein, Norway). The total number of facilities reported by the EU 25 and Norway was 23,739 compared to 11,634 facilities reported by these countries under EPER 2004. The 49% increase in the number of facilities between EPER 2004 and E-PRTR 2007 for the EU 25 plus Norway is mainly due to the enlarged scope of E-PRTR (e.g. transfers of waste, releases into soil, new pollutants) compared to EPER. Germany, Norway and Slovakia reported 100% new facilities compared to EPER 2004. This might indicate problems in reporting the link between EPER and E-PRTR facilities.

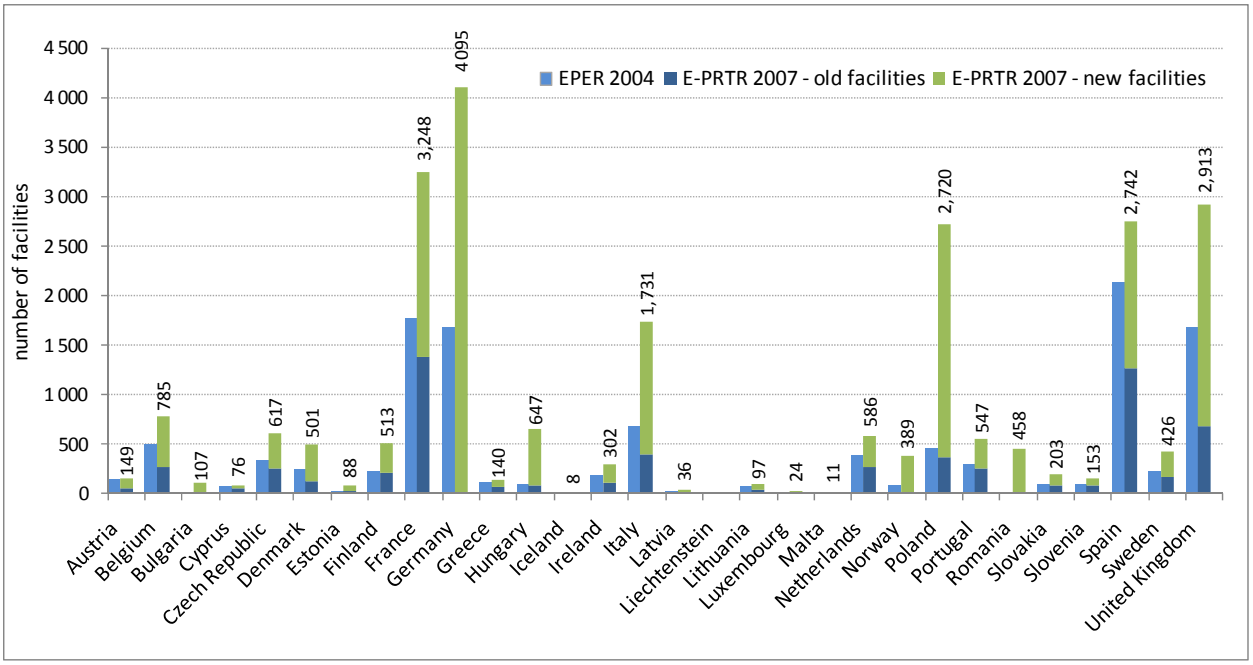
[1] http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

[2] E-PRTR Regulatory Committee members and E-PRTR data reporters

Number of release/transfer reports

The total number of release/transfer reports reported under E-PRTR for the media air, water and transfer in water amounted to 37,811 reports. In addition, 517 release reports were reported to soil in 2007. The number of E-PRTR release/transfer reports for the EU 25 plus Norway for the media air, water and transfer in water increased to 36,726 compared to 27,074 release/transfer reports under EPER 2004. This is an increase of about 36%. The main reasons for this increase are that additional pollutants and activities are included under E-PRTR and that some countries possibly submitted more complete data.

Number of facilities reported by countries under E-PRTR 2007 and EPER 2004



E-PRTR activities

Countries reported information on facilities altogether for 44 E-PRTR activities of the 45 activities. No facilities reported under activity 3.d “Installations for the production of asbestos and the manufacture of asbestos-based products”. For all the subactivities (defined for 7 activities) facilities were reported (voluntary level of detail for reporting). All but seven countries provided information on more than 20 activities, out of which France, Greece, Poland and Spain submitted data for more than 40 activities (Appendix III).

Pollutants

54 pollutants were reported as releases to air. In general, countries reported between nine and 46 pollutants. Most countries (29) reported releases of CO_2, NO_x and SO_x, 28 countries of PM_{10}, 27 countries of NH_3, CH_4 and Zn and 25 countries releases of Cd, CO, N_2O and NMVOC.

All countries except for Estonia and Liechtenstein submitted **release reports to water**. Releases of altogether 70 pollutants have been reported. Of which heavy metals, total nitrogen, total phosphorus and total organic carbon were reported most frequently as releases to water.

Fifty-seven out of the 71 pollutants with a threshold for water in Annex II of the E-PRTR Regulation were reported as **transfers in water**. Most countries (more than 20) reported transfers in water on total nitrogen, total phosphorus and total organic carbon followed by reporting of heavy metals.

Out of the 61 pollutants with a threshold for **soil** in Annex II of the E-PRTR Regulation only 21 were actually reported under E-PRTR 2007.

There might be different reasons for the limited number of release/transfer reports for some pollutants. Either the E-PRTR threshold is too high or no estimation methodology exists for this pollutant or country data is incomplete (does not include all relevant E-PRTR facilities).

Waste

13,122 facilities reported domestic transfers of hazardous waste, 6,552 facilities reported transfers of non-hazardous waste and 926 facilities reported transboundary transfers of hazardous waste. The total quantity of waste reported under E-PRTR 2007 by all countries was about 419 million tonnes. Hazardous waste within country amounted to about 51.5 million tonnes per year (12% of total) and hazardous waste outside country to about 3.3 million tonnes per year (1% of total). The quantity of non-hazardous waste transfers accounted for 364 million tonnes per year (87% of total).

Confidentiality

Four countries (Belgium, Germany, Luxembourg, Sweden) reported confidential data elements for 2007. 109 facilities reported confidential data related to the facility report, whereas 152 facilities claimed confidentiality on data related to waste transfer reports.

Accidental releases

Nine countries (out of 30) reported accidental releases. In total, 514 accidental releases of different pollutants for releases to air, water and soil were reported under E-PRTR in 2007.

Top polluters

The top 5 polluters for releases to air, water and transfer in water and the top 10 polluters for waste transfers are presented in this report. For some pollutants and media facilities with a very high share in total E-PRTR releases/transfers have been identified. These might indicate potential data outliers and should be checked by countries.

Stage 2 review findings

The purpose of the stage 2 review was to put the data reported under E-PRTR into context with data reported under CLRTAP, UNFCCC and EU ETS and to highlight differences between data reported under different reporting obligations.

Air

Comparison of E-PRTR 2007 with EU ETS

The number of facilities included in E-PRTR is about five times lower than the number of facilities in the EU ETS but countries' total CO_2 emissions under both reporting obligations are comparable. For most of the countries the share of E-PRTR CO_2 emissions in the ETS CO_2 emissions ranges between 85% and 97%. Five countries, however, reported more emissions under E-PRTR than under the EU ETS. One of the potential reasons for this is probably that countries have included emissions from biomass combustion in E-PRTR reporting.

Comparison with CLRTAP/UNFCCC national totals

The releases reported under E-PRTR cover only (large) point sources and should not exceed national total emissions reported under CLRTAP or UNFCCC, which include all anthropogenic emissions occurring in the geographical area of the country (large point sources , linear and area sources). If the total E-PRTR emissions exceed CLRTAP/UNFCCC national total emissions (with or without transport) this indicates inconsistent reporting of countries under different reporting obligations.

The figures showing the share of different activities in the E-PRTR total releases reflect the structure of the economies in the individual countries and thus cannot be identical for all countries. However, the comparison shows a number of common elements.

Stage 2 tests highlighted potential inconsistencies in reporting under different obligations such as:

a. Nine countries (Austria, Belgium, Denmark, Italy, Luxembourg, Netherlands, Norway, Spain, United Kingdom) did not report 2007 emissions to air under CLRTAP (at least one pollutant) but they report such emissions under E-PRTR 2007,
b. Twelve countries reported higher releases under E-PRTR 2007 than their national totals reported under CLRTAP (CH_4 – Italy; PFCs – Belgium, Greece, Slovenia, UK; N_2O – Finland; HM – Czech Republic, Malta, Germany; PCDD/F – France, Poland, Spain; PCBs – Italy, PAHs –Denmark). In a number of cases the difference is bigger than 200%.

Comparison with CLRTAP/UNFCCC on the activity level

The comparison of sectoral data has limitations because of the differences between the reporting obligations under E-PRTR, CLRTAP, UNFCCC and EU ETS. It has to be noted that a) not all E-PRTR pollutants are reported under CLRTAP/UNFCCC b) a significant share of E-PRTR in CLRTAP/UNFCCC emissions was observed only in the aggregated sectors A (Energy, manufacturing industies and waste incineration) and C (agriculture) and only for some pollutants.

SO_2, NO_x, PM_{10} and CO_2 E-PRTR emissions are occurring mainly in *Energy sector* followed by *Production of metals* and *Mineral industry*. Countries reported the highest share of NMVOC emissions either from *Other activities*, from *Energy sector* or from *Chemical Industry.* Ammonia emissions are reported mainly from *Livestock production and aquaculture* and *Chemical Industry* with the exception of Austria reporting a significant share of NH_3 emissions from *Energy sector.*

Detailed comparisons on the sectoral level showed that sometimes releases were reported for an E-PRTR activity (e.g. Energy and heat production) but no emissions were reported under the corresponding CLRTAP category (in this case 1A1a).

Waste

Comparison of E-PRTR 2007 with Eurostat waste data

The main constraint for the comparison of the E-PRTR 2007 data wih the Eurostat 2006 waste generation data was the difference in reporting year. Due to the reporting thresholds under E-PRTR and the coverage of only a limited number of industrial sectors, the E-PRTR waste amounts should not exceed the Eurostat amounts (for the same reporting year).

The E-PRTR reporting for 2007 covers 15% of the waste amounts reported by EU-27 Member States and Norway to EUROSTAT for the year 2006. For the hazardous waste the coverage rate is 64% and for the non-hazardous waste 14%. Although the reported amounts on sectoral level (grouping according to NACE categories) often are comparable to a certain extend on the European level, large variations have been found among the countries.

The comparison shows that in a number of cases there seems to be an inconsistency between the data reported under the E-PRTR Regulation and the data reported to Eurostat. Detailed information on a country level is provided in the report. Each country for which there seems to be an inconsistency between the waste amounts reported to E-PRTR and to Eurostat (very high or very low ratio), should evaluate the waste data reported under both reporting schemes in order to identify whether the reported data are correct and complete.

Comparison of E-PRTR 2007 with data on transboundary movements of waste

The transboundary off-site transfers of hazardous waste reported under E-PRTR are compared with the transboundary movement data reported by countries to the EEA and its ETC/SCP.

The comparison shows that on an aggregated European level, the data seem to be comparable. However on a country-specific level, there is a large discrepancy for a number of countries in the amounts reported under both schemes. Detailed information on a country level is provided in the report.

There seems to be an inconsistency between both datasets for a number of countries. Each country for which there seems to be an inconsistency, should evaluate the waste data reported under both reporting schemes in order to identify whether the reported data are correct and complete.

Content

A. Introduction

1. Background and objectives

According to Regulation (EC) No 166/2006 concerning the establishment of a European Pollutant Release and Transfer Register[3] operators that undertake one or more activities specified in Annex I of the regulation above the capacity threshold have to report their releases to air, water, land, off-site transfers of waste and of pollutants in waste water if these releases and transfers exceed the thresholds specified in Annex II of the Regulation. Member States are obliged to submit this data to the European Commission. E-PRTR is an annual reporting obligation, the first reporting year was 2007. As requested by Article 14 of Regulation the European Commission drew up a Guidance Document[4], which supports the implementation of the E-PRTR by addressing among other things the coding of activities, reporting procedures and the data to be reported. The full dataset is published on the E-PRTR website http://prtr.ec.europa.eu/.

The European PRTR (E-PRTR) implements at EU level the UNECE PRTR Protocol[5], which was signed by the European Community and 23 Member States in May 2003 in Kiev and which is a Protocol to the Aarhus Convention[6]. The E-PRTR succeeds the European Pollutant Emission Register (EPER[7)], under which data were reported for the years 2001[8] and 2004.

Article 17 of the E-PRTR Regulation[3] stipulates that the Commission shall review the data provided by Member States. However, the 2009 review of E-PRTR data from 2007 is not such a formal review as required by Article 17. While some of the data review checks performed may be useful as an input for the future review in accordance with Article 17 this informal review has not been specifically developed to serve this purpose.

EEA assists the Commission in the informal review of E-PRTR data from 2007 and has commissioned three of its European topic centers (ETC/ACC[9], ETC/SCP[10] and ETC/W[11]) with checking the E-PRTR data. The review was split up into stage 1 and stage 2. The stage 1 review was carried out be ETC/ACC for all media. For stage 2, ETC/ACC carried out the review of releases to air, whereas ETC/W and ETC/SCP reviewed releases to water and transfers of waste respectively.

[3] http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

[4] http://prtr.ec.europa.eu/pgDownloadGuidance.aspx

[5] UNECE Pollutant Release and Transfer Register (PRTR) Protocol http://www.unece.org/env/pp/prtr.htm

[6] UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, Aarhus 1998, http://www.unece.org/env/pp/.

[7] OJ L 192, 28.7.2000, p. 36; EPER website: www.eper.ec.europa.eu.

[8] Data could, alternatively, be reported for 2000 or 2002 under EPER instead of for 2001.

[9] European Topic Centre on Air and Climate Change (ETC/ACC), http://air-climate.eionet.europa.eu/

[10] European Topic Centre on Sustainable Consumption and Production (ETC/SCP), http://scp.eionet.europa.eu/

[11] European Topic Centre on Water (ETC/W), http://water.eionet.europa.eu/

The main objective of the 2009 review performed by ETC ACC, ETC/W and ETC/SCP has been to improve E-PRTR data quality by providing feedback to the countries on their data submitted under E-PRTR. The E-PRTR data have been reviewed in two stages:

- The **stage 1 review** aimed at providing detailed feedback to countries concerning the quality of the E-PRTR data reported. The stage 1 checks covered an evaluation of the number of facilities and release reports, amounts of releases and transfers reported, confidentiality claims, accidental releases, etc. The full stage 1 review was originally carried out on the database from 27 July 2009 (which included the official submissions of countries by 30/06/2009). However, this report describes stage 1 results which were updated based on the database from 25 September 2009 (containing updated data of countries as published on the E-PRTR website on 9th November 2009)[12]. These updated stage 1 results were also sent out to countries on 16 November 2009.
- The purpose of the **stage 2 review** was to put the data reported under E-PRTR into context with data reported under CLRTAP, UNFCC and EU ETS[13] and to highlight differences between data reported under different reporting obligations. The stage 2 review is based on the E-PRTR database from 25 September 2009[12].

It has to be pointed out that the stage 1 and 2 review can highlight potential inconsistencies and anomalies in reported data, but cannot check whether the data that have been submitted by the countries are correct or not. It is the responsibility of the country to check highlighted issues and improve submissions where needed.

The main objective of this report is to provide summary information on the review process and the review findings. Detailed results of automated stage 1 test were provided to the countries on 18 August 2009 (Stage 1) in form of country specific Excel tables and Word files. In addition, ETC ACC performed stage 1 tests for all countries on the database from 25 September. All review results can be downloaded from CIRCA by authorized users under the following link:
http://eea.eionet.europa.eu/Members/irc/eionet-circle/e-prtr/library?l=/e-prtr/country_feedback/2009_2007_dataset/release_transfer&vm=detailed&sb=Title

The results of the stage 2 review are available at the following locations:

- Air:http://eea.eionet.europa.eu/Members/irc/eionet-circle/e-prtr/library?l=/e-prtr/country_feedback/2009_2007_dataset/release_transfer_1/02_air&vm=detailed&sb=Title
- Waste:http://eea.eionet.europa.eu/Members/irc/eionet-circle/e-prtr/library?l=/e-prtr/country_feedback/2009_2007_dataset/release_transfer_1/03_waste&vm=detailed&sb=Title

[12] The dataset can be downloaded at the EEA dataservice: http://www.eea.europa.eu/data-and-maps/data/member-states-reporting-art-7-under-the-european-pollutant-release-and-transfer-register-e-prtr-regulation

[13] CLRTAP and UNFCCC inventories used for comparisons are the ones reported to EEA via CDR. EU ETS data are downloaded from the Community Independent Transaction Log (CITL).

2. Scope of the review

2.1. Countries covered

Table A.1 Countries covered in the 2007 E-PRTR reporting cycle

	EU27	EEA countries not belonging to EU27[14]	Countries reporting first time under E-PRTR 2007	Second time reporting countries
Austria	Yes			Yes
Belgium	Yes			Yes
Bulgaria	Yes		Yes	
Cyprus	Yes			Yes
Czech Republic	Yes			Yes
Denmark	Yes			Yes
Estonia	Yes			Yes
Finland	Yes			Yes
France	Yes			Yes
Germany	Yes			Yes
Greece	Yes			Yes
Hungary	Yes			Yes
Iceland		Yes	Yes	
Ireland	Yes			Yes
Italy	Yes			Yes
Latvia	Yes			Yes
Liechtenstein		Yes	Yes	
Lithuania	Yes			Yes
Luxembourg	Yes			Yes
Malta	Yes			Yes
Netherlands	Yes			Yes
Norway		Yes		Yes
Poland	Yes			Yes
Portugal	Yes			Yes
Romania	Yes		Yes	
Slovakia	Yes			Yes
Slovenia	Yes			Yes
Spain	Yes			Yes
Sweden	Yes			Yes
United Kingdom	Yes			Yes
TOTAL	**27**	**3**	**4**	**26**

[14] Iceland, Norway and Liechtenstein are covered by the "Agreement on the European Economic Area (EEA). The E-PRTR Regulation is included into this agreement in Annex 20:.http://www.efta.int/content/legal-texts/eea/annexes/annex20.pdf

The E-PRTR reporting cycle 2007 involved more countries than the previous EPER reporting cycles 2001 and 2004.

- EPER 2001 included data from the EU 15 (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the United Kingdom) plus Norway and Hungary.
- EPER 2004 from the EU 25 (Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom) plus Norway.
- E-PRTR 2007 includes data from the EU 27 (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom) plus Norway, Iceland and Liechtenstein. Thus in total 30 European countries were covered by the E-PRTR data review 2009.

Table A.1 gives an overview of the countries participating in the 2007 E-PRTR reporting cycle compared to the EPER reporting cycle in 2004.

2.2. Pollutants and waste included in E-PRTR reporting

The E-PRTR Regulation (No 166/2006/EC)[15], lists 91 pollutants in its Annex II 59 of these concern emissions to air, 71 emissions to water and 61 emissions to soil. For each of these pollutants threshold values are defined. If a facility exceeds these threshold values, the release/transfer has to be reported. The pollutants are grouped as following:

- chlorinated organic substances
- greenhouse gases
- heavy metals
- inorganic substances
- other gases
- other organic substances
- pesticides

For the full list of the E-PRTR pollutants including the respective thresholds see Appendix I of this report.

Facilities are required to report on off-side transfers of waste under the E-PRTR Regulation, when the total transfers of hazardous waste exceed 2 tonnes or the total transfer of non hazardous waste exceeds 2,000 tonnes.

[15] http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf

2.3. Activities included in E-PRTR reporting

E-PRTR includes 65 activities listed in Annex I of the PRTR Regulation[15] compared to 56 activities included under EPER. An operator of a facility that undertakes one or more activities specified in Annex I of the Regulation above the capacity thresholds shall report the amounts annually. New activities under E-PRTR compared to EPER are the following:

- 1.(e) Coal rolling mills with a capacity of 1 tonne per hour;
- 1.(f) Installations for the manufacture of coal products and solid smokeless fuel;
- 3.(a) Underground mining and related operations;
- 3.(b) Opencast mining and quarrying where the surface of the area effectively under extractive operation equals 25 hectares;
- 5.(f) Urban waste-water treatment plants with a capacity of 100,000 population equivalents;
- 5.(g) Independently operated industrial waste-water treatment plants which serve one or more activities of Annex I of the E-PRTR Regulation with a capacity of 10,000 m^3 per day;
- 6.(c) Industrial plants for the preservation of wood and wood products with chemicals with a production capacity of 50 m^3 per day;
- 7.(b) Intensive aquaculture with a production capacity of 1,000 tonnes of fish or shellfish per year;
- 9.(e) Installations for the building of, and painting or removal of paint from ships with a capacity for ships 100 m long.

For a full list of E-PRTR activities and thresholds see 'APPENDIX II - List of E-PRTR ANNEX I Activities' of this document.

3. Constraints on the Review

The stage 1 E-PRTR data review carried out in 2009 has been subject to the following constraints:

- Difference between E-PRTR and EPER
  In 2009, no previous E-PRTR dataset is available for comparison. Therefore 2009, the E-PRTR data (reporting year 2007) were compared with the EPER dataset (reporting year 2004). Since releases into soil and waste transfers were reported for the first time under E-PRTR 2007, no comparison data was available for these media.
  For the other media EPER comparison data were available. However, the sectors/activities and the pollutants differ under EPER and E-PRTR. Therefore, only the sectors/activities and pollutants for which a one-to-one match is available were taken into account for the stage 1 review in 2009.
- Technical problems with data import to E-PRTR
  Some data were not imported in the E-PRTR register due to technical issues related to the data format, confidentiality claims or delays in data collection, validation and compilation. This has an effect on the completeness of the E-PRTR 2007 dataset and thus influences the results of the review. A list of the missing facilities can be found at:
  http://prtr.ec.europa.eu/docs/Errors%20and%20emissions%20disclaimer_final23%2011%202009.pdf
- Large number of pollutants and activities
  Based on the large number of pollutants (91) and (sub-)activities (65) under E-PRTR it is difficult to follow up all findings highlighted by the automated tests because all pollutants would have to be selected and analyzed individually. The priority for air emissions has thus been given to the NECD

pollutants, CO_2 and PM_{10}. The priority for water releases has been given to heavy metals, total nitrogen, total phosphorus and total organic carbon.

B. Results of Stage 1 Review

In this chapter selected finding of the stage 1 review are presented. Since there are 91 pollutants covered under E-PRTR not all findings from the stage 1 review at a pollutant level can be included in this report. Information on total E-PRTR releases/transfers in (kg/year) per pollutant and media in individual countries and regions is possible to find in excel files submitted to countries.

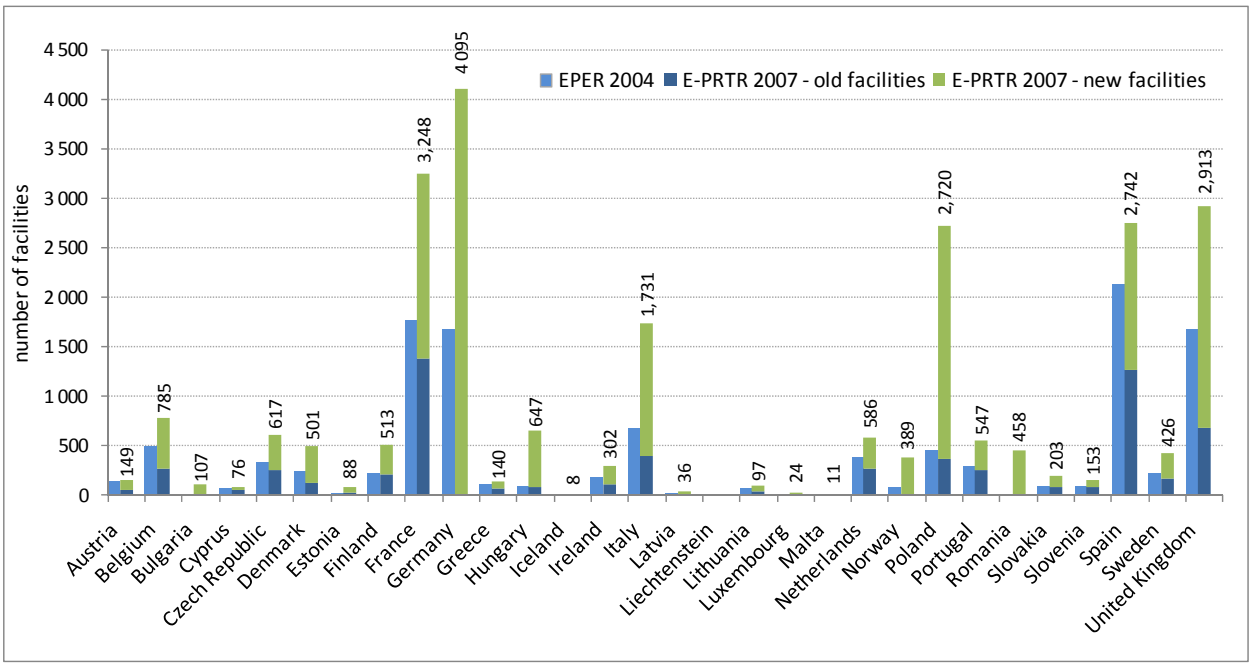
1. Number of facilities/releases

A facility refers to one or more installations on the same site that are operated by the same natural or legal person. A pollutant release/transfer report is defined as a release or transfer reported for a specific pollutant by a specific facility in a specific year. For example facility A reports in 2007 releases to air for CO_2, SO_2, NO_x and Cd. This means that it reports four pollutants, which equals four release reports for facility A in 2007.

1.1. Number of facilities

Figure A.1 shows the number of facilities reported by country for E-PRTR 2007 in comparison to EPER 2004. For E-PRTR 2007 both the number of facilities that reported under E-PRTR 2007 and EPER 2004 and the number of facilities that reported for the first time under E-PRTR 2007 are displayed.

Figure A.1 Number of facilities reported by countries under E-PRTR 2007 and EPER 2004



A comparison of the number of facilities between years might serve as an indicator of completeness of reported data. Since E-PRTR covers a wider range of activities and pollutants than EPER the expected

result for the 2007 data is an increase in the number of facilities under E-PRTR. The following issues can be observed:

- The total number of facilities und E-PRTR 2007 amounted to 24,313 (EU 27, Iceland, Liechtenstein, Norway). The total number of facilities reported by the EU 25 and Norway was 23,739 compared to 11,634 facilities reported by these countries under EPER 2004. The 49% increase between EPER 2004 and E-PRTR 2007 for the EU 25 plus Norway in the number of facilities is mainly due to the enlarged scope of E-PRTR (e.g. transfers of waste, releases into soil, new pollutants) compared to EPER. The situation in individual countries differs, e.g. in Hungary and Poland the number of facilities increased by over 80%, whereas in Austria, Cyprus, Latvia and Slovakia the number increased only by less than 20% between EPER 2004 and E-PRTR 2007.
- The four countries (Bulgaria, Romania, Liechtenstein and Iceland), which reported for the first time under E-PRTR 2007, had a total number of facilities of 574.
- About 46% of the facilities (for the EU 25 plus Norway) that were included under EPER 2004 are not included anymore under E-PRTR 2007.
- About 74% of the facilities (for the EU 25 plus Norway) reporting in 2007 were reported as new compared to EPER 2004. Germany and Norway 100% new facilities under E-PRTR 2007. This high percentage of new facilities indicates that the EPER facility IDs were not always properly linked to the E-PRTR facility IDs. Bulgaria, Iceland, Liechtenstein and Romania were not included under EPER 2004 and therefore only new facilities appear in E-PRTR 2007 for these countries.

If changes in the number of facilities are analyzed at the activity level the following issues can be observed:

- In several countries the increase of the number of facilities under E-PRTR 2007 compared to EPER 2004 is partly based on the reporting of the new activities under E-PRTR (1.(e), 1.(f), 3.(a), 3.(b), 5.(f), 5.(g), 6.(c), 7.(b), 9.(e)). Table A.2 illustrates the number of facilities that reported under these new activities.

Table A.2 Number of facilities that reported under the new E-PRTR activities (1.e, 1.f, 3.a, 3.b, 5.f, 5.g, 6.c, 7.b, 9.e)

Sector	Activity	No of facilities (2007)
1	1.(e)	24
	1.(f)	34
3	3.(a)	1607
	3.(b)	1388
5	5.(f)	3427
	5.(g)	285
6	6.(c)	242
7	7.(b)	1255
9	9.(e)	431
Total		**8693**

- On the country level, for example in Norway, the number of facilities increased from 88 under EPER 2004 to 389 under E-PRTR 2007 – 257 facilities reported under the new activity 7.(b) Intensive

aquaculture (fisheries). In Poland, 214 facilities reported under the new activity 3.(a) underground mining, 76 under 3.(b) Opencast mining and quarrying and 71 under 5.(f) Urban waste water treatment plants.

- For some activities that were already included under EPER the number of facilities reported increased significantly under E-PRTR. This trend has been observed especially for activity 4.(a) Chemical installations for the production of basic organic chemicals and 7.(a) Installations for the intensive livestock production (poultry and pigs). For activity 4.(a) the number of facilities reported by Poland and Spain increased from 15 under EPER 2004 to 89 under E-PRTR 2007 and from 61 to 131, respectively. For activity 4.(a), the increase in the number of facilities reporting appears to be due to the inclusion of the reporting of waste transfers in E-PRTR 2007 (1,366 facilities). For activity 7.(a), the increase in facilities seems to be an indicator for more complete reporting. In Poland, for example, the number of facilities reported under 7.(a) increased from 19 to 540 under E-PRTR 2007.

A detailed table of the number of facilities that reported per country and per activity is included in Appendix III of this report. Countries reported information on facilities altogether for 44 E-PRTR activities. All but seven countries provided information on more than 20 activities, out of which France, Greece, Poland and Spain submitted data for more than 40 activities (Appendix III). Most countries (27 out of 30) reported facilities in activities 1(c), 2 (e), 3(c), 5(a) and 5(d). On the other hand, less than five countries submitted data for activity 1(b), 1 (e) and 1 (f).

1.2. Number of facilities reporting waste transfers

Figure A.2 Number of facilities reporting waste under E-PRTR 2007

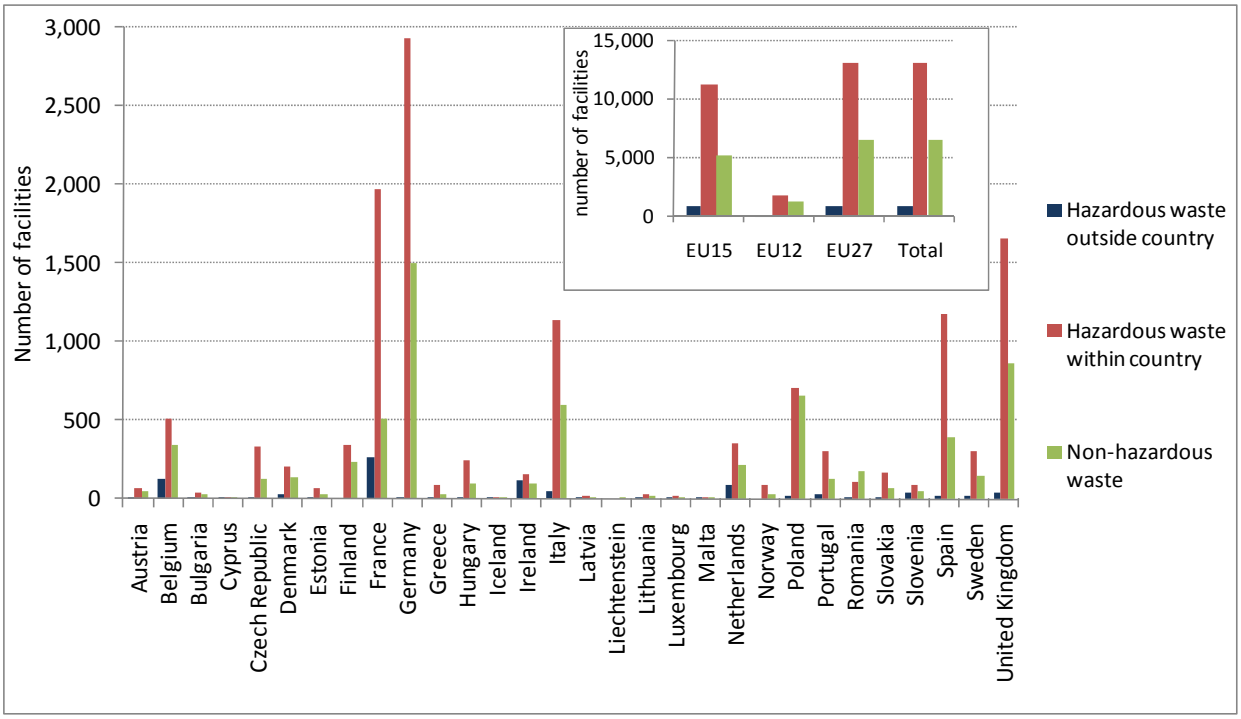


Figure A.2 presents the number of facilities reporting waste per country under E-PRTR 2007. The waste types are non-hazardous waste, hazardous waste within country and hazardous waste outside country.

In total, 13,122 facilities reported transfers of hazardous waste within country, 6,552 facilities reported transfers of non-hazardous waste and only 926 facilities reported transfers of hazardous waste outside country.

1.3. Number of release/transfer reports

The total number of release/transfer reports reported under E-PRTR for the media air, water and transfer in water amounted to 37,811 reports. In addition, 517 release reports were reported to soil under E-PRTR 2007. Releases to soil were not covered under EPER 2004.

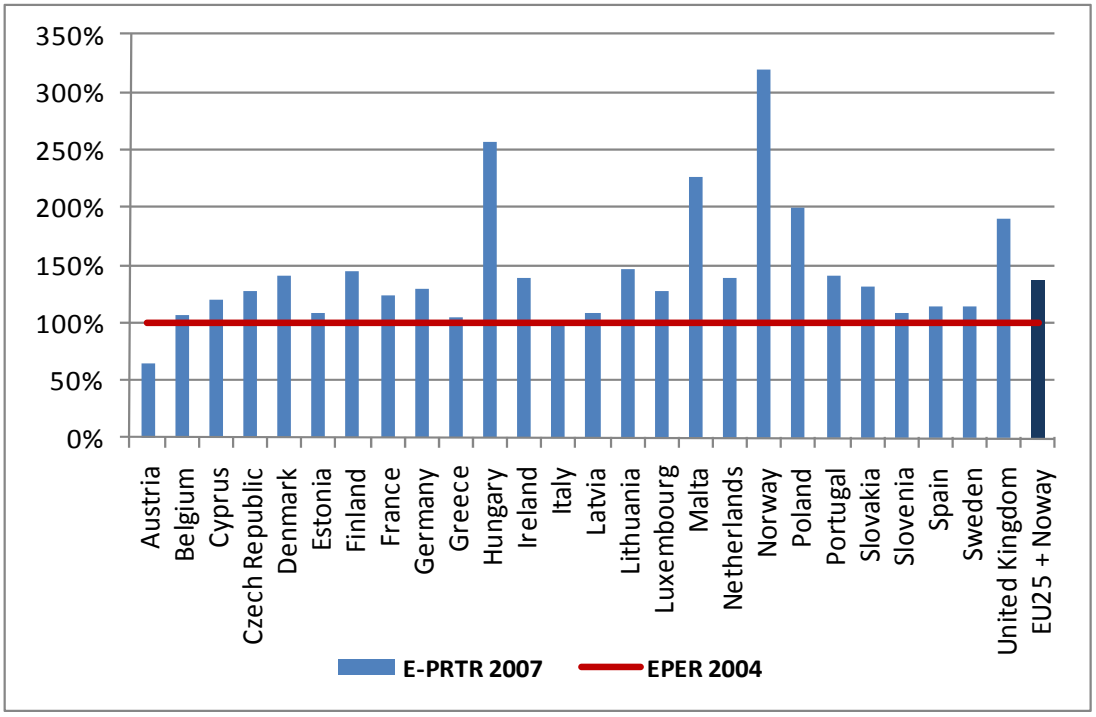
For the comparison of the number of release/transfer reports with EPER 2004 only those release/transfer reports from EPER 2004 have been counted that specify a pollutant or a pollutant group[16]. For 103 release/transfer reports from EPER 2004 there is neither a pollutant nor a pollutant group indicated in the database and those release/transfer reports are thus not included in the analysis and figures below.

The number of E-PRTR release/transfer reports for the EU 25 plus Norway for the media air, water and transfer in water increased to 36,726 compared to 27,074 release/transfer reports under EPER 2004. This is an increase of about 36%. Reasons for this increase are that additional pollutants and activities are included under E-PRTR and that some countries possibly submitted more complete data.

Figure A.3 illustrates the total number of release/transfer reports for air, water and transfer in water under E-PRTR 2007 compared to EPER 2004. For all countries except for Austria, which only reported 64% of the number of release/transfer reports under EPER 2004, the number of release/transfer reports increased significantly under E-PRTR 2007 compared to EPER 2004. The highest increases were reported by Hungary, Malta, Norway, Poland and the United Kingdom.

[16] The number of pollutant release/transfer reports for EPER 2004 which specify the pollutant or pollutant group is taken from test 3 of the stage 1 Excel tool.

Figure A.3 Number of release/transfer reports under E-PRTR 2007 compared to EPER 2004 (air, water, transfer in water)

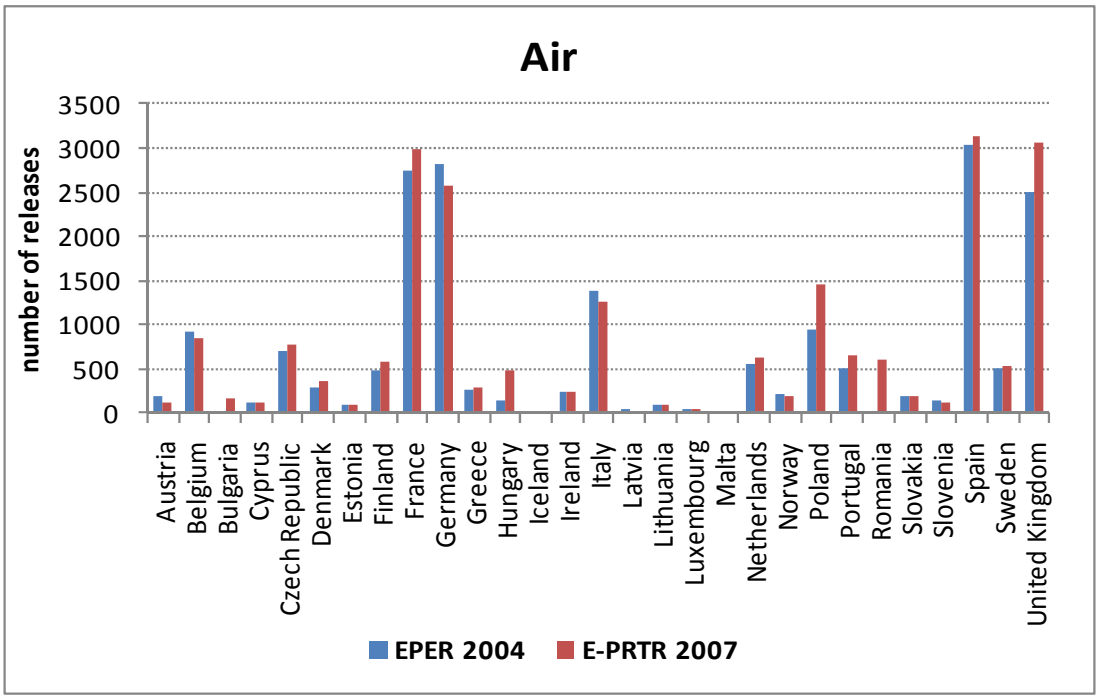


Note: *Due to the fact that Bulgaria, Iceland, Liechtenstein and Romania reported under E-PRTR 2007 but not under EPER 2004 no comparison between these data sets was possible.*

1.3.1. Number of release reports to air

Figure A.4 presents the number of release reports to air per country for EPER 2004 and E-PRTR 2007. The total number of release reports to air for all countries under E-PRTR 2007 amounted to 21,664. The EU 25 plus Norway reported 20,884 release reports to air under E-PRTR 2007 compared to 19,156 under EPER 2004. This is an increase of about 9%, which is based on additional pollutants and activities included under E-PRTR or an increase in the completeness of data. Some countries (Austria, Belgium, Estonia, Germany, Ireland, Italy, Latvia, Norway and Slovenia), however, reported fewer release reports to air under E-PRTR than under EPER 2004 (see Figure B.4).

Figure A.4 Number of release reports to air under EPER 2004 and E-PRTR 2007



Note: *Bulgaria, Iceland and Romania reported under E-PRTR 2007 but not under EPER 2004. Liechtenstein did not report any release/transfer report for air, water or transfer in water and is thus not included in this graph.*

A detailed table of the number of release reports to air per country and pollutant is included in Appendix IV of this report.

Individual countries provided release reports for nine to 46 pollutants. Most countries (29) reported releases of CO_2, NO_x and SO_2; 28 countries of PM_{10}, 27 countries of NH_3, CH_4 and Zn and 25 countries releases of Cd, CO, N_2O and NMVOC. Release reports for heavy metals (Hg, Cr, and Cu) and some POPs were also provided by more than 20 countries. On the other hand, 11 pollutants (Aldrin, Asbestos, Chlordane, Chlordecone, DDT, Dieldrin, Endrin, Heptachlor, Lindane, Pentachlorophenol (PCP), Toxaphene) out of the 60 with a threshold for releases to air in Annex II of the E-PRTR Regulation were not reported by any E-PRTR facility. Five pollutants (Chlorides, Fluorides, Phenols, Total nitrogen, Total organic carbon (TOC)) were reported as releases to air although there was no threshold to air included in Annex II of the E-PRTR Regulation for these pollutants. This might be a potential anomaly in data and should be checked by countries.

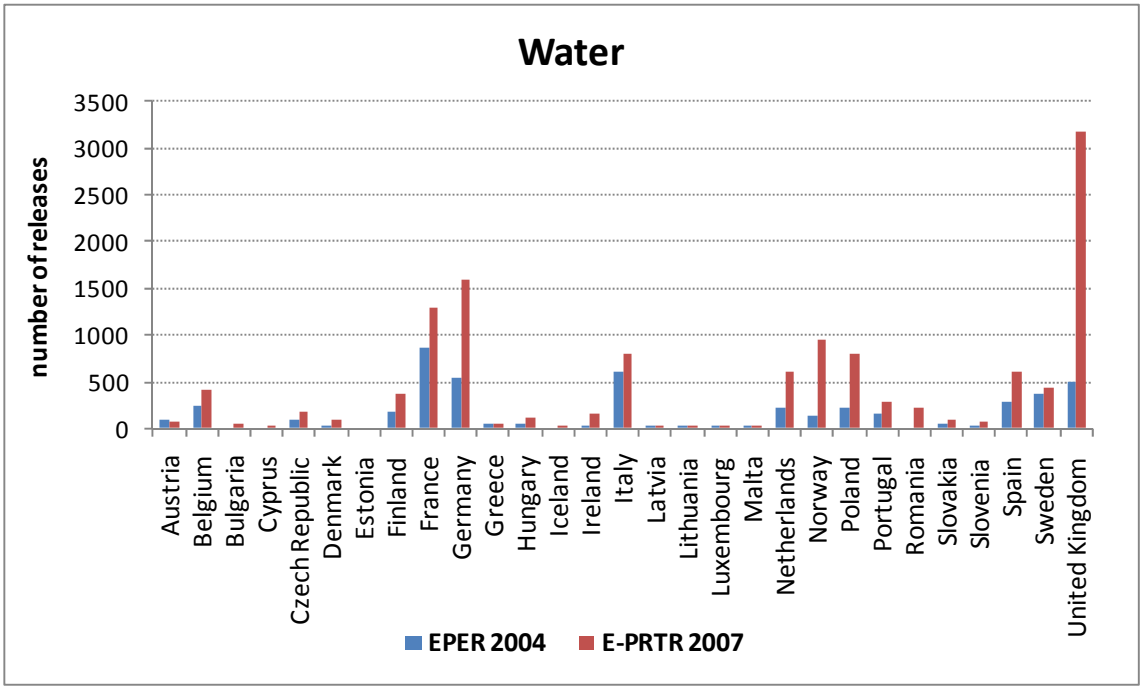
Eight pollutants were reported by only one country in one or more release reports to air; Netherlands – HCH, Chlorides, Fluorides; Italy – Mirex; United Kingdom –PCP; Norway, Chlorides, Total Nitrogen, Total Organic Carbon. Only one release report to air in the whole E-PRTR was reported for the following pollutants: 1,2,3,4,5,6-hexachlorocyclohexane (HCH), Mirex, Pentachlorophenol (PCP) and Total Nitrogen (Norway). Out of these there is no threshold for air in the E-PRTR Regulation for total nitrogen as has been indicated above.

There might be different reasons for the limited number of release reports for some pollutants. Either the E-PRTR threshold is too high or no estimation methodology exists for this pollutant or country data is incomplete (does not include all relevant E-PRTR facilities).

1.3.2. Number of release reports to water

Figure A.5 compares the number of release reports to water per country for EPER 2004 and E-PRTR 2007. The total number of release reports to water for all countries under E-PRTR 2007 amounted to 12,532. The EU 25 plus Norway reported 12,264 release reports to water compared to only 4,783 release reports under EPER 2004. This is an increase of about 162%. The number of release reports to water increased in all countries except for Austria. The countries with the most significant increases were Denmark, Ireland, Latvia, Lithuania, Norway and the United Kingdom (≥ 600%).

Figure A.5 Number of release reports to water under EPER 2004 and E-PRTR 2007



Note: *Bulgaria, Iceland and Romania reported under E-PRTR 2007 but not under EPER 2004. Liechtenstein did not report any release/transfer report for air, water or transfer in water and is thus not included in this graph.*

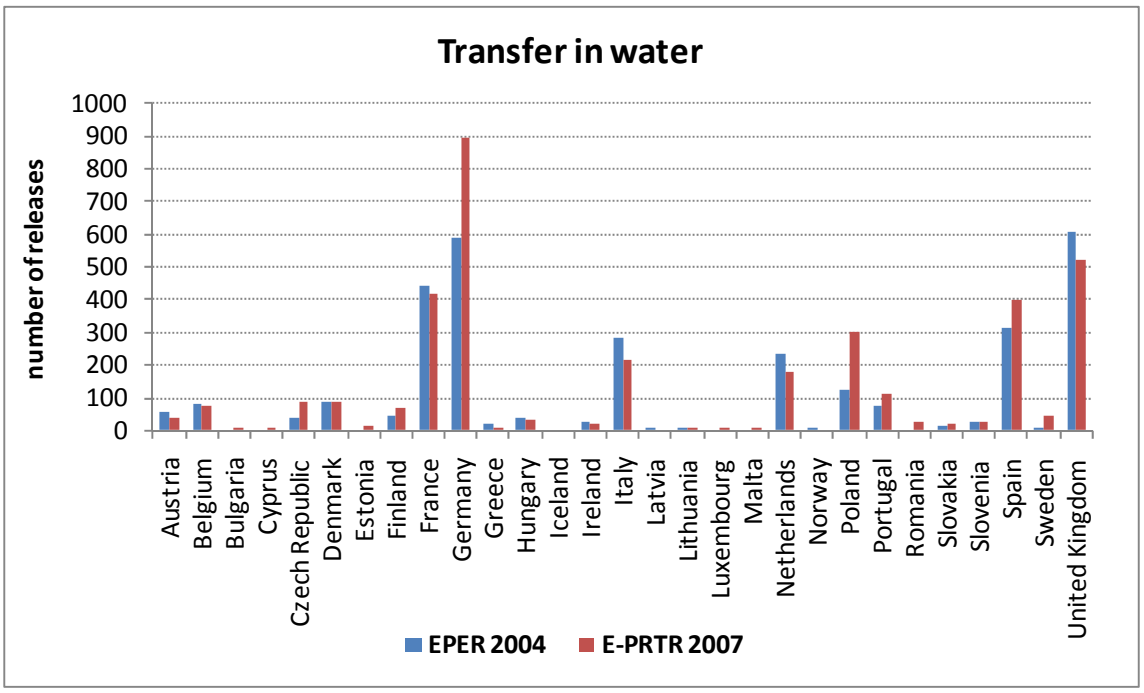
A detailed table of the number of release reports to water per country and pollutant is included in Appendix V of this report. All countries except for Estonia and Liechtenstein submitted release reports to water. Out of the 71 pollutants with a threshold for water in Annex II of the E-PRTR Regulation only five pollutants (Chlordane, Chlordecone, Ethylene oxide, Nonylphenol and Nonylphenol ethoxylates (NP/NPEs), Toxaphene) were not reported by any facility. Four pollutants (1,1,1-trichloroethane, Ammonia (NH_3), Chlorine and inorganic compounds (as HCl), Sulphur oxides (SO_x/SO_2)) that have no threshold for water were reported as releases in water. All of the facilities concerned are located in Norway. This might be a potential anomaly in data and should be checked by the country.

The pollutants that were reported by countries most frequently as releases to water were heavy metals (Cu - 27, Pb, Zn - 26, Ni - 25, As - 24 and Cd - 23 countries). In addition, total nitrogen, total phosphorus and total organic carbon were reported by 25 countries each (83% of all).

1.3.3. Number of pollutant transfer reports in water

The total number of pollutant transfer reports for all countries under E-PRTR 2007 amounted to 3,615. The EU 25 plus Norway reported 3,578 compared to 3,135 under EPER 2004 – this is an increase of about 14% (Figure A.6). Nine countries reported a higher number of pollutant transfer reports under E-PRTR 2007, whereas 13 countries reported fewer pollutant transfer reports compared to EPER 2004.

Figure A.6 Number of transfer reports in water under EPER 2004 and E-PRTR 2007



Note: *Bulgaria, Iceland and Romania reported under E-PRTR 2007 but not under EPER 2004. Liechtenstein did not report any release/transfer report for air, water or transfer in water and is thus not included in this graph.*

A detailed table of the number of transfer reports in water per country and pollutant is included in Appendix VI of this report. Out of the 71 pollutants with a threshold for water in Annex II of the E-PRTR Regulation 14 were not reported by any E-PRTR facility. No pollutant without a threshold for water was reported as a transfer in water. Most countries (more than 20) reported transfers in water on total nitrogen, total phosphorus and total organic carbon followed by reporting of heavy metals. Iceland, Liechtenstein and Norway did not report any transfers in water. Several pollutants were reported by only one country. The reasons for this might be too high E-PRTR thresholds, missing estimation methods or incomplete reporting.

1.3.4. Number of release reports to soil

Releases to soil were not included under EPER and reported for the first time under E-PRTR 2007. Only eight countries (out of 30) reported releases to soil in 2007 (Table A.3) of which six countries (Germany, Ireland, Malta, Norway, Portugal and Slovakia) reported only one or two facilities with releases to soil whereas the United Kingdom reported 31 and France 94 facilities. Such significant differences might indicate that in a number of countries the data on releases to soil are missing or incomplete. Out of the

61 pollutants with a threshold for soil in Annex II of the E-PRTR Regulation only 21 were actually reported under E-PRTR 2007.

Table A.3 Number of facilities and release reports to soil under E-PRTR 2007

Country	Number of facilities	Number of facility reports
France	94	370
Germany	1	16
Ireland	1	1
Malta	1	3
Norway	1	1
Portugal	1	1
Slovakia	2	3
United Kingdom	31	122

2. Quantity of waste transfers

Under E-PRTR 2007 transfers of waste were reported for the first time. The waste types are hazardous waste within country, hazardous waste outside country and non-hazardous waste. The waste treatment types are disposal and recovery.

The total quantity of waste reported under E-PRTR by all countries was about 419 million tonnes per year. Hazardous waste within country amounted to about 51.5 million tonnes per year (12% of total) and hazardous waste outside country to about 3.3 million tonnes per year (1% of total). The quantity of non-hazardous waste transfers accounted for 364 million tonnes per year (87% of total).

Figure A.7 indicates that non-hazardous waste is the dominant waste type that has been reported by all countries. Hazardous waste within country has been reported by all countries except Liechtenstein, whereas hazardous waste outside country was not reported by Finland, Germany, Liechtenstein and Norway. For some countries very small quantities of a certain waste type were reported so that these are difficult to see in the graph. A more indepth analysis is provided in the chapter on the stage 2 review on the waste data.

Figure A.7 Total quantity of the three waste types reported by countries under E-PRTR 2007

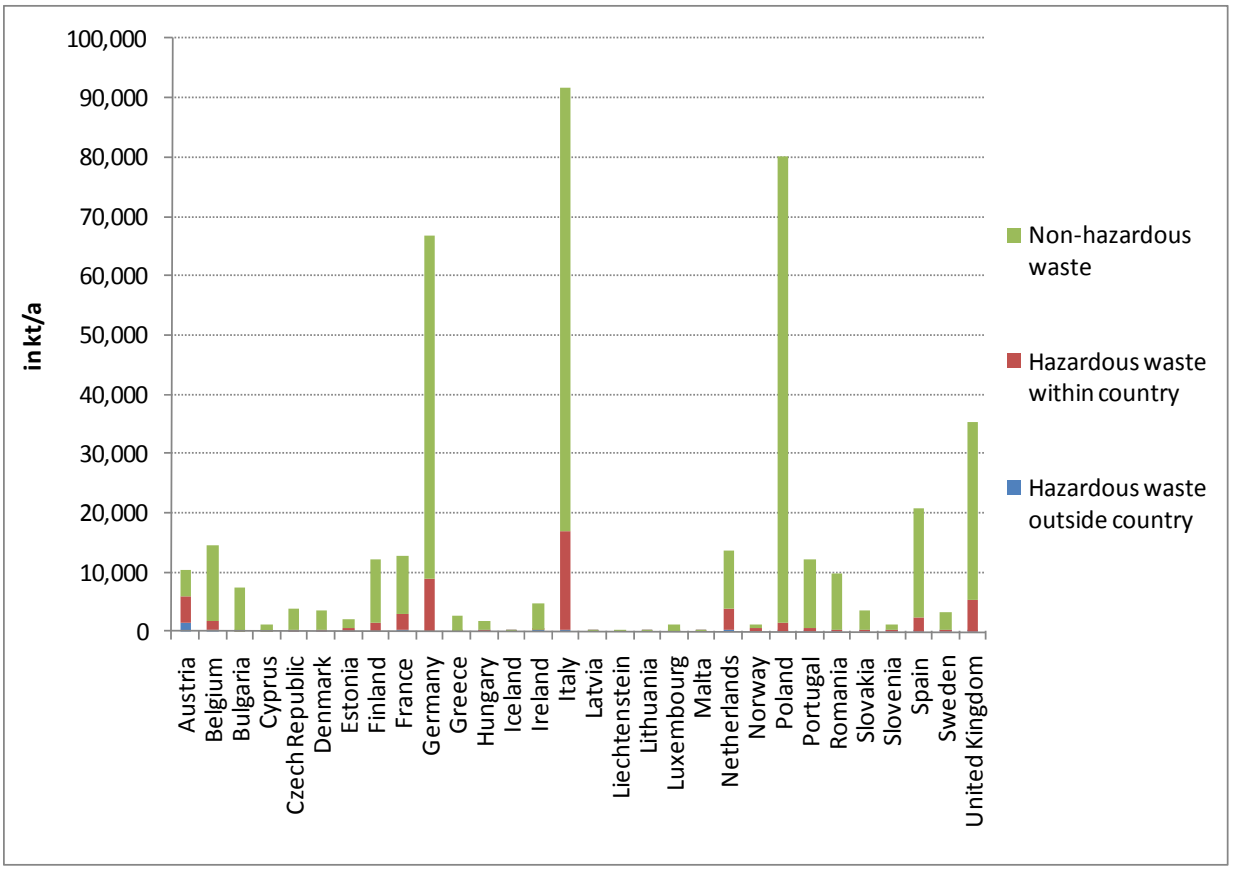
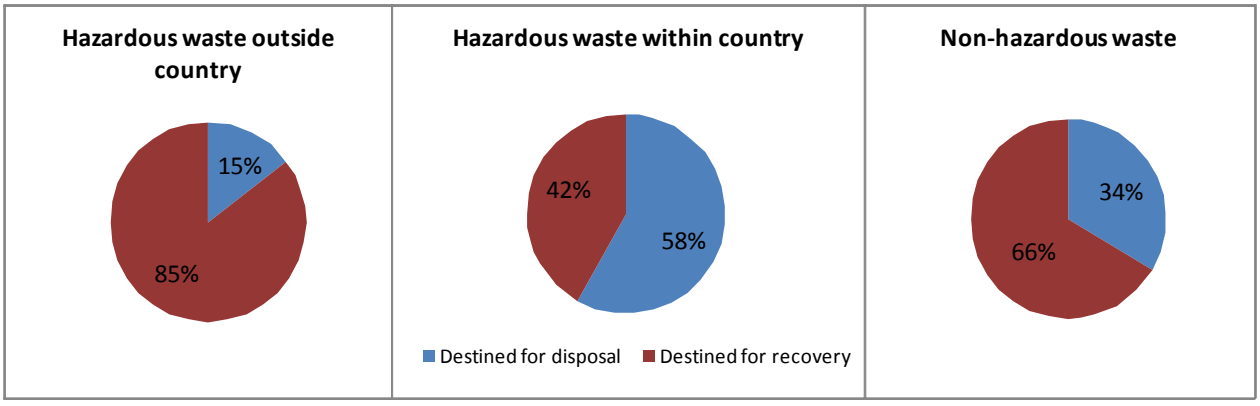


Figure A.8 shows the percentage of waste that has been disposed or recovered for the different waste types. Most of the waste transferred outside the country is destined for recovery (85%), whereas for hazardous waste transferred inside the country the major part of the waste is disposed of (58%). For non-hazardous waste recovery is the dominant waste treatment option.

Figure A.8 Percentage of disposed or recovered waste for different waste types under E-PRTR 2007



Note: *Total amount of hazardous waste outside country: 3.3 million t/a, total amount of hazardous waste within country: 51.5 million t/a, total amount of non-hazardous waste: 364 million t/a*

3. Reporting of confidential data

Article 11 of the E-PRTR Regulation provides the option of claiming confidentiality for certain data elements in E-PRTR reports in accordance with Article 4 of Directive 2003/4/EC[17] of the European Parliament and of the Council of 28 January 2003 on public access to environmental information. If confidentiality is claimed the country has to indicate separately for each facility the type of information that has been withheld and the reason for which it has been withheld.

Table A.4 Facilities reporting confidential data in E-PRTR 2007

Country	Sector	Facility Report	Waste Transfer
Belgium	1		5
	2		9
	3		2
	4		27
	5		49
	7	63	
	9		2
Belgium total		**63**	**94**
Germany	2	4	6
	3	1	1
	4	1	6
	5	10	33
	6	2	2
	7	26	
	8	2	2
	9		2
Germany total		**46**	**52**
Luxembourg	2		2
	4		1
	5		1
	6		1
Luxembourg total			**5**
Sweden	5		1
Sweden total			**1**

Confidential data has been evaluated at four different levels: the level of the facility report, the pollutant release report, the pollutant transfer report and the waste transfer report. The review did not investigate which specific data element was kept confidential. Only four countries reported confidential data referring either to the facility report or to the waste transfer report. Confidentiality related to the facility report refers to data elements that identify the facility (e.g. address). Confidentiality related to

[17] OJ L 41, 14.2.2003, p. 26

the waste transfer report refers to confidential data elements regarding waste transfer reports, e.g. the waste type.

Table A.4 illustrates the number of facilities reporting confidential data on the level of the facility and the waste transfer report for the four countries mentioned. 109 facilities reported confidential data related to the facility report, whereas 152 facilities claimed confidentiality on data related to waste transfer reports.

For both confidentiality at the level of the facility report and of the waste transfer report Belgium has the highest number of facilities reporting confidential data followed by Germany. One reason for the high number of confidential reports in Belgium is that all facility reports in sector 7 – intensive livestock production and aquaculture – were reported as confidential without data being withheld.

4. Accidental releases

Under E-PRTR operators are required to report all releases and transfers resulting as totals of all deliberate, accidental, routine and non-routine activities. Therefore E-PRTR has been enlarged in scope compared to EPER to include accidental releases. Nine countries (out of 30 countries) reported accidental releases. In total, 514 accidental releases to air, water and soil of different pollutants were reported under E-PRTR in 2007. Table A.5 illustrates the number of accidental release reports that were reported as releases to air, water and soil by country. Countries that are not included in this list did not report any accidental releases.

Table A.5 Number of accidental release reports (for all pollutants) by country in E-PRTR 2007

Country	Number of accidental release reports
Netherlands	120
Spain	107
France	73
Poland	73
United Kingdom	50
Germany	27
Belgium	19
Italy	14
Slovenia	7
Ireland	6
Austria	5
Romania	4
Lithuania	3
Bulgaria	2
Greece	2
Denmark	1
Malta	1
Total	**514**

Countries can find detailed information on the quantity of the accidental releases for every pollutant and medium in the stage 1 Excel tool (Test 6).

Table A.6 provides an overview of the pollutants for which the highest accidental releases to air have been reported under E-PRTR 2007. All pollutants with a share in total E-PRTR releases to air of over 1% for the respective pollutant have been included in the table.

Table A.6 Pollutants with high accidental quantity of releases to air

Pollutant	Quantity of accidental releases kg/a	Quantity of accidental releases kg/a	Number of accidental releases	% share of accidental releases in total E-PRTR releases
Hexabromobiphenyl	0.10	3.10	1	3.23%
Tetrachloromethane (TCM)	1,194.76	63,187.00	3	1.89%
Lead and compounds (as Pb)	9,737.82	545,157.00	8	1.79%
Hydro-fluorocarbons (HFCs)	24,772.00	1,601,879.00	28	1.55%
Benzene	64,280.00	4,278,990.00	4	1.50%
Cadmium and compounds (as Cd)	263.00	18,360.00	1	1.43%

Concerning accidental releases to water Table A.7 provides an overview of the pollutants for which the highest accidental releases to water have been reported under E-PRTR 2007. All pollutants with a share in total E-PRTR releases to air of over 1% for the respective pollutant have been included in the table. The pollutant Hexabromobiphenyl has only been reported as accidental release to water (share of 100%). Two other pollutants have a very high share of over 80% of accidental release in total release of this pollutant to water.

Table A.7 Pollutants with high quantity of accidental releases to water

Pollutant	Quantity of accidental releases kg/a	Total quantity of releases kg/a	Number of accidental releases	% share of accidental releases in total E-PRTR releases
Hexabromobiphenyl	0.10	0.10	1.00	100.00%
Chlorpyrifos	68.00	82.33	1.00	82.59%
PCDD + PCDF (dioxins + furans) (as Teq)	0.10	0.12	1.00	82.17%
Hexachlorobutadiene (HCBD)	35.00	134.57	2.00	26.01%

Table A.8 shows that for releases to soil there are three pollutants with accidental releases to soil of over 1% of the total E-PRTR release. Especially remarkable is the pollutant vinyl chloride with a share of accidental release to soil of 100%.

Table A.8 Pollutants with high quantity of accidental releases to soil

Pollutant	Quantity of accidental releases kg/a	Total quantity of releases kg/a	Number of accidental releases	% share of accidental releases in total E-PRTR releases
Vinyl chloride	11.80	11.80	1	100.00%
Hexabromobiphenyl	0.10	0.20	1	50.00%
PCDD + PCDF (dioxins + furans) (as Teq)	0.10	0.36	1	27.55%

5. Top polluting facilities

The lists of top polluting facilities in this chapter identify those facilities which have the highest releases and/or transfers. The fact that a facility is amongst the highest polluters, does not provide any information concerning the environmental performance of those facilities. The necessary background information related to the facilities to perform such an assessment (e.g. capacity, fuel use, etc.) is not reported under E-PRTR.

5.1. Top polluting facilities for releases to air

Table A.9 below provides information for selected pollutants[18] on the five facilities with the highest share of total E-PRTR releases to air per pollutant. The selected pollutants are:

- *main GHGs* reported also under UNFCCC; carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O)
- *acidifying pollutants and ozone precursors;* ammonia (NH_3), carbon monoxide (CO), nitrogen oxides (NO_x/NO_2), non-methane volatile organic compounds (NMVOC), sulphur oxides (SO_x/SO_2) and
- other pollutants reported under CLRTAP
  - particulate matter (PM_{10})
  - heavy metals; arsenic and compounds (as As), cadmium and compounds (as Cd), chromium and compounds (as Cr), copper and compounds (as Cu), lead and compounds (as Pb), mercury and compounds (as Hg), nickel and compounds (as Ni), zinc and compounds (as Zn), and
  - persistent organic pollutants (POPs); polycyclic aromatic hydrocarbons (PAHs), hexachloro-benzene (HCB), PCDD/PCDF (dioxins /furans) (as Teq)

The complete list of facilities ranked among the E-PRTR top 20 polluting facilities including information on their share in total E-PRTR emission is provided in the stage 1 Excel tool, sheet "E-PRTR TOP20".

Distribution of emissions for some pollutants like CO_2, and NMVOC seem to be more or less evenly – the share of the top five polluting facilities in the Europe is mostly around 1% each. The situation for SO_2, NO_x, N_2O, PM_{10} and HMs is slightly different; the share of the biggest sources in E-PRTR totals lies in a range from 2% to 10%. For example, one facility in Italy contributes 4.7% of total E-PRTR 2007 NO_x releases to air. The top five facilities for SO_2 contribute altogether 24% of total E-PRTR releases (Table A.9). The test also identified a number of potential anomalies, particularly in reporting of PCDD/PCDF, PAHs, HCB and CH4, for which the share of some individual sources resulted to be higher than 20% or sometimes even higher than 50%. This findings should be further investigated by countries and data corrected where needed for the next resubmission. A possible reason for the anomalies could be wrong reporting units.

The test also identified that a number of pollutants is reported only by one facility or just by one country e.g. (Mirex, Phenols as total C, 1,2,3,4,5,6-hexachlorocyclohexane (HCH), etc.). This might indicate that either the threshold for these pollutants is too high and/or the reporting of countries is not complete.

[18] The list of top 20 E-PRTR facilities for each pollutant (91 in total) can be produced with the *Stage1 tool* distributed to all countries on 18 August 2009 (version with resubmitted data was distributed on 16 November 2009).

Table A.9 Facilities with the highest releases to air of selected pollutants under E-PRTR 2007

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Chlorinated organic substances							
Hexachloro-benzene (HCB)	15035	W019	Belgium	CBR SA - SITE DE LIXHE	3.(c).(i)	31	36.05%
	48303	100186331	Finland	Yara Suomi Oy, Kokkolan tehtaat/ Kaliumsulfaattitehdas	4.(b)	31	35.70%
	15036	W020	Belgium	CCB sa - site de GAURAIN-RAMECROIX	3.(c).(i)	13	15.47%
	15038	W022	Belgium	CBR SA - SITE D'ANTOING	3.(c).(i)	11	12.79%
Hexachlorobenzene (HCB) total "Top 5"						**86**	**100.00%**
PCDD/PCDF (dioxins /furans) (as Teq)	9102	3685	Spain	ARCELOR ALAMBRON ZUMARRAGA, S.A. (ARCELOR ALAMBRON ZUMARRAGA, S.A.)	2.(b)	66	72.87%
	48980	P0022	Ireland	Finsa Forest Products Limited	6.(b)	22	24.44%
	4675	06K000440	Poland	Zakłady Azotowe w Tarnowie-Mościcach S.A.	4.(a)	1	0.61%
	61643	3006	Spain	TREFAL, SA	2.(e).(ii)	0	0.49%
	6497	12S000298	Poland	Południowy Koncer Energetyczny S.A., Elektrownia Jaworzno III - Elektrownia III	1.(c)	0	0.36%
PCDD + PCDF (dioxins + furans) (as Teq) total "Top 5"						**89**	**98.76%**
Greenhouse gases							
Carbon dioxide (CO_2)	55255	06-05-300-0326774	Germany	RWE Power AG	1.(c)	31,300,000 000	1.57%
	1298	05E000016	Poland	BOT Elektrownia Bełchatów S.A.	1.(c)	28,300,000,000	1.42%
	57567	12-4071001000 0	Germany	Vattenfall Europe Generation AG & Co. KG Kraftwerk Jänschwalde	1.(c)	24,200,000,000	1.21%
	13777	EW_EA-67	United Kingdom	Drax Power Limited	1.(c)	22,600,000,000	1.13%
	55300	06-05-300-0877384	Germany	RWE Power AG Kraftwerk Weisweiler	1.(c)	19,900,000,000	1.00%
Carbon dioxide (CO_2) total "Top 5"						**126,300,000,000**	**6.32%**
Methane (CH4)	80	2007001796	Italy	Discarica per rifiuti non pericolosi di Chivasso	5.(d)	3,020,000,000	55.67%
	49581	12S000505	Poland	Jastrzębska Spółka Węglowa S.A. Kopalnia Węgla Kamiennego "Pniówek"	3.(a)	63,300,000	1.17%
	61312	RO7SB_511	Romania	SC TRACON SRL - DEDMI CRISTIAN	5.(d)	53,100,000	0.98%
	49520	06K000511	Poland	Kompania Węglowa S.A. Oddział Kopalnia Węgla Kamiennego "Brzeszcze-Silesia" - Ruch Brzeszcze	3.(a)	52,300,000	0.96%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
	49531	12S000534	Poland	Kompania Węglowa S.A. Oddział Kopalnia Węgla Kamiennego "Szczygłowice"	3.(a)	48,300,000	0.89%
Methane (CH4) total "Top 5"						**3,237,000,000**	**59.67%**
Nitrous oxide (N_2O)	6103	1119	Finland	Fortum Power and Heat Oy, Kauttuan voimalaitos	1.(c)	19,000,000	10.56%
	2	000000002	Lithuania	AB"Achema"	4.(c)	10,400,000	5.78%
	57621	13-30-1101002	Germany	YARA Rostock Zweigniederlassung der YARA GmbH & Co. KG	4.(c)	8,240,000	4.58%
	9982	51105	Netherlands	YARA Sluiskil BV	4.(c)	7,760,000	4.31%
	156	2007000246	Italy	S.P.A. PETTINATURA ITALIANA	9.(a)	6,460,000	3.59%
Nitrous oxide (N_2O) total "Top 5"						**51,860,000**	**28.82%**
Heavy metals							
Arsenic and compounds (as As)	5952	EE147275	Estonia	Eesti Energia Narva Elektrijaamad AS, Eesti Elektrijaam	1.(c)	8,230	17.04%
	5951	EE051174	Estonia	Eesti Energia Narva Elektrijaamad AS, Balti Elektrijaam	1.(c)	2,440	5.05%
	9683	47007608	Slovakia	Slovmag a.s. - poklopová pec	3.(g)	2,030	4.20%
	8893	3421	Spain	FÁBRICA DE HUELVA	2.(e).(i)	1,820	3.77%
	10251	57002803	Slovakia	U.S.Steel s.r.o.	2.(b)	1,700	3.52%
Arsenic and compounds (as As) total "Top 5"						**16,220**	**33.58%**
Cadmium and compounds (as Cd)	10251	57002803	Slovakia	U.S.Steel s.r.o.	2.(b)	1,520	8.28%
	10557	CZ95150686	Czech Republic	ArcelorMittal Ostrava a.s.	1.(d)	1,010	5.50%
	7974	23301	Netherlands	Corus Staal B.V.	2.(b)	905	4.93%
	10218	56121	Netherlands	Thermphos International B.V.	4.(b)	482	2.63%
	1068	057.01290	France	FERRY-CAPITAIN	2.(d)	473	2.58%
Cadmium and compounds (as Cd) total "Top 5"						**4,390**	**23.91%**
Chromium and compounds (as Cr)	7681	2110	Finland	Outokumpu Chrome Oy, Outokumpu Stainless Oy, Tornion tehtaat	2.(b)	12,800	9.26%
	6811	1487-1120	Sweden	Vargön Alloys AB	2.(e).(i)	10,100	7.31%
	5952	EE147275	Estonia	Eesti Energia Narva Elektrijaamad AS, Eesti Elektrijaam	1.(c)	7,310	5.29%
	55759	06-05-900-0045338	Germany	ThyssenKrupp Nirosta GmbH Stahlwerk Bochum	2.(b)	6,430	4.65%
	57396	06-10-0033945	Germany	Saarstahl AG, Werk Völklingen	2.(b)	4,700	3.40%
Chromium and compounds (as Cr) total "Top 5"						**41,340**	**29.92%**
Copper and compounds (as Cu)	8893	3421	Spain	FÁBRICA DE HUELVA	2.(e).(i)	12,900	8.71%
	6488	12S000241	Poland	ArcelorMittal Poland S.A., Oddział w Dąbrowie Górniczej	2.(a)	10,900	7.36%
	55914	06-05-900-0877505	Germany	Norddeutsche Affinerie AG - Hüttenwerke Kayser -	2.(e).(i)	7,770	5.24%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
	49543	01D002750	Poland	KGHM POLSKA MIEDŹ S.A., Zakłady Górnicze RUDNA	3.(a)	6,580	4.44%
	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	6,420	4.33%
Copper and compounds (as Cu) total "Top 5"						**44,570**	**30.09%**
Lead and compounds (as Pb)	10251	57002803	Slovakia	U.S.Steel s.r.o.	2.(b)	52,500	9.63%
	55000	06-05-100-0209686	Germany	ThyssenKrupp Steel AG Werk Schwelgern	2.(b)	37,200	6.82%
	7974	23301	Netherlands	Corus Staal B.V.	2.(b)	28,700	5.26%
	5952	EE147275	Estonia	Eesti Energia Narva Elektrijaamad AS, Eesti Elektrijaam	1.(c)	27,400	5.03%
	6488	12S000241	Poland	ArcelorMittal Poland S.A., Oddział w Dąbrowie Górniczej	2.(a)	23,300	4.27%
Lead and compounds (as Pb) total "Top 5"						**169,100**	**31.02%**
Mercury and compounds (as Hg)	1298	05E000016	Poland	BOT Elektrownia Bełchatów S.A.	1.(c)	2,450	6.78%
	60983	RO4VL_41	Romania	SC OLTCHIM SA	4.(b).(iii)	1,470	4.07%
	62681	EW_EA-1451	United Kingdom	INEOS ENTERPRISES LIMITED	4.(a)	879	2.43%
	55255	06-05-300-0326774	Germany	RWE Power AG	1.(c)	548	1.52%
	55472	06-05-500-0342658	Germany	E.ON KRAFTWERK SCHOLVEN	1.(c)	531	1.47%
Mercury and compounds (as Hg) total "Top 5"						**5,878**	**16.26%**
Nickel and compounds (as Ni)	6897	1527	Spain	REPSOL YPF REFINO ESPAÑA. COMPLEJO INDUSTRIAL DE TARRAGONA	1.(a)	15,200	4.33%
	7447	2	Cyprus	Dhekelia Power Station	1.(c)	12,900	3.67%
	6898	1528	Spain	REPSOL PETROLEO S.A.	1.(a)	12,100	3.44%
	8584	3	Cyprus	Vassilikos Power Station	1.(c)	10,100	2.87%
	14245	EL5800876	Greece	PPC S.A. SES AGIOY DHMHTRIOY	1.(c)	9,130	2.60%
Nickel and compounds (as Ni) total "Top 5"						**59,430**	**16.92%**
Zinc and compounds (as Zn)	14303	CZ29145586	Czech Republic	TŘINECKÉ ŽELEZÁRNY, a.s.	2.(b)	79,400	6.36%
	60992	RO5CS_203	Romania	SC DUCTIL STEEL SA - Punct de lucru Otelu Rosu	2.(b)	62,800	5.03%
	9056	3641	Spain	SIDENOR INDUSTRIAL, S.L. (SIDENOR INDUSTRIAL (FABRICA DE BASAURI))	2.(b)	51,000	4.09%
	15027	W011	Belgium	DUFERCO LA LOUVIERE SA	2.(b)	44,200	3.54%
	5952	EE147275	Estonia	Eesti Energia Narva Elektrijaamad AS, Eesti Elektrijaam	1.(c)	37,500	3.01%
Zinc and compounds (as Zn) total "Top 5"						**274,900**	**22.03%**
Inorganic substances							
Particulate matter (PM_{10})	14246	EL5800902	Greece	PPC S.A. SES PTOLEMAIDAS	1.(c)	9,980,000	3.85%
	47276	17000005	Bulgaria	TETs "Republika"	1.(c)	8,580,000	3.31%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
	60993	RO5HD_11	Romania	SC ELECTROCENTRALE DEVA SA	1.(c)	5,990,000	2.31%
	14192	EL1201188	Greece	PPC S.A. SES MEGALOPOLIS A'	1.(c)	5,670,000	2.19%
	14247	EL5800949	Greece	PPC S.A. SES KARDIAS	1.(c)	5,330,000	2.06%
Particulate matter (PM_{10}) total "Top 5"						**35,550,000**	**13.72%**
Other gases							
Ammonia (NH_3)	61045	RO7MS_43	Romania	SC AZOMURES SA	4.(c)	3,500,000	1.90%
	60878	RO1BC_42	Romania	SC AMURCO SRL BACAU	4.(c)	2,500,000	1.36%
	61025	RO7AB_41	Romania	SC GHCL UPSOM ROMANIA SA	4.(b).(i)	2,100,000	1.14%
	47199	13000006	Bulgaria	ploshtadka "Ptitsekombinat Yambol"	7.(a).(i)	1,950,000	1.06%
	58077	13317	Germany	Hähnchenmast Walter Puritz	7.(a).(i)	1,940,000	1.06%
Ammonia (NH_3) total "Top 5"						**11,990,000**	**6.52%**
Carbon monoxide (CO)	6857	2007000618	Italy	CENTRO ENERGIA TEVEROLA S.p.A.– centrale termoelettrica di cogenerazione	1.(c)	414,000,000	9.90%
	55000	06-05-100-0209686	Germany	ThyssenKrupp Steel AG Werk Schwelgern	2.(b)	193,000,000	4.62%
	54961	06-05-100-0077961	Germany	Hüttenwerke Krupp Mannesmann GmbH	2.(b)	182,000,000	4.35%
	14567	vl00069475000114	Belgium	ARCELOR MITTAL GENT	2.(b)	170,000,000	4.07%
	13829	EW_EA-797	United Kingdom	Corus UK Ltd, Port Talbot	2.(a)	117,000,000	2.80%
Carbon monoxide (CO) total "Top 5"						**1,076,000,000**	**25.73%**
Nitrogen oxides (NO_x/NO_2)	59643	2007002132	Italy	FERRIERA VALSIDER SPA	2.(c).(i)	158,000,000	4.72%
	9080	3664	Spain	CALERA DE ALZO, S.L. (CALERA DE ALZO-ALZO)	3.(c).(i)	54,300,000	1.62%
	13777	EW_EA-67	United Kingdom	Drax Power Limited	1.(c)	53,900,000	1.61%
	1298	05E000016	Poland	BOT Elektrownia Bełchatów S.A.	1.(c)	39,400,000	1.18%
	8966	3530	Spain	CENTRAL TERMICA DE ANDORRA	1.(c)	33,200,000	0.99%
Nitrogen oxides (NO_x/NO_2) total "Top 5"						**338,800,000**	**10.12%**
Non-methane volatile organic compounds (NMVOC)	60342	1263.002.01	Norway	STATOIL ASA, Mongstad	1.(a)	11,400,000	1.90%
	12889	DECCOffsh-Brae-Alpha	United Kingdom	Brae Alpha	1.(c)	9,840,000	1.64%
	14524	Scotland-52	United Kingdom	Ineos Manufacturing Scotland Ltd	1.(a)	9,390,000	1.56%
	62797	E247_73	United Kingdom	Interfloor Ltd	9.(c)	8,760,000	1.46%
	18	000000019	Lithuania	AB "Mažeikių nafta"	1.(a)	8,370,000	1.39%
Non-methane volatile organic compounds (NMVOC) total "Top 5"						**47,760,000**	**7.94%**
Sulphur oxides	47267	13000002	Bulgaria	"TETs Maritsa iztok 2" EAD	1.(c)	438,000,000	7.76%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
(SO_x/SO_2)	14192	EL1201188	Greece	PPC S.A. SES MEGALOPOLIS A'	1.(c)	229,000,000	4.06%
	8972	3536	Spain	UNIDAD DE PRODUCCIÓN TERMICA AS PONTES	1.(c)	211,000,000	3.74%
	8966	3530	Spain	CENTRAL TERMICA DE ANDORRA	1.(c)	184,000,000	3.26%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	147,000,000	2.60%
Sulphur oxides (SO_x/SO_2) total "Top 5"						**1,209,000,000**	**21.42%**
Other organic matter							
Polycyclic aromatic hydrocarbons (PAHs)	6961	15P000003	Poland	Impexmetal S.A. Zakład Aluminium Konin	2.(e)	39,900	15.13%
	10504	6622	Denmark	DONG A/S Enstedværket	1.(c)	39,100	14.82%
	51494	03L002272	Poland	PPHU "WOFAM" - Wojciech Wolski	9.(c)	30,800	11.68%
	55141	06-05-100-9000737	Germany	ERFTCARBON GmbH	9.(d)	23,800	9.02%
	4040	062.01729	France	ARCELOR Atlantique et Lorraine	2.(a)	14,100	5.35%
Polycyclic aromatic hydrocarbons (PAHs) total "Top 5"						**147,700**	**55.99%**

Note: *Contributions of single facilities of over 10% to the total E-PRTR emissions are highlighted in red.*

5.2. Top polluting facilities for releases to water

Table B.8 below provides information for selected pollutants[19] on the five facilities with the highest share of total E-PRTR releases to water per pollutant. The selected pollutants are:

- Heavy metals
- Total nitrogen
- Total phosphorus
- Total organic carbon (TOC)

The complete list of facilities ranked among the E-PRTR top 20 polluting facilities including information on their share in total E-PRTR emission is provided in the stage 1 Excel tool, sheet "E-PRTR TOP20".

For the heavy metals the share of the top five facilities in the Europe is mostly between 2% and 9%. However, the top polluting facilities releasing heavy metals to water have a share between 7% and 67% (Cadmium). For total nitrogen and total phosphorus the shares of the top five polluters are more evenly distributed in a range between 1% and 7%. For total organic carbon (TOC) the top polluting facility (Italy) has a share of 74% in total E-PRTR releases of this pollutant. This high share of the top polluter for TOC and for some of the heavy metals could indicate an anomaly in data and should be checked by countries.

[19] The list of top 20 E-PRTR facilities for each pollutant (91 in total) can be produced with the *Stage1 tool* distributed to all countries on 18 August 2009 (version with resubmitted data was distributed on 16 November 2009).

Table A.10 Facilities with the highest releases to water of selected pollutants under E-PRTR 2007

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Heavy metals							
Arsenic and compounds (as As)	60853	100018460	Portugal	ETAR de Gaia Litoral	5.(f)	4,200	8.67%
	7374	2007001730	Italy	ERG Nuove Centrali Impianti Nord	1.(c)	3,600	7.43%
	62073	4638	Spain	CONSORCIO DE AGUAS BILBAO BIZKAIA , S.A.D. (ESTACION DEPURADORA AGUAS RESIDUALES DE GALINDO SESTAO)	5.(c)	3,150	6.50%
	49583	06K001688	Poland	Zakłady Górniczo-Hutnicze BOLESŁAW S.A., Pion Górniczo - Przeróbczy - Kopalnia	3.(a)	1,220	2.52%
	49697	15P000540	Poland	Kopalnia Węgla Brunatnego "KONIN" w Kleczewie S.A., Zakład Górniczy - ODKRYWKA LUBSTÓW	3.(b)	949	1.96%
Arsenic and compounds (as As) total "Top 5"						13,119	27.08%
Cadmium and compounds (as Cd)	62073	4638	Spain	CONSORCIO DE AGUAS BILBAO BIZKAIA , S.A.D. (ESTACION DEPURADORA AGUAS RESIDUALES DE GALINDO SESTAO)	5.(c)	3,220	18.71%
	14235	EL5401265	Greece	EYATH S.A. – WASTEWATER TREATMENT PLANT	5.(f)	876	5.09%
	61259	RO6CJ_519	Romania	COMPANIA DE APA SOMES SA CLUJ-NAPOCA - Statia de epurare ape uzate urbane	5.(f)	804	4.67%
	50678	07W002161	Poland	Zakład Oczyszczalni Ścieków Czajka	5.(f)	689	4.00%
	60853	100018460	Portugal	ETAR de Gaia Litoral	5.(f)	526	3.06%
Cadmium and compounds (as Cd) total "Top 5"						6,115	35.53%
Chromium and compounds (as Cr)	4200	064.00001	France	Aluminium Pechiney Usine de Gardanne	2.(e).(i)	438,000	66.59%
	596	2007002051	Italy	RINO MASTROTTO GROUP S.p.A. - Divisione CALBE	9.(b)	26,300	4.00%
	4788	070.00922	France	TIOXIDE EUROPE S.A.S	4.(a).(x)	14,000	2.13%
	61224	RO5TM_528	Romania	SC AQUATIM SA- Sector epurare Timisoara	5.(f)	11,300	1.72%
	52123	W273	Belgium	COCKERILL SAMBRE sa - FERBLATIL (Decapage, etamage)	2.(f)	10,400	1.58%
Chromium and compounds (as Cr) total "Top 5"						500,000	76.02%
Copper and compounds (as Cu)	64430	EW_EA-7652	United Kingdom	Cleveland Potash Ltd - Boulby Potash Mine	3.(b)	16,800	4.38%
	60073	220209	Netherlands	RWZI Echten	5.(c)	15,000	3.91%
	61286	RO7AB_313	Romania	SC ENERGO MINERAL SA - Depozite de sterile	3.(b)	15,000	3.91%
	4200	064.00001	France	Aluminium Pechiney Usine de Gardanne	2.(e).(i)	10,700	2.79%
	64357	EW_EA-7329	United Kingdom	MAPLE LODGE STW	5.(b)	7,040	1.84%
Copper and compounds (as Cu) total "Top 5"						64,540	16.84%
Lead and compounds (as Pb)	50701	09R000892	Poland	Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o., Zakład oczyszczania ścieków	5.(f)	50,000	23.06%
	49583	06K001688	Poland	Zakłady Górniczo-Hutnicze BOLESŁAW S.A., Pion Górniczo - Przeróbczy - Kopalnia	3.(a)	26,500	12.22%
	12953	DECCOffsh-Tern-Alpha	United Kingdom	Tern Alpha	1.(c)	8,720	4.02%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
	62073	4638	Spain	CONSORCIO DE AGUAS BILBAO BIZKAIA , S.A.D. (ESTACION DEPURADORA AGUAS RESIDUALES DE GALINDO SESTAO)	5.(c)	6,310	2.91%
	4200	064.00001	France	Aluminium Pechiney Usine de Gardanne	2.(e).(i)	5,940	2.74%
Lead and compounds (as Pb) total "Top 5"						97,470	44.96%
Mercury and compounds (as Hg)	1520	2007001880	Italy	Elettra Produzione s.r.l. - Centrale di Servola	1.(c)	3,710	35.43%
	7118	16Z000445	Poland	Zakłady Chemiczne "POLICE" S.A.	4.(b)	1,010	9.64%
	62073	4638	Spain	CONSORCIO DE AGUAS BILBAO BIZKAIA , S.A.D. (ESTACION DEPURADORA AGUAS RESIDUALES DE GALINDO SESTAO)	5.(c)	765	7.30%
	50740	06K000691	Poland	Miejskie Przedsiębiorstwo Wodociągów i Kanalizacji S.A., Oczyszczalnia Ścieków Płaszów	5.(f)	320	3.06%
	4036	062.01561	France	UEM (Centrale de Chambière)	1.(c)	308	2.94%
Mercury and compounds (as Hg) total "Top 5"						6,113	58.37%
Nickel and compounds (as Ni)	15103	W091	Belgium	COCKERILL SAMBRE SA - FLEMALLE RAMET (SKINPASS, ETAMAGE, GALVANISATION, PREPEINT)	2.(c).(iii)	117,000	24.63%
	50701	09R000892	Poland	Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o., Zakład oczyszczania ścieków	5.(f)	50,000	10.53%
	14187	EL0600252	Greece	LARYMNA METALLURGIC PLANT	2.(e)	27,000	5.68%
	61224	RO5TM_528	Romania	SC AQUATIM SA- Sector epurare Timisoara	5.(f)	17,500	3.68%
	60073	220209	Netherlands	RWZI Echten	5.(c)	14,500	3.05%
Nickel and compounds (as Ni) total "Top 5"						226,000	47.58%
Zinc and compounds (as Zn)	60073	220209	Netherlands	RWZI Echten	5.(c)	160,000	7.75%
	49583	06K001688	Poland	Zakłady Górniczo-Hutnicze BOLESŁAW S.A., Pion Górniczo - Przeróbczy - Kopalnia	3.(a)	112,000	5.42%
	50701	09R000892	Poland	Przedsiębiorstwo Wodociągów i Kanalizacji Sp. z o.o., Zakład oczyszczania ścieków	5.(f)	100,000	4.84%
	484	100423302	Hungary	ISD Dunaferr Zrt.	2.(b)	87,100	4.22%
	12953	DECCOffsh-Tern-Alpha	United Kingdom	Tern Alpha	1.(c)	75,100	3.64%
Zinc and compounds (as Zn) total "Top 5"						534,200	25.86%
Inorganic substances							
Total nitrogen	4416	065.06939	France	SIAAP Site Seine Aval	1.(c)	25,000,000	6.52%
	518	2007001791	Italy	Impianto di depurazione di ROVERETO	5.(c)	6,550,000	1.71%
	63181	EW_EA-2678	United Kingdom	CROSSNESS STW	5.(b)	4,860,000	1.27%
	64347	EW_EA-7258	United Kingdom	MOGDEN STW	5.(b)	4,570,000	1.19%
	64831	Scotland-374	United Kingdom	Edinburgh Sewage Treatment Works	5.(f)	4,290,000	1.12%
Total nitrogen total "Top 5"						45,270,000	11.80%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Total phosphorus	4416	065.06939	France	SIAAP Site Seine Aval	1.(c)	1,190,000	2.92%
	58388	ELA400912	Greece	EYDAP S.A. - PSYTTALIA WASTEWATER TREATMENT PLANT	5.(f)	1,160,000	2.84%
	64581	Scotland-1244	United Kingdom	Shieldhall Sewage Treatment Works	5.(f)	696,000	1.71%
	63647	EW_EA-5203	United Kingdom	Minworth Final ASP Effluent	5.(b)	646,000	1.58%
	48975	D0034	Ireland	Ringsend Waste Water Treatment Plant	5.(f)	548,000	1.34%
Total phosphorus total "Top 5"						4,240,000	10.39%
Other organic substances							
Total organic carbon (TOC) (as total C or COD/3)	7353	2007000641	Italy	RAFFINERIA DI GELA SPA	1.(a)	2,090,000,000	73.95%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	53,100,000	1.88%
	14408	PS1	Malta	Marsa Power Station	1.(c)	18,100,000	0.64%
	4416	065.06939	France	SIAAP Site Seine Aval	1.(c)	15,800,000	0.56%
	47250	04000004	Bulgaria	Sviloza AD	6.(a)	13,300,000	0.47%
Total organic carbon (TOC) (as total C or COD/3) total "Top 5"						2,190,300,000	77.49%

Note: *Contributions of single facilities of over 10% to the total E-PRTR emissions are highlighted in red.*

5.3. Top polluting facilities for transfers in water

Table B.9 below provides information for selected pollutants[20] on the five facilities with the highest share of total E-PRTR transfers in water per pollutant. The selected pollutants are:

- Heavy metals
- Total nitrogen
- Total phosphorus
- Total organic carbon (TOC)

The complete list of facilities ranked among the E-PRTR top 20 polluting facilities including information on their share in total E-PRTR emission is provided in the stage 1 Excel tool, sheet “E-PRTR TOP20”.

For the heavy metals the share of the top polluters lies in a range between 22% and 82%. For total phosphorus the shares of the top five polluters are distributed more evenly between 2% and 7%. For total nitrogen the top polluter, however, has a share in total E-PRTR transfers of 24% (United Kingdom). For total organic carbon the two top polluters have a share of 15% and 22% respectively (both United Kingdom). This high share of the top polluter for the heavy metals, total nitrogen and total organic carbon could indicate an anomaly in data and should be checked by countries.

[20] The list of top 20 E-PRTR facilities for each pollutant (91 in total) can be produced with the *Stage1 tool* distributed to all countries on 18 August 2009 (version with resubmitted data was distributed on 16 November 2009).

Table A.11 Facilities with the highest transfers to water of selected pollutants under E-PRTR 2007

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Heavy metals							
Arsenic and compounds (as As)	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	134,000	81.98%
	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	26,700	16.34%
	48137	16124	Finland	Kymenlaakson Jäte Oy	5.(d)	492	0.30%
	54697	03-09-09090117300	Germany	Weser - Metall GmbH	2.(e)	346	0.21%
	55456	06-05-500-0279116	Germany	Ruhr-Zink GmbH Zinkhütte	2.(a)	198	0.12%
Arsenic and compounds (as As) total "Top 5"						161,736	98.95%
Cadmium and compounds (as Cd)	54697	03-09-09090117300	Germany	Weser - Metall GmbH	2.(e)	2,960	46.42%
	64905	W22_54	United Kingdom	Magellan Areospace Metal treatments	9.(c)	800	12.55%
	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	721	11.31%
	6241	11G000452	Poland	Zakłady Farmaceutyczne "POLPHARMA" S.A.	4.(e)	528	8.28%
	6683	13T000461	Poland	Zakłady Mięsne "ANIMEX" S. A., Oddział w Starachowicach	8.(b)	195	3.06%
Cadmium and compounds (as Cd) total "Top 5"						5,204	81.62%
Chromium and compounds (as Cr)	64905	W22_54	United Kingdom	Magellan Areospace Metal treatments	9.(c)	160,000	58.89%
	5209	09R000054	Poland	Delphi Poland S.A. Oddział Krosno	2.(f)	27,700	10.20%
	596	2007002051	Italy	RINO MASTROTTO GROUP S.p.A. - Divisione CALBE	9.(b)	26,300	9.68%
	589	2007002298	Italy	DIVISIONE MASTROTTO	9.(c)	14,900	5.48%
	4131	063.01099	France	COMPAGNIE EUROPEENNE DE TANNAGE	9.(b)	8,260	3.04%
Chromium and compounds (as Cr) total "Top 5"						237,160	87.29%
Copper and compounds (as Cu)	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	19,200	21.73%
	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	15,900	18.00%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	6,070	6.87%
	63500	EW_EA-3720	United Kingdom	Royal Mint, Llantrisant Business Park	2.(e)	3,570	4.04%
	56375	07-05-8773828	Germany	Dystar Textilfarben GmbH & Co. Deutschland KG	4.(a).(x)	3,320	3.76%
Copper and compounds (as Cu) total "Top 5"						48,060	54.40%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Lead and compounds (as Pb)	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	30,300	38.96%
	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	18,000	23.14%
	306	2007000995	Italy	Eco-Bat S.p.A.	2.(e)	5,600	7.20%
	54697	03-09-09090117300	Germany	Weser - Metall GmbH	2.(e)	3,590	4.62%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	3,100	3.99%
Lead and compounds (as Pb) total "Top 5"						60,590	77.91%
Mercury and compounds (as Hg)	61884	4760	Spain	UNION EXPLOSIVOS-ENSIGN BICKFORD SISTEMAS DE INICIACION , S.L. (UEB)	4.(f)	6,490	65.60%
	55445	06-05-500-0152577	Germany	Infracor GmbH	1.(c)	2,000	20.22%
	54697	03-09-09090117300	Germany	Weser - Metall GmbH	2.(e)	288	2.91%
	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	223	2.25%
	218	01D000268	Poland	PCC Rokita SA	5.(g)	138	1.39%
Mercury and compounds (as Hg) total "Top 5"						9,139	92.38%
Nickel and compounds (as Ni)	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	16,900	26.24%
	61084	RO1IS_52	Romania	SC SALUBRIS SA IASI-DEPOZIT TOMESTI	5.(d)	6,300	9.78%
	3053	061.03907	France	ETS ETIENNE BRUN	2.(f)	2,610	4.05%
	12849	CZ86757407	Czech Republic	závod Mladá Boleslav	2.(e).(ii)	2,270	3.53%
	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	1,840	2.86%
Nickel and compounds (as Ni) total "Top 5"						29,920	46.46%
Zinc and compounds (as Zn)	212	01D000166	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi LEGNICA	5.(d)	160,000	25.29%
	214	01D000168	Poland	KGHM POLSKA MIEDŹ S.A., Huta Miedzi GŁOGÓW	2.(e)	79,400	12.55%
	4582	067.03195	France	Dow AgroSciences S.A.S.	4.(d)	58,100	9.18%
	55349	06-05-300-9007233	Germany	EP Oberbruch GmbH & Co.KG	4.(a).(viii)	47,800	7.55%
	47414	CZ56976407	Czech Republic	Glanzstoff - Bohemia s.r.o.	4.(a).(viii)	37,200	5.88%
Zinc and compounds (as Zn) total "Top 5"						382,500	60.45%
Inorganic substances							
Total nitrogen	13144	EW_EA-1545	United Kingdom	Johnson Matthey Plc, Ribblesdale Works	4.(a)	13,300,000	24.01%
	6517	12S000380	Poland	URSA Polska Sp. z o.o.	3.(e)	2,300,000	4.15%
	13836	EW_EA-811	United Kingdom	CORUS UK LTD	2.(c)	1,900,000	3.43%
	54930	06-05-100-0006538	Germany	ThyssenKrupp Nirosta GmbH	2.(b)	1,800,000	3.25%
	13539	EW_EA-2791	United Kingdom	UNITED UTILITIES WATER PLC	5.(b)	1,430,000	2.58%
Total nitrogen total "Top 5"						20,730,000	37.42%

Pollutant group/ Pollutant	Facility ID	National ID	Country	Facility Name	Main Activity	Total Quantity kg/a	All countries share
Total phosphorus	56202	06-70007370412	Germany	Clariant Produkte (Deutschland) GmbH, Standort Rhein-Main, Betriebsteil Frankfurt-Höchst	4.(a).(x)	609,000	7.15%
	5679	10006	Netherlands	Shell Nederland Chemie B.V. (Hoogvliet)	4.(a)	442,000	5.19%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	335,000	3.93%
	13340	EW_EA-2215	United Kingdom	Rhodia UK Limited	4.(a)	216,000	2.54%
	64351	EW_EA-73	United Kingdom	Agfa Graphics Ltd	2.(f)	201,000	2.36%
Total phosphorus total "Top 5"						1,803,000	21.17%
Other organic substances							
Total organic carbon (TOC) (as total C or COD/3)	64086	EW_EA-6457	United Kingdom	Weetabix Ltd	8.(b)	130,000,000	21.89%
	63492	EW_EA-3693	United Kingdom	Dove Valley (Ashbourne) Ltd	8.(a)	89,500,000	15.07%
	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	4.(a).(xi)	25,400,000	4.28%
	58324	16-86-02000010000	Germany	Papierfabrik Adolf Jass Schwarza GmbH	6.(b)	12,700,000	2.14%
	5120	08O000455	Poland	Zakłady Koksownicze "Zdzieszowice" sp. z o.o.	1.(d)	6,970,000	1.17%
Total organic carbon (TOC) (as total C or COD/3) total "Top 5"						264,570,000	44.54%

Note: *Contributions of single facilities of over 10% to the total E-PRTR emissions are highlighted in red.*

5.4. Top polluting facilities for waste transfers

Table A.12 below provides information on the top ten facilities with the highest share of total E-PRTR waste transfers by waste type:

- Hazardous waste outside country
- Hazardous waste transferred within the country
- Non hazardous waste

For hazardous waste transferred outside country one facility in Austria accounts for 49% of the total E-PRTR hazardous waste transfers outside country. This is clearly an anomaly that has to be investigated by Austria. For the other facilities the share in total E-PRTR waste transfers of hazardous waste outside country ranges between 1.1% and 7.4%. For transfers of hazardous waste transferred within the country the top ten list also shows anomalies because one facility accounts for 46% and one for 21% of total E-PRTR transfers of hazardous waste within the country. For the other facilities the share in total E-PRTR waste transfers of hazardous waste within the country ranges between 1.9% and 8.5%. For non hazardous waste the top facility accounts for 32% of total E-PRTR waste transfers. This is the same top polluter as for hazardous waste within country and also seems to indicate an anomaly in data. For the other facilities the share in total E-PRTR waste transfers of non-hazardous waste ranges between 1.3% and 8.3%.

Table A.12 Top 10 facilities with the highest waste transfers per waste type under E-PRTR 2007

Waste Type	Facility ID	National ID	Country	FacilityName	Main Activity	Total Quantity t/a	All countries share
Hazardous waste outside country	51986	20000.00371	Austria	Donau Chemie Aktiengesellschaft	4.(b)	1,370,000	49.04%
	49121	W0192	Ireland	Rilta Environmental Limited	5.(a)	86,300	3.09%
	51987	20000.00387	Austria	AMAG casting GmbH	2.(e)	54,900	1.97%
	49094	W0050	Ireland	Veolia Environmental Services Technical Solutions Ltd	5.(a)	51,200	4.19%
	59713	2007002264	Italy	electrometal srl	5.(a)	43,120	7.43%
	7974	23301	Netherlands	Corus Staal B.V.	2.(b)	32,564	1.17%
	15027	W011	Belgium	DUFERCO LA LOUVIERE sa	2.(b)	32,236	1.16%
	14620	vl001251180 00187	Belgium	EVONIK DEGUSSA ANTWERPEN	4.(a)	31,873	1.14%
	14710	vl017470840 00157	Belgium	ISVAG	5.(a)	31,000	1.11%
	383	2007001077	Italy	TERMOUTILIZZATORE	5.(b)	30,340	1.09%
Hazardous waste outside country total "Top 10"						**1,763,532**	**71.38%**
Hazardous waste within country	59493	2007001847	Italy	SED srl	5.(a)	13,655,950	46.04%
	51986	20000.00371	Austria	Donau Chemie Aktiengesellschaft	4.(b)	4,460,000	20.71%
	9502	43403	Netherlands	DAF Trucks N.V.	9.(c)	1,885,000	8.47%
	64240	EW_EA-6913	United Kingdom	Associated Reclaimed Oils Limited	5.(a)	927,500	4.28%
	63148	EW_EA-2507	United Kingdom	Solvent Resource Management Ltd	5.(a)	806,640	2.70%
	6630	1376	Finland	Boliden Kokkola Oy, Sinkkitehdas	2.(a)	653,560	2.19%
	59628	2007002108	Italy	ECOLOGICA TREDI SRL	5.(a)	637,300	2.96%
	62321	4945	Spain	GALVANIZADOS DE NAVARRA, S.A.	2.(c).(iii)	564,000	1.88%
	64907	W22_56	United Kingdom	Wrexham	9.(c)	530,000	2.46%
	56825	06-08-9483519	Germany	Albert Huthmann GmbH & Co. KG Spezialbaustoffe	5.(a)	504,000	2.34%
Hazardous waste within country total "Top 10"						**24,623,950**	**94.02%**
Non-hazardous waste	59493	2007001847	Italy	SED srl	5.(a)	40,268,160	32.30%
	77	2007001844	Italy	AHLSTROM TURIN SPA	6.(b)	19,531,000	8.34%
	49548	01D002751	Poland	KGHM POLSKA MIEDŹ S.A., Zakłady Wzbogacania Rud rejon RUDNA	3.(a)	13,990,000	8.03%
	213	01D000167	Poland	KGHM POLSKA MIEDŹ S.A., Zakłady Wzbogacania Rud - Rejon POLKOWICE	5.(a)	7,760,000	3.80%
	49547	01D001462	Poland	KGHM POLSKA MIEDŹ S.A., Zakłady Wzbogacania Rud "Lubin"	3.(a)	6,650,000	3.19%
	60857	100018541	Portugal	ETAR Norte - SIMRIA	5.(f)	6,020,000	2.49%
	47267	13000002	Bulgaria	"TETs Maritsa iztok 2" EAD	1.(c)	3,310,000	1.37%
	57567	12-40710010000	Germany	Vattenfall Europe Generation AG & Co. KG Kraftwerk Jänschwalde	1.(c)	3,221,040	1.33%
	52012	20000.00597	Austria	Reinhaltungsverband Pöls	5.(g)	3,090,000	1.28%
	8026	2387	Spain	SANTANA MOTOR ANDALUCÍA, S.L.U.	9.(c)	2,880,000	1.19%
Non-hazardous waste total "Top 10"						**106,720,200**	**63.34%**

Note: *Contributions of single facilities of over 10% to the total E-PRTR emissions are highlighted in red.*

6. Contribution of individual facilities to E-PRTR emissions to air for 2007 – sector/activity level

This section shows top 3 E-PRTR 2007 facilities for selected pollutants (CO_2, SO_x, NO_X, NMVOC, NH_3 and PM_{10}) plus the list of facilities which contribute more than 20% to total E-PRTR emissions of other pollutants.

6.1. Energy sector (E-PRTR activity 1)

Table A.13 shows three facilities with the highest releases to air for CO_2, NH_3, NO_x/NO_2, SO_x/SO_2, NMVOC reported in Sector 1 - Energy. Individual facilities contribute to total E-PRTR emissions less than 2% ('All countries share') with the exception of SO_2, for which the top three facilities produce almost 15% of SO_x Energy emissions. HCH and Mirex emission are reported only by one facility each in the Netherlands and Italy and 94% of HCFCs is reported by one facility in the United Kingdom.

Table A.13 Facilities with the highest releases to air of selected pollutants reported in E-PRTR Activity 1 - Energy under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility Name	Rank	Total quantity kg/a	All countries share
CO_2							
CO_2	55255	06-05-300-0326774	Germany	RWE Power AG	1	31,300,000,000	1.57%
CO_2	1298	05E000016	Poland	BOT Elektrownia Bełchatów S.A.	2	28,300,000,000	1.42%
CO_2	57567	12-40710010000	Germany	Vattenfall Europe Generation AG & Co. KG Kraftwerk Jänschwalde	3	24,200,000,000	1.21%
NH_3							
NH_3	7018	2007001762	Italy	ENI S.P.A. DIVISIONE REFINING & MARKETING RAFFINERIA DI TARANTO	1	657,000	0.36%
NH_3	10573	704	Spain	BP OIL REFINERÍA DE CASTELLÓN, S.A.	2	227,000	0.12%
NH_3	6898	1528	Spain	REPSOL PETROLEO S.A.	3	218,000	0.12%
NO_x/NO_2							
NO_x/NO_2	13777	EW_EA-67	United Kingdom	Drax Power Limited	1	53,900,000	1.61%
NO_x/NO_2	1298	05E000016	Poland	BOT Elektrownia Bełchatów S.A.	2	39,400,000	1.18%
NO_x/NO_2	8966	3530	Spain	CENTRAL TERMICA DE ANDORRA	3	33,200,000	0.99%
NMVOC							
NMVOC	60342	1263.002.01	Norway	STATOIL ASA, Mongstad	1	11,400,000	1.90%
NMVOC	12889	DECCOffsh-Brae-Alpha	United Kingdom	Brae Alpha	2	9,840,000	1.64%
NMVOC	14524	Scotland-52	United Kingdom	Ineos Manufacturing Scotland Ltd	3	9,390,000	1.56%
SO_x/SO_2							
SO_x/SO_2	47267	13000002	Bulgaria	"TETs Maritsa iztok 2" EAD	1	438,000,000	7.76%
SO_x/SO_2	14192	EL1201188	Greece	PPC S.A. SES MEGALOPOLIS A'	2	229,000,000	4.06%
SO_x/SO_2	8972	3536	Spain	UNIDAD DE PRODUCCIÓN TERMICA AS PONTES	3	211,000,000	3.74%
							Other pollutants
1,2,3,4,5,6-hexachloro-cyclohexane (HCH)	8041	24003	Netherlands	Nuon Power Generation BV (Velsen)	1	13	100.00%
Arsenic and	5952	EE147275	Estonia	Eesti Energia Narva	1	8,230	17.04%

Pollutant	Facility ID	National ID	Country	Facility Name	Rank	Total quantity kg/a	All countries share
compounds (as As)				Elektrijaamad AS, Eesti Elektrijaam			
Mirex	7506	2007000606	Italy	Saras Raffinerie Sarde S.P.A.	1	2	100.00%
Nitrous oxide (N_2O)	6103	1119	Finland	Fortum Power and Heat Oy, Kauttuan voimalaitos	1	19,000,000	10.56%
Hydrochloro-fluorocarbons (HCFCs)	13817	EW_EA-755	United Kingdom	Concophilips (UK) Ltd, Theddlethorpe	1	15,500,000	94.36%

Note: *Contributions of over 50% to the total E-PRTR emissions are highlighted in red, those over 2% are highlighted in blue.*

More detailed comparisons could be performed for subcategories 1(c) Thermal power stations and other combustion installations, 5(b) Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste (NACE 35.11 Production of electricity and 35.30 Steam and air conditioning supply) - with CLRTAP/UNECE sector 1A1a Public electricity and heat production. Selected pollutants are CO_2, SO_2, NO_x, PM_{10}.

6.2. Production and processing of metals (E-PRTR activity 2)

Table A.14 Facilities with the highest releases to air of selected pollutants reported in Activity 2 - Production and processing of metals under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility Name	Total quantity kg/a	All countries share
CO_2						
CO_2	4797	070.00956	France	ARCELOR DUNKERQUE	12,200,000,000	0.61%
CO_2	60922	RO2GL_21	Romania	SC ARCELORMITTAL GALATI SA	9,750,000,000	0.49%
CO_2	10251	57002803	Slovakia	U.S.Steel s.r.o.	9,660,000,000	0.48%
NH_3						
NH_3	4797	070.00956	France	ARCELOR DUNKERQUE	829,000	0.45%
NH_3	6628	13754	Finland	Norilsk Nickel Harjavalta Oy	377,000	0.21%
NH_3	13829	EW_EA-797	United Kingdom	Corus UK Ltd, Port Talbot	165,000	0.09%
NO_x/NO_2						
NO_x/NO_2	59643	2007002132	Italy	FERRIERA VALSIDER SPA	158,000,000	4.72%
NO_x/NO_2	55000	06-05-100-0209686	Germany	ThyssenKrupp Steel AG Werk Schwelgern	8,910,000	0.27%
NO_x/NO_2	10251	57002803	Slovakia	U.S.Steel s.r.o.	7,780,000	0.23%
NMVOC						
NMVOC	7065	1646	Spain	GENERAL MOTORS ESPAÑA, S.L.	2,720,000	0.45%
NMVOC	14574	vl00080390000185	Belgium	FORD-WERKE GMBH	2,000,000	0.33%

Pollutant	Facility ID	National ID	Country	Facility Name	Total quantity kg/a	All countries share
NMVOC	15021	W005	Belgium	COCKERILL SAMBRE SA (COKE FONTE)	1,830,000	0.30%
SO_x/SO_2						
SO_x/SO_2	61048	RO7SB_22	Romania	MYTILINEOS HOLDINGS GRECIA - SC SOMETRA SA	27,300,000	0.48%
SO_x/SO_2	13045	EW_EA-122	United Kingdom	Alcan Aluminuim UK Ltd	26,700,000	0.47%
SO_x/SO_2	14172	EL0300759	Greece	ALUMINIUM S.A.	15,400,000	0.27%
Other pollutants						
Anthracene	7917	2281-103	Sweden	Kubikenborg Aluminium AB	2,990	33.52%
Anthracene	15021	W005	Belgium	COCKERILL SAMBRE SA (COKE FONTE)	2,770	31.06%
Anthracene	15022	W006	Belgium	CARSID S.A. (coke-fonte /Acierie-CC)	1,850	20.74%
Tetrachloroethylene (PER)	15119	W113	Belgium	SONACA SA	217,000	28.53%
PCDD + PCDF (dioxins + furans) (as Teq)	9102	3685	Spain	ARCELOR ALAMBRON ZUMARRAGA, S.A. (ARCELOR ALAMBRON ZUMARRAGA, S.A.)	66	72.87%
Fluorides (as total F)	60279	1149.029.01	Norway	HYDRO ALUMINIUM AS KARMØY	113,000	27.33%
Fluorides (as total F)	60367	1424.004.01	Norway	HYDRO ALUMINIUM AS ÅRDAL, Årdal metallverk	106,000	25.64%
Chlorides (as total Cl)	60245	1001.099.01	Norway	Xstrata Nikkelverk AS	5,000	99.77%

Note: *Contributions of over 50% to the total E-PRTR emissions are highlighted in red*

6.3. Mineral Industry (E-PRTR activity 3)

E-PRTR 2007 releases from main pollutants seem to be distributed evenly between the number of facilities. The share of top three does not exceed 3%, but stage 2 tests identified four facilities which reported releases with a share in total E-PRTR releases above 20% (Table A.15): 36% for HCB (Belgium), 97.8% for Hexabromobiphenyl in Spain, 86.4% for Total organic carbon (TOC) (as total C or COD/3) and 60% for Phenols (as total C) reported by facilities in Norway.

Table A.15 Facilities with the highest releases to air of selected pollutants reported in Activity 3 – Mineral industry under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility Name	Total quantity kg/a	All countries share
CO_2						
CO_2	14213	EL4301082	Greece	HERACLES G.C.Co, VOLOS PLANT	2,850,000,000	0.14%
CO_2	7040	162	Denmark	Aalborg Portland	2,760,000,000	0.14%
CO_2	55024	06-05-100-0238246	Germany	Rheinkalk GmbH	2,300,000,000	0.12%
NH_3						
NH_3	557	04F000349	Poland	Rockwool Polska Sp. z o.o.,Zakład w	507,000	0.28%

				Cigacicach		
NH_3	55284	06-05-300-0615755	Germany	Saint-Gobain Isover G+H AG	283,000	0.15%
NH_3	9717	4753	Netherlands	Rockwool Lapinus Productie B.V.	261,000	0.14%
NO_x/NO_2						
NO_x/NO_2	9080	3664	Spain	CALERA DE ALZO, S.L. (CALERA DE ALZO-ALZO)	54,300,000	1.62%
NO_x/NO_2	60919	RO2CT_31	Romania	SC LAFARGE CIMENT SA	10,600,000	0.32%
NO_x/NO_2	14213	EL4301082	Greece	HERACLES G.C.Co, VOLOS PLANT	8,850,000	0.26%
NMVOC						
NMVOC	6908	1535	Spain	CASTELLAR VIDRIO, S.A. (ABANS VALVITRUM S.A.)	2,480,000	0.41%
NMVOC	13066	EW_EA-1268	United Kingdom	Stewartby Brickworks	1,760,000	0.29%
NMVOC	13067	EW_EA-1269	United Kingdom	Whittlesey Brickworks	1,650,000	0.27%
SO_x/SO_2						
SO_x/SO_2	13067	EW_EA-1269	United Kingdom	Whittlesey Brickworks	8,250,000	0.15%
SO_x/SO_2	13066	EW_EA-1268	United Kingdom	Stewartby Brickworks	7,690,000	0.14%
SO_x/SO_2	64420	EW_EA-7592	United Kingdom	UK Coal Mining Ltd - North Stobswood Revised OCCS	7,080,000	0.13%
Other pollutants						
Hexachloro-benzene (HCB)	15035	W019	Belgium	CBR SA - SITE DE LIXHE	31	36.05%
Hexabromo-biphenyl	9103	3686	Spain	SOCIEDAD FINANCIERA Y MINERA, S.A. (CEMENTOS REZOLA ARRIGORRIAGA)	3	96.77%
Total organic carbon (TOC) (as total C or COD/3)	60229	0805.028.01	Norway	Norcem A.S, Brevik	42,800	86.39%
Phenols (as total C)	60201	0124.008.01	Norway	GLAVA AS, Askim	23,900	59.58%

Note: *Contributions of over 50% to the total E-PRTR emissions are highlighted in red*

6.4. Chemical Industry (E-PRTR activity 4)

The share of the releases of the top three facilities from the *chemical industry* in total E-PRTR releases ('All countries share') moves in a range from 1% to 3%. However, 14 facilities/pollutants with an all countries share above 20% are listed in Table A.16. 53.2% of Di-(2-ethyl hexyl) phthalate (DEHP) (Hungary), 86.1% of 1,1,2,2-tetrachloroethane (United Kingdom), 92.5% of Halons (Belgium) and 100% of total nitrogen (Norway) were reported by one single facility.

Table A.16 Facilities with the highest releases to air of selected pollutants reported in Activity 4 – Chemical industry under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility Name	Total quantity kg/a	All countries share
CO_2						
CO_2	6838	CZ17751142	Czech Republic	CHEMOPETROL	3,930,000,000	0.20%
CO_2	10390	62	Netherlands	Chemelot Site Permit B.V.	3,640,000,000	0.18%
CO_2	9981	51104	Netherlands	DOW Benelux B.V.	3,210,000,000	0.16%
NH_3						
NH_3	61045	RO7MS_43	Romania	SC AZOMURES SA	3,500,000	1.90%
NH_3	60878	RO1BC_42	Romania	SC AMURCO SRL BACAU	2,500,000	1.36%
NH_3	61025	RO7AB_41	Romania	SC GHCL UPSOM ROMANIA SA	2,100,000	1.14%
NO_x/NO_2						
NO_x/NO_2	61045	RO7MS_43	Romania	SC AZOMURES SA	9,000,000	0.27%
NO_x/NO_2	4675	06K000440	Poland	Zakłady Azotowe w Tarnowie-Mościcach S.A.	6,090,000	0.18%
NO_x/NO_2	6838	CZ17751142	Czech Republic	CHEMOPETROL	5,850,000	0.17%
NMVOC						
NMVOC	57238	06-09-676-0081-0001	Germany	Cordenka GmbH	6,830,000	1.14%
NMVOC	60983	RO4VL_41	Romania	SC OLTCHIM SA	6,270,000	1.04%
NMVOC	62681	EW_EA-1451	United Kingdom	INEOS ENTERPRISES LIMITED	3,010,000	0.50%
SO_x/SO_2						
SO_x/SO_2	58595	2007000245	Italy	Industria Chimica Panzeri S.r.l.	147,000,000	2.60%
SO_x/SO_2	509	03L000438	Poland	Zakłady Azotowe "Puławy" S.A.	10,600,000	0.19%
SO_x/SO_2	6838	CZ17751142	Czech Republic	CHEMOPETROL	9,690,000	0.17%
Other pollutants						
Naphthalene	14158	CZ11453276	Czech Republic	DEZA, a.s., Valašské Meziříčí	50,000	26.95%
Hydro-fluoro-carbons (HFCs)	56573	06-08-3643689	Germany	DOW Deutschland Anlagengesellschaft mbH Werk Rheinmünster	419,000	26.16%
Hydro-fluoro-carbons (HFCs)	14650	vl00302990000147	Belgium	BUBBLE AND FOAM INDUSTRIES (naamswijziging naar ABRISO vf 15 sept. 2008)	366,000	22.85%
Hexachloro-benzene (HCB)	48303	100186331	Finland	Yara Suomi Oy, Kokkolan tehtaat/ Kaliumsulfaattitehdas	31	35.70%
Halons	14597	vl00106451000188	Belgium	BP CHEMBEL	7,860	92.49%
Di-(2-ethyl hexyl) phthalate (DEHP)	48513	100339472	Hungary	Graboplast Zrt.	9,750	53.25%
Chlorofluoro-carbons (CFCs)	4462	066.01578	France	RHODIA OPERATIONS	87,400	46.33%

Pollutant	Facility ID	National ID	Country	Facility Name	Total quantity kg/a	All countries share
1,1,2,2-tetrachloroethane	62681	EW_EA-1451	United Kingdom	INEOS ENTERPRISES LIMITED	2,600	86.12%
Vinyl chloride	62681	EW_EA-1451	United Kingdom	INEOS ENTERPRISES LIMITED	287,000	27.71%
Trichloromethane	4256	064.00942	France	ARKEMA	75,400	33.67%
Trichlorobenzenes (TCBs) (all isomers)	14764	vl01787164000134	Belgium	VOPAK TERMINAL ACS	136	36.28%
Total nitrogen	60515	1837.006.01	Norway	Yara Norge AS, Yara Glomfjord	29,400	100.00%
Tetrachloro-methane (TCM)	5693	10018	Netherlands	Huntsman Holland B.V.	21,600	34.18%
Tetrachloro-methane (TCM)	62681	EW_EA-1451	United Kingdom	INEOS ENTERPRISES LIMITED	16,100	25.48%

Note: *Contributions of over 50% to the total E-PRTR emissions are highlighted in red*

6.5. Waste and Waste Water Handling (E-PRTR Activity 5)

Releases reported to air from *Waste and waste water management* seem to be generally distributed evenly between facilities. E-PRTR 2007 releases from the top three facilities do in most cases not exceed 1% (Table A.17). However, some potential anomalies have been identified; e.g. one facility in Italy reported 54% of methane releases and a facility in France reported 94% of 1,1,1-trichloro-ethane emissions.

Table A.17 Facilities with the highest releases to air of selected pollutants reported in Activity 5 – Waste and waste water management under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility name	Total quantity kg/a	All countries share
CO_2						
CO_2	56865	06-09-100-0001-0003	Germany	E.ON Kraftwerke GmbH, Kraftwerk Zolling	2,190,000,000	0.11%
CO_2	64284	EW_EA-7030	United Kingdom	Coryton Energy Company Ltd	1,560,000,000	0.08%
CO_2	5943	20000.00111	Austria	VERBUND-Austrian Thermal Power GmbH & Co KG	1,190,000,000	0.06%
NH_3						
NH_3	47235	03000022	Bulgaria	Depo za neopasni otpadatsi na gr.Dobrich pri s.Bogdan	205,000	0.11%
NH_3	47236	10000013	Bulgaria	Regionalno depo za neopasni, inertnr i opasni otpadatsi za obshtinite Ruse, Vetovo, Ivanovo, Slivo pole i Tutrakan	186,000	0.10%
NH_3	4426	066.00247	France	COMURHEX	163,000	0.09%
NO_x/NO_2						
NO_x/NO_2	56865	06-09-100-0001-0003	Germany	E.ON Kraftwerke GmbH, Kraftwerk Zolling	1,550,000	0.05%
NO_x/NO_2	61669	2323	Spain	PLANTA DE TRATAMIENTO Y DEPURACIÓN DE PURINES DE CERDO	1,070,000	0.03%

Pollutant	Facility ID	National ID	Country	Facility name	Total quantity kg/a	All countries share
NO_x/NO_2	4511	067.00538	France	RHODIA OPERATIONS CHALAMPE	971,000	0.03%
NMVOC						
NMVOC	5563	100005294	Portugal	Centro Integrado de Valorização e Tratamento de Resíduos Sólidos de Palmela	3,540,000	0.59%
NMVOC	4044	062.01816	France	INEOS MANUFACTURING FRANCE SAS	1,650,000	0.27%
NMVOC	218	01D000268	Poland	PCC Rokita SA	405,000	0.07%
SO_x/SO_2						
SO_x/SO_2	4044	062.01816	France	INEOS MANUFACTURING FRANCE SAS	931,000	0.02%
SO_x/SO_2	56865	06-09-100-0001-0003	Germany	E.ON Kraftwerke GmbH, Kraftwerk Zolling	697,000	0.01%
SO_x/SO_2	60752	100005858	Portugal	Maxit, Argilas Expandidas, S.A.	617,000	0.01%
Other pollutants						
Methane (CH4)	80	2007001796	Italy	Discarica per rifiuti non pericolosi di Chivasso	3,020,000,000	55.67%
1,1,1-trichloro-ethane	4248	064.00825	France	ARKEMA FRANCE site de St. AUBAN	84,000	91.00%

Note: *Contributions of over 50% to the total E-PRTR emissions are highlighted in red*

6.6. Paper and Wood Production and Processing (E-PRTR Activity 6)

In general, the share of the releases of the top three E-PRTR 2007 facilities in *Paper and wood production* does not exceed 1% (Table A.18). However, the review identified two facilities with a share of 55.7% (methane in Italy) and 91% (1,1,1-trichloro-ethane in France).

Table A.18 Facilities with the highest releases to air of selected pollutants reported in Activity 6 – Paper and wood production under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility name	Total quantity kg/a	All countries share
CO_2						
CO_2	7924	2284-108	Sweden	M-real Sverige AB, Husums fabrik	1,970,000,000	0.10%
CO_2	5099	0861-101	Sweden	Södra Cell Mönsterås	1,940,000,000	0.10%
CO_2	58179	17928	Germany	Zellstoff Stendal GmbH	1,720,000,000	0.09%
NH_3						
NH_3	7924	2284-108	Sweden	M-real Sverige AB, Husums fabrik	203,000	0.11%
NH_3	7756	2180-103	Sweden	Korsnäsverken	200,000	0.11%
NH_3	7189	1764-101	Sweden	Gruvöns bruk	200,000	0.11%
NO_x/NO_2						
NO_x/NO_2	58315	16-85-00100060000	Germany	BHT Bau- und Holztechnik Thüringen GmbH	3,640,000	0.11%
NO_x/NO_2	54502	03-02-02221253020	Germany	Drewsen Spezialpapiere GmbH&Co. KG Papierfabrik	3,000,000	0.09%
NO_x/NO_2	6363	1254	Finland	Stora Enso Oyj, Imatran tehtaat	2,050,000	0.06%

Pollutant	Facility ID	National ID	Country	Facility name	Total quantity kg/a	All countries share
NMVOC						
NMVOC	7924	2284-108	Sweden	M-real Sverige AB, Husums fabrik	1,120,000	0.19%
NMVOC	5099	0861-101	Sweden	Södra Cell Mönsterås	1,070,000	0.18%
NMVOC	7756	2180-103	Sweden	Korsnäsverken	1,050,000	0.17%
SO_x/SO_2						
SO_x/SO_2	6221	11G000163	Poland	INTERNATIONAL PAPER - KWIDZYN SP. Z O.O.	4,320,000	0.08%
SO_x/SO_2	10254	57047713	Slovakia	Bukocel a.s. - Rotačná pec vápna	2,170,000	0.04%
SO_x/SO_2	50757	02C 002206	Poland	Mondi Świecie Sp. z o.o.	1,290,000	0.02%
Other pollutants						
PCDD + PCDF (dioxins + furans) (as Teq)	48980	P0022	Ireland	Finsa Forest Products Limited	22.00	24.44%

6.7. Intensive livestock production and aquaculture (E-PRTR Activity 7)

The share of the releases of the top three E-PRTR 2007 facilities in *Intensive livestock production and aquaculture* does only just exceed 1% (Table A.19).

Table A.19 Facilities with the highest releases to air of selected pollutants reported in Activity 7 - Intensive livestock production and aquaculture under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	FacilityName	Total Quantity kg/a	All countries share
NH_3						
NH_3	47199	13000006	Bulgaria	ploshtadka "Ptitsekombinat Yambol"	1,950,000	1.06%
NH_3	58077	13317	Germany	Hähnchenmast Walter Puritz	1,940,000	1.06%
NH_3	61039	RO7BV_720	Romania	SC GALLI GALLO SRL FERMELE PENTRU PUI DE CARNE NR.3 SI NR.5	1,210,000	0.66%

6.8. Animal and vegetable products from the food and beverage sector (E-PRTR Activity 8)

In general, the share of the releases of the top three E-PRTR 2007 facilities in *Animal and vegetable products from the food and beverage sector* does not exceed 0.5% (Table A.20).

Table A.20 Facilities with the highest releases to air of selected pollutants reported in Activity 8 - Intensive livestock production and aquaculture under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	FacilityName	Total Quantity kg/a	All countries share

Pollutant	Facility ID	National ID	Country	FacilityName	Total Quantity kg/a	All countries share
CO_2						
CO_2	564	2007002212	Italy	ZUEGG S.P.A.	3,410,000,000	0.17%
CO_2	60842	100018020	Portugal	Rações Avenal SA	631,000,000	0.03%
CO_2	4848	070.02546	France	ROQUETTE Frères	622,000,000	0.03%
NH_3						
NH_3	63400	EW_EA-3447	United Kingdom	Sandbraes Plant,	140,000	0.08%
NH_3	63823	EW_EA-569	United Kingdom	YORK SUGAR FACTORY,	135,000	0.07%
NH_3	9420	42310	Netherlands	Suiker Unie (Dinteloord)	76,900	0.04%
NO_x/NO_2						
NO_x/NO_2	49008	P0168	Ireland	Kepak Athleague	1,900,000	0.06%
NO_x/NO_2	61661	5977	Spain	COOSUR VILCHES	1,040,000	0.03%
NO_x/NO_2	4848	070.02546	France	ROQUETTE Frères	843,000	0.03%
NMVOC						
NMVOC	6300	12134	Netherlands	Archer Daniels Midland Europoort B.V. (ADM)	2,070,000	0.34%
NMVOC	14448	Scotland-14	United Kingdom	Cameronbridge Distillery, Windygates	1,640,000	0.27%
NMVOC	14429	Scotland-1281	United Kingdom	Wheatfield Road Grain Mill, Edinburgh	906,000	0.15%
SO_x/SO_2						
SO_x/SO_2	4789	070.00936	France	TEREOS	954,000	0.02%
SO_x/SO_2	61545	1706	Spain	EL POZO ALIMENTACIÓN	814,000	0.01%
SO_x/SO_2	49008	P0168	Ireland	Kepak Athleague	754,000	0.01%

6.9. Other activities (E-PRTR Activity 9)

In general, the share of the releases of the top three E-PRTR 2007 facilities in *Other activities* does not exceed 1.5% (Table A.21). However, the review identified one facility with a share of 100% for Pentachlorophenol (PCP) in the United Kingdom.

Table A.21 Facilities with the highest releases to air of selected pollutants reported in Activity 9 – Other activities under E-PRTR 2007

Pollutant	Facility ID	National ID	Country	Facility Name	Total Quantity kg/a	All countries share
CO_2						
CO_2	6020	10928	Netherlands	Aluminium & Chemie Rotterdam B.V.	248,000,000	0.01%
CO_2	59895	11024	Netherlands	Cabot B.V.	232,000,000	0.01%
CO_2	3079	061.04466	France	ALUMINIUM PECHINEY	230,000,000	0.01%
NH_3						
NH_3	52474	vl018539620002 11	Belgium	DOMO OUDENAARDE PRODUCTIEVESTIGING SINT-NIKLAAS	12,700	0.01%

Pollutant	Facility ID	National ID	Country	Facility Name	Total Quantity kg/a	All countries share
NH_3	61936	4063	Spain	CROWN EMBALAJES ESPAÑA, S.L.U.	11,300	0.01%
NO_x/NO_2						
NO_x/NO_2	5493	100004373	Portugal	Monteiro Ribas - Porto	1,700,000	0.05%
NO_x/NO_2	60872	100017700	Portugal	Monteiro, Ribas - Embalagens Flexíveis S.A.	974,000	0.03%
NO_x/NO_2	59895	11024	Netherlands	Cabot B.V.	400,000	0.01%
NMVOC						
NMVOC	62797	E247_73	United Kingdom	Interfloor Ltd	8,760,000	1.46%
NMVOC	7603	2024	Spain	PSA PEUGEOT CITROËN, CENTRO DE VIGO	3,190,000	0.53%
NMVOC	8263	2614	Spain	FORD ESPAÑA	2,370,000	0.39%
SO_x/SO_2						
SO_x/SO_2	3079	061.04466	France	ALUMINIUM PECHINEY	2,370,000	0.04%
SO_x/SO_2	6850	15	Slovenia	Talum, d.d., Kidričevo	1,150,000	0.02%
SO_x/SO_2	14249	EL5900272	Greece	HELLENIC FABRICS S.A.	497,000	0.01%
Other pollutants						
Pentachlorophenol (PCP)	64832	Scotland-42	United Kingdom	Riverside Works, Dundee	42.30	100.00%

C. Stage 2 Review – Comparisons with other Data on Air

The purpose of these tests is to put the data reported under E-PRTR into context and assess the comparability of reported E-PRTR data with other data officially reported by countries. Emissions reported under E-PRTR have been compared with emissions reported by Parties/Member States under CLRTAP/NECD and under UNFCCC/EU MM. However, not all pollutants which are covered by E-PRTR are included under CLRTAP/UNFCCC. Also the direct comparison of these emissions is impossible because the structure of reported data under E-PRTR and both Conventions differs significantly. The national emission inventories are reported in source categories[21], whereas the E-PRTR system identifies individual facilities. Each individual facility might include several activities, which are in national inventories reported under different categories.

The reporting obligations under E-PRTR and the EU ETS overlap for CO_2 emissions. However, the capacity for combustion installations is 50 MW under E-PRTR and 20 MW under the ETS. In addition, the boundaries of an installation under E-PRTR do not always fully match the boundaries of the corresponding ETS installation. These differences constitute limitations when comparing E-PRTR to EU ETS data.

To enable comparisons data reported under different obligations sectors/activities have been aggregated and these aggregated sectors have been linked. Afterwards, three types of comparisons could be performed:

1. Comparison of E-PRTR emissions per country with national totals reported under CLRTAP/ NECD directive (NO_x, SO_2, NMVOC, NH_3 ,CO, PM_{10}, POPs, HMs) and with national totals reported under UNFCCC/EU MM (CO_2, CH_4, N_2O, F-gases)
2. Comparison of E-PRTR missions reported per aggregated activities with (aggregated) sectoral emissions reported under CLRTAP and UNFCCC (NO_x, SO_2, NMVOC, NH_3 ,CO, PM_{10}, POPs, HMs, CO_2, CH_4, N_2O, F-gases)
3. Comparison of E-PRTR national totals with totals of EU ETS (CO_2)

The EEA members CLRTAP emissions and UNFCCC emissions used in this report have been provided by EEA[22] (ETC/ACC database, task 1.2.1.1 and task 1.4.1.1). The EU ETS emissions have been downloaded from the Community Independent Transaction Log (CITL).

The overview of differences in national total emissions reported under E-PRTR 2007 and CLRTAP/UNFCCC 2007 is presented in Table C.1 and Table C.2. These two tables show:

a. that several Parties did not report 2007 emissions to air under CLRTAP (particularly HM and POPs) but they report these emissions under E-PRTR 2007.

[21] Most disaggregated level in CLRTAP/UNFCCC is the one where emissions are calculated

[22] Inventories as submitted by countries can be downloaded from: http://cdr.eionet.europa.eu/, http://rod.eionet.europa.eu/obligations/357/deliveries and http://rod.eionet.europa.eu/obligations/384/deliveries?d-4014547-p=1

b. some countries reported higher emissions under E-PRTR 2007 than their national totals reported under CLRTAP (CH4 – Italy; PFCs – Belgium, Greece, Slovenia, UK; N_2O – Finland; HM – Czech Republic, Malta, Germany; PCDD/F – France, Poland, Spain; PCBs – Italy, PAHs –Denmark). In a number of cases the difference is bigger than 200%.

c. SO_2 and CO_2 E-PRTR emissions account for more than 50% (up to 90%) of the national total emissions in most of the countries, E-PRTR facilities contribute significantly to national total emissions of all pollutants reported under CLTAP/UNFCCC.

Table C.1 Share of E-PRTR 2007 releases in UNFCCC/CLRTAP totals 2007 (Main pollutants, PM and GHGs)

	Main pollutants						GHGs					
Countries	NH_3	CO	NOx	SOx	NMVOC	PM_{10}	CO_2	CH_4	PFCs	SF_6	N_2O	HFCs
Austria	0%	3%	6%	17%	1%	1%	21%	5%	-	-	5%	-
Belgium	5%	50%	34%	72%	26%	12%	41%	3%	111%	3%	31%	36%
Bulgaria	13%	9%	41%	98%	-	32%	63%	5%	-	-	5%	-
Cyprus	40%	-	53%	93%	2%	71%	64%	3%	-	-	25%	-
Czech Republic	12%	33%	47%	82%	3%	19%	67%	0%	-	-	8%	-
Denmark	5%	2%	23%	63%	14%	2%	46%	7%	-	-	1%	-
Estonia	3%	9%	40%	91%	5%	39%	89%	5%	-	-	-	-
Finland	6%	30%	38%	63%	8%	15%	59%	19%	-	-	109%	0%
France	2%	5%	19%	73%	8%	1%	34%	5%	64%	14%	10%	5%
Germany	2%	24%	28%	55%	3%	8%	55%	15%	40%	5%	13%	7%
Greece	0%	7%	46%	77%	3%	-	62%	7%	100%	-	7%	-
Hungary	14%	7%	12%	17%	0%	8%	39%	-	-	-	9%	-
Iceland	-	-	-	-	-	-	36%	5%	2%	-	-	-
Ireland	1%	4%	29%	61%	3%	14%	23%	7%	97%	28%	1%	1%
Italy	3%	15%	24%	76%	2%	2%	25%	171%	63%	25%	13%	1%
Latvia	1%	-	11%	30%	-	15%	7%	-	-	-	0%	0%
Lithuania	9%	4%	11%	44%	12%	6%	35%	5%	-	-	63%	-
Luxembourg	-	EPRTR	32%	83%	6%	EPRTR	13%	5%	-	-	-	-
Malta	-	-	48%	68%	-	67%	77%	36%	-	-	-	-
Netherlands	2%	27%	23%	86%	11%	7%	52%	5%	57%	-	32%	6%
Norway	3%	1%	9%	56%	9%	11%	26%	3%	-	-	31%	-
Poland	2%	12%	38%	70%	2%	16%	60%	30%	53%	-	20%	0%
Portugal	13%	5%	39%	68%	5%	4%	48%	10%	-	-	17%	-
Romania	14%	11%	40%	67%	6%	46%	60%	12%	6%	-	6%	-
Slovakia	3%	49%	40%	90%	6%	-	52%	1%	-	-	0%	-
Slovenia	4%	21%	33%	66%	7%	26%	83%	21%	103%	-	2%	0%
Spain	7%	15%	35%	84%	8%	17%	43%	10%	60%	-	6%	4%
Sweden	6%	5%	17%	47%	14%	16%	90%	3%	99%	55%	7%	1%
United Kingdom	5%	22%	36%	81%	17%	15%	49%	26%	232%	16%	15%	EPRTR

Legend	-	*No data reported under E-PRTR.*
	EPRTR	*Data reported under E-PRTR only.*
	25%	*Share of E-PRTR between 0% and < 50%.*
	75%	*Share of E-PRTR between >= 50% and <= 100%.*
	101%	*Share of E-PRTR > 100%.*

Table C.2 Share of E-PRTR 2007 on UNFCCC/CLRTAP totals 2007 (Heavy meatls and POPs)

	Heavy metals						POPs							
Countries	As	Cd	Pb	Hg	Ni	Zn	HCH	Hexabrom o-biphenyl	HCB	PCDD/ PCDF	PCP	PCBs	PAHs	Mirex
Austria	-	-	-	11%	-	EPRTR	-	-	-	-	-	-	1%	-
Belgium	68%	76%	92%	48%	32%	88%	-	-	58%	33%	-	EPRTR	9%	-
Bulgaria	-	3%	4%	-	1%	10%	-	-	-	4%	-	-	-	-
Cyprus	49%	5%	6%	22%	64%	82%	-	-	-	9%	-	-	-	-
Czech Republic	114%	38%	91%	85%	77%	54%	-	-	-	29%	-	-	15%	-
Denmark	29%	-	-	21%	10%	12%	-	-	-	-	-	EPRTR	229%	-
Estonia	98%	89%	91%	91%	88%	91%	-	-	-	21%	-	-	-	-
Finland	23%	17%	13%	56%	33%	11%	-	-	69%	14%	-	-	2%	-
France	61%	83%	56%	44%	39%	79%	-	-	-	159%	-	-	98%	-
Germany	76%	31%	64%	189%	16%	5%	-	-	-	77%	-	28%	20%	-
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hungary	2%	2%	2%	5%	1%	4%	-	-	-	10%	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	4%	4%	2%	6%	5%	7%	-	-	-	-	-	-	-	-
Italy	1%	6%	6%	3%	16%	7%	-	-	-	37%	-	3717%	0%	EPRTR
Latvia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lithuania	-	3%	-	-	-	6%	-	-	-	-	-	-	-	-
Luxembourg	EPRTR	EPRTR	-	EPRTR	-	EPRTR	-	-	-	EPRTR	-	EPRTR	EPRTR	-
Malta	34%	5%	-	-	29%	279%	-	-	-	-	-	-	-	-
Netherlands	64%	75%	81%	92%	82%	42%	EPRTR	-	-	11%	-	-	0%	-
Norway	37%	18%	54%	23%	EPRTR	EPRTR	-	-	-	-	-	-	-	-
Poland	8%	2%	8%	24%	3%	7%	-	-	-	279%	-	-	78%	-
Portugal	37%	20%	5%	23%	31%	76%	-	-	-	5%	-	-	85%	-
Romania	2%	10%	18%	60%	6%	63%	-	-	-	43%	-	-	2%	-
Slovakia	26%	17%	81%	34%	6%	8%	-	-	-	14%	-	-	-	-
Slovenia	3%	3%	5%	2%	22%	5%	-	-	-	80%	-	-	-	-
Spain	30%	17%	19%	40%	31%	29%	-	EPRTR	-	40478%	-	EPRTR	6%	-
Sweden	65%	22%	28%	25%	16%	17%	-	-	-	10%	-	-	34%	-
United Kingdom	10%	18%	55%	54%	29%	15%	-	EPRTR	-	69%	0%	1%	35%	-

Legend	-	*No data reported under E-PRTR.*
	EPRTR	*Data reported under E-PRTR only.*
	25%	*Share of E-PRTR between 0% and < 50%.*
	75%	*Share of E-PRTR between >= 50% and <= 100%.*
	101%	*Share of E-PRTR > 100%.*

1. Comparison of E-PRTR CO_2 releases with emissions included in the EU ETS

A comparison of total CO_2 releases reported under E-PRTR with emissions reported under the EU ETS provides interesting information (Figure C.1, Figure C.3 and Figure C.4) but the assessment of the results is limited by the different definition of sectors (EU ETS) and activities (E-PRTR) (see Table C.3). Boundaries of installations differ under E-PRTR and ETS, capacity for combustion installations is 50 MW under E-PRTR and 20 MW under the ETS reporting. In addition, it is not fully clear if all/some countries included biomass in E-PRTR reporting. A more detailed comparison (on the activity level) of CO_2 emissions is provided in stage 1 excel files submitted to countries.

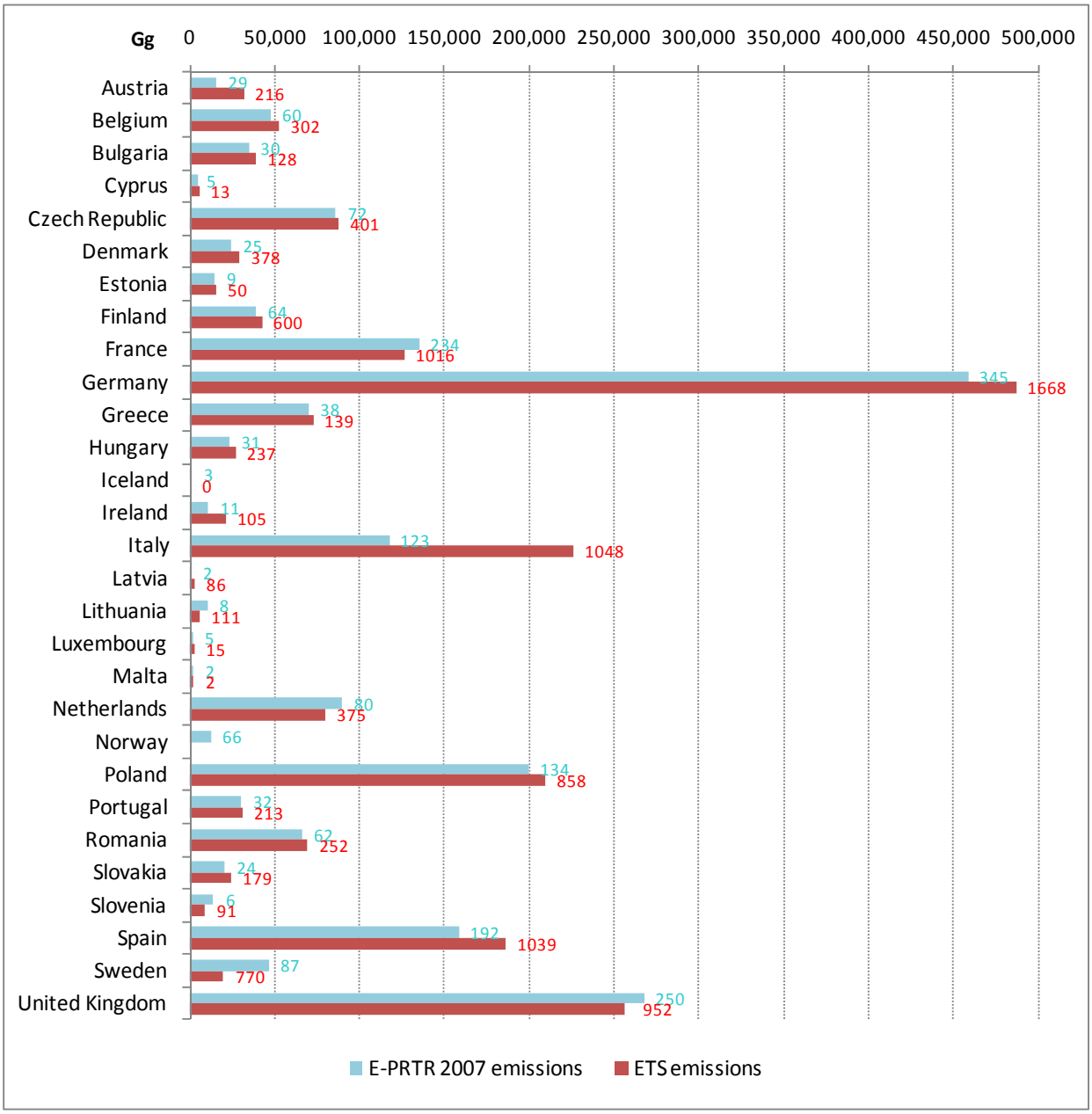
Table C.3 Sectors included in comparison of ETS and E-PRTR CO_2 emissions

EU ETS sector	EU ETS sector description (Annex I)	E-PRTR activity codes	Description
1	Combustion installations	1.(c)	Thermal power stations and other combustion installations
2	Mineral oil refineries	1.(a)	Mineral oil and gas refineries
3	Coke ovens	1.(d)	Coke ovens
4	Metal ore roasting or sintering installations	2.(a)	Metal ore (including sulphide ore) roasting or sintering installations
5	Production of pig iron or steel	2.(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting
6	Production of cement clinker or lime	3.(c)	Installations for the production of: Cement clinker in rotary kilns + Lime in rotary kilns + Cement clinker or lime in other furnaces
7	Manufacture of glass including glass fibre	3.(e)	Installations for the manufacture of glass, including glass fibre
8	Manufacture of ceramic products by firing	3.(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain
9	Production of pulp, paper and board	6.(a) + 6.(b)	Industrial plants for the production of pulp from timber or similar fibrous materials + production of paper and board and other primary wood products
99	Other activity opted-in	-	-

In general, the number of facilities included in E-PRTR is about five times lower than the number of facilities in the EU ETS but countries' total CO_2 emissions under both reporting obligations are comparable. For most of the countries the share of E-PRTR CO_2 emissions in the ETS CO_2 emissions ranges between 85% and 97%. Five countries (France, Lithuania, Netherlands, Slovenia, Sweden and United Kingdom), however, reported more emissions under E-PRTR than under the EU ETS. For Sweden the difference was 243%, for Lithuania 170% and for Slovenia 155%. It is the responsibility of countries to check whether such differences between the two sets of emission data are reasonable. One of the

potential reasons is that countries have included emissions from biomass combustion in E-PRTR reporting. This assumption is underpinned by the fact that for Sweden and Lithuania, the two countries with the highest excess of E-PRTR CO_2 emissions over EU ETS emissions, it is known that they reported CO_2 under E-PRTR 2007 including releases from biomass. The Netherlands and the United Kingdom, which also reported CO_2 including biomass under E-PRTR, also have a relatively high share of E-PRTR CO_2 emissions in EU ETS emissions of 112% and 104% respectively. More transparent information on how countries reported emissions occurring from biomass combustion under E-PRTR will soon be made available by E-PRTR countries and the European Commission.

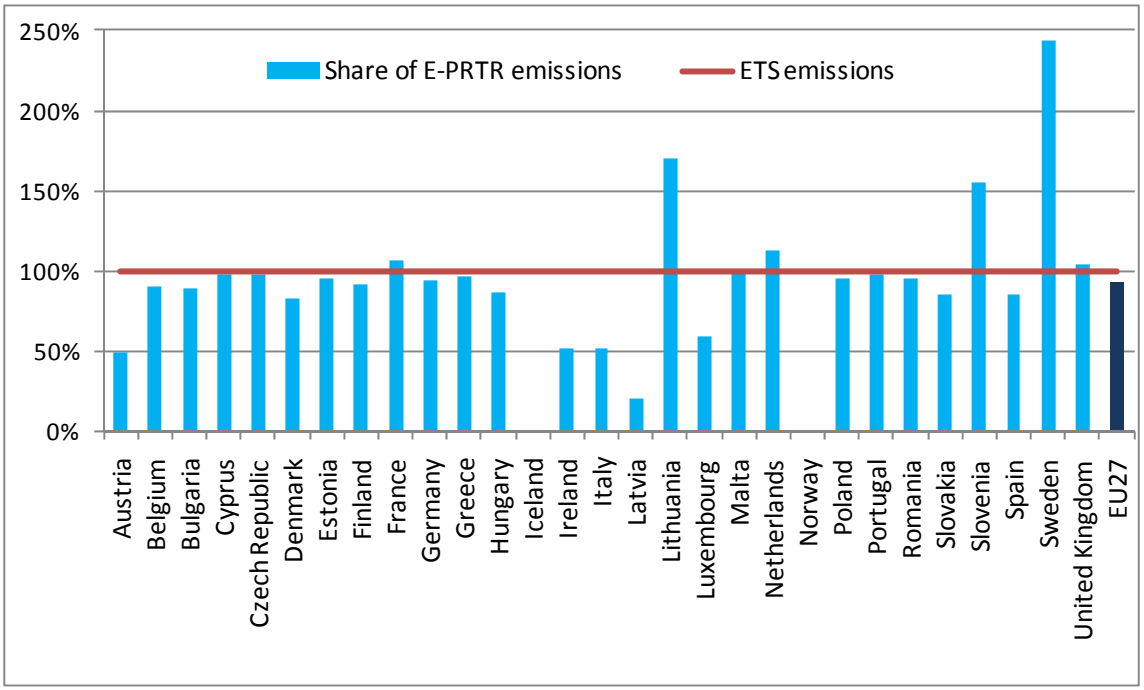
Figure C.1 Comparison of CO_2 emissions and number of facilities reported under E-PRTR 2007 and ETS



Note: *Norway and Iceland were not included in EU ETS (Emissions Trading Scheme) in 2007.*

The blue and red bars indicate total CO_2 emissions reported under E-PRTR 2007 and EU ETS respectively. Numbers in blue and red indicate how many facilities were reported under E-PRTR 2007 and EU ETS respectively.

Figure C.2 Comparison of CO_2 emissions reported under E-PRTR 2007 and ETS



2. Share of main E-PRTR activities in total E-PRTR emissions and comparison of E-PRTR data with national total emissions reported under CLRTAP/UNFCCC

The stage 2 review compared emissions of all E–PRTR pollutants which are reported under CLRTAP or UNFCCC. Summary results can be found in Table C.1 and Table C.2. However, the scope of this report does not allow presenting all the findings in detail. The next sections show the results for selected pollutants[23] illustrated in figures.

The releases reported under E-PRTR cover only (large) point sources and should not exceed national total emissions reported under CLRTAP or UNFCCC, which include all anthropogenic emissions occurring in the geographical area of the country (large point sources ,linear and area sources). If the total E-PRTR emissions exceed CLRTAP/UNFCCC national total emissions (with or without transport) this indicates inconsistent reporting of countries under different reporting obligations.

The figures showing the share of different activities in the E-PRTR total releases reflect the structure of the economies in the individual countries and thus cannot be identical for all countries. However, the comparison shows a number of common elements.

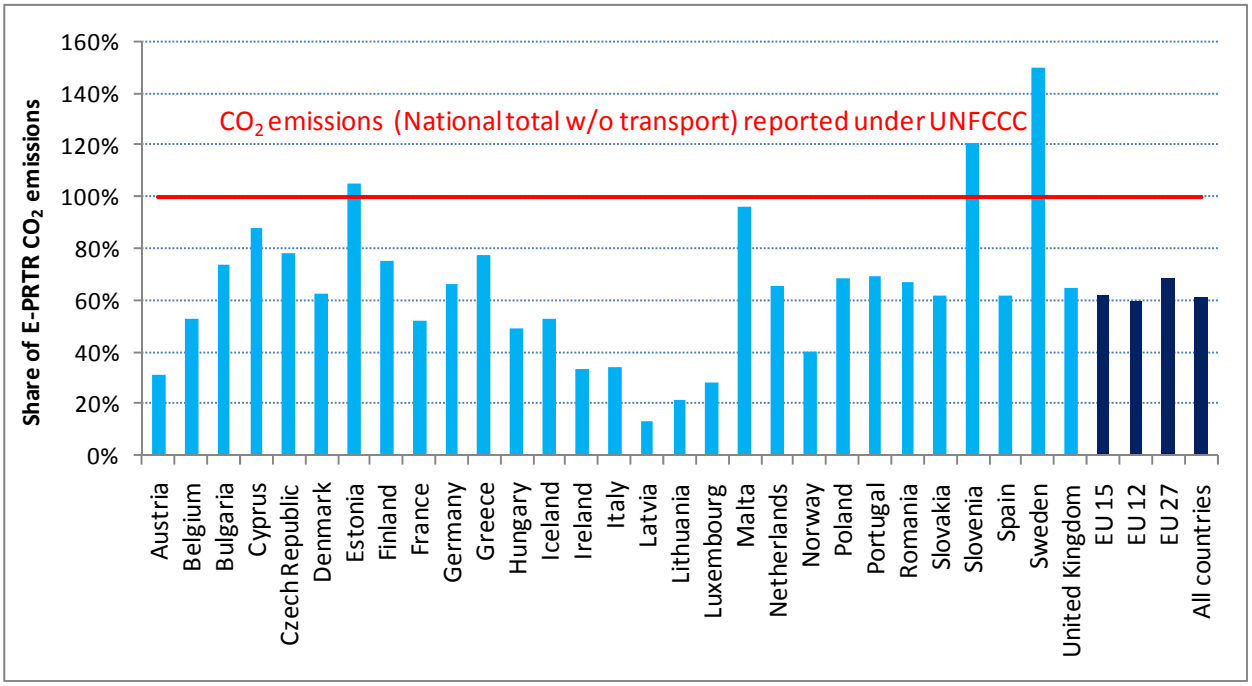
[23] Gothenburg protocol pollutants: SOx, NOx, NMVOC, NH3, most important GHG; CO2, and PM10 as indicator of health impacts)

2.1. CO_2

The total CO_2 emissions reported by all countries under E-PRTR amount to 61% of the sum of all national totals (without transport) of these countries reported under UNFCCC; the share of the EU 27 is 68%. Estonia, Slovenia and Sweden reported higher emissions under E-PRTR than national totals without transport under UNFCCC. This might indicate inconsistent reporting at national level, while E-PRTR releases do not include sources below the threshold such as residential heating. However, E-PRTR includes CO_2 emissions from biomass combustion for most countries, which might explain some of the anomalies (e.g. for Sweden). There is, however, no complete information available which countries included CO_2 from biomass combustion in E-PRTR 2007.

For individual countries the total percentage of CO_2 emissions accounted for is on average 64% (minimum 13% for Latvia, maximum 150% for Sweden, standard deviation 29%) (Figure C.3). This confirms that most of the CO_2 emissions emitted in Europe come from large point sources.

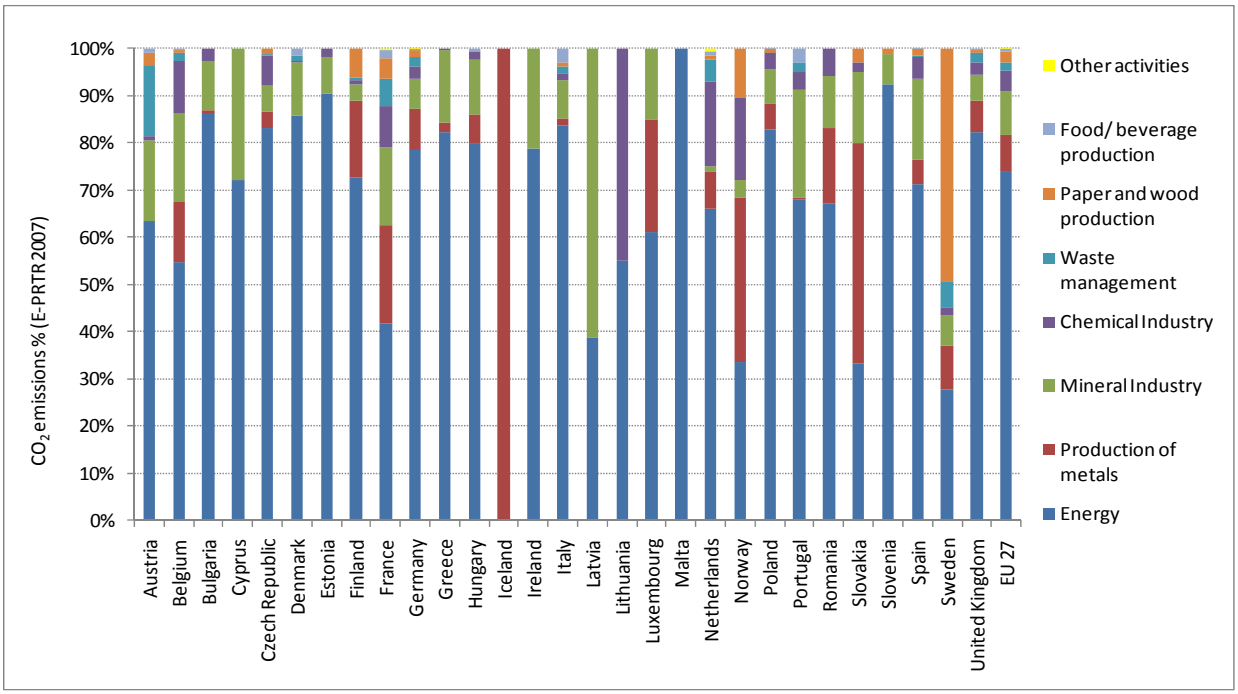
Figure C.3 Share of E-PRTR CO_2 releases in the national total reported under UNFCCC (national totals without transport)



Note: *Norway, Sweden and the United Kingdom included CO_2 from biomass combustion in E-PRTR 2007, Austria and Germany did not. Information on inclusion/non-inclusion of CO_2 from biomass combustion in other countries is not available.*

Most CO_2 emissions reported under E-PRTR stem from the *Energy sector* (in most countries the share is between 70% and 90% - see Figure C.4. The next highest contributions come from *Production of metals* followed by *Mineral Industry*. Iceland is the only country that did not report CO_2 emissions in the E-PRTR *Energy sector* (Figure C.4).

Figure C.4 Contribution of E-PRTR main activities to total CO_2 emissions reported under E-PRTR 2007

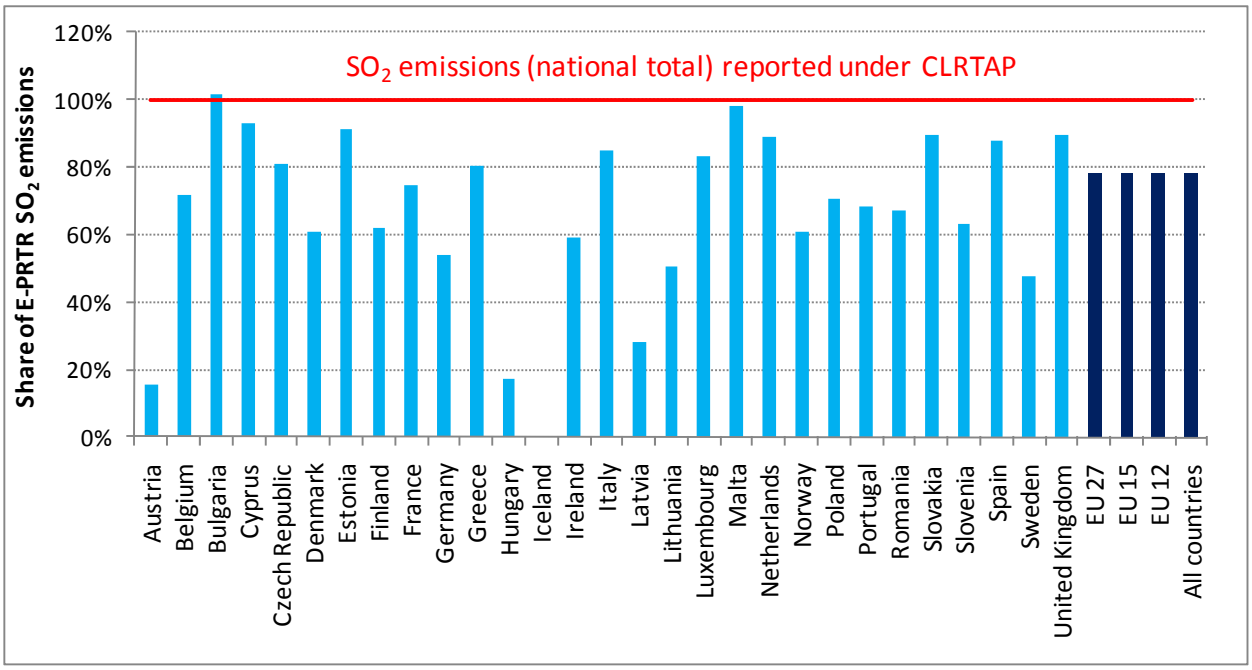


2.2. SO_2

The total percentage of SO_2 emissions accounted for in E-PRTR reporting is the same for the EU 27, EU 15 and EU 12 amounting to 78% of the national total reported under CLRTAP (Figure C.5). The results confirm that large facilities (e.g. power plants) are the main source of SO_2 emissions in Europe. The five facilities with the highest SO_2 releases under E-PRTR contribute altogether 24% of total E-PRTR releases for SO_2 (Table A.9). For individual countries the total percentage of SO_2 emissions reported under E-PRTR is on average 69% of the national CLRTAP total (minimum 16% for Austria, maximum 102% for Bulgaria), with eight countries reporting more than 90% of SO_2 releases occurring in E-PRTR. As indicated in the introduction, E-PRTR emissions should not exceed national total emissions, therefore the 102% E-PRTR share should be further investigated and a revision of either the CLRTAP or E-PRTR dataset should be considered.

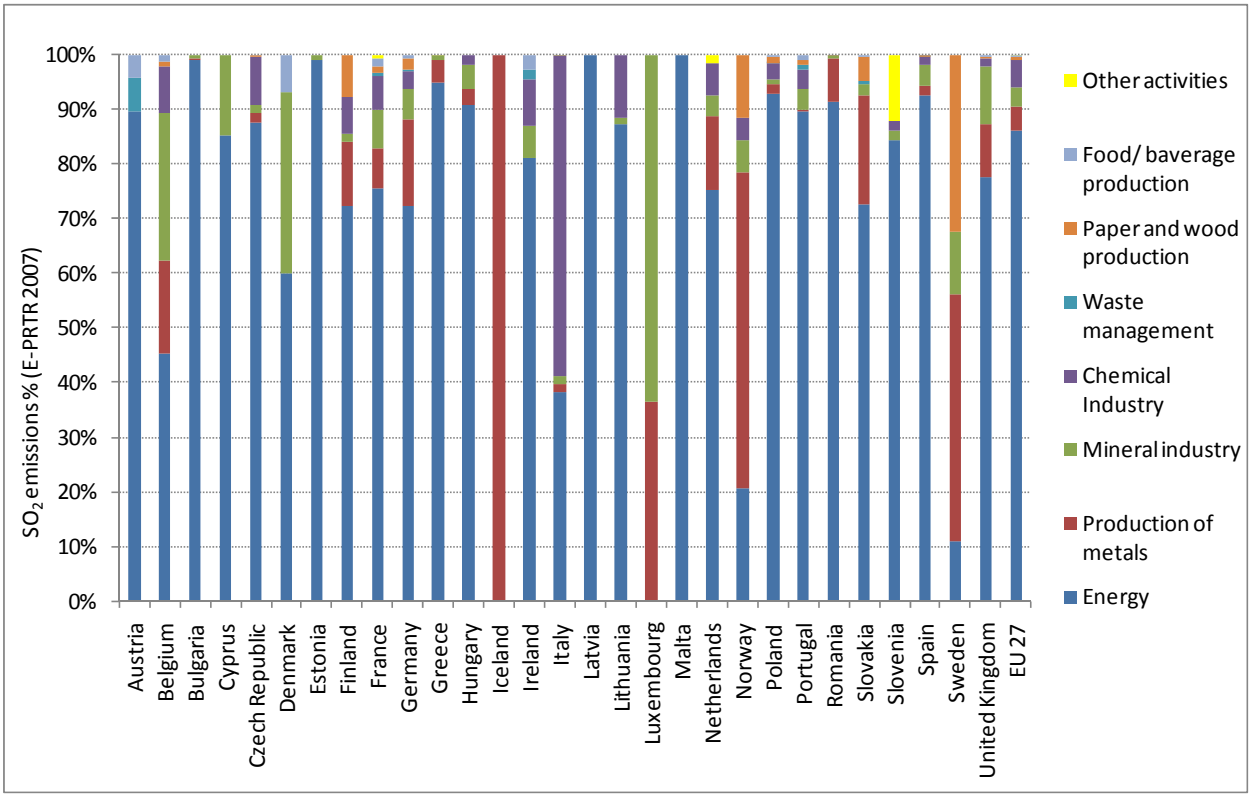
The main source of SO_2 emissions is *Energy*, followed by *Production of metals* and *Mineral industry* (Figure C.6). Some countries report significant SO_2 emissions also from the *Chemical industry,* e.g. in Italy almost 60%.

Figure C.5 Share of E-PRTR SO_2 releases in the national total reported under CLRTAP (total of all sources)



Note: Iceland and Liechtenstein did neither report 2007 SO_2 emissions under E-PRTR nor under CLRTAP.

Figure C.6 Contribution of E-PRTR main activities to the total SO_2 releases reported under E-PRTR 2007

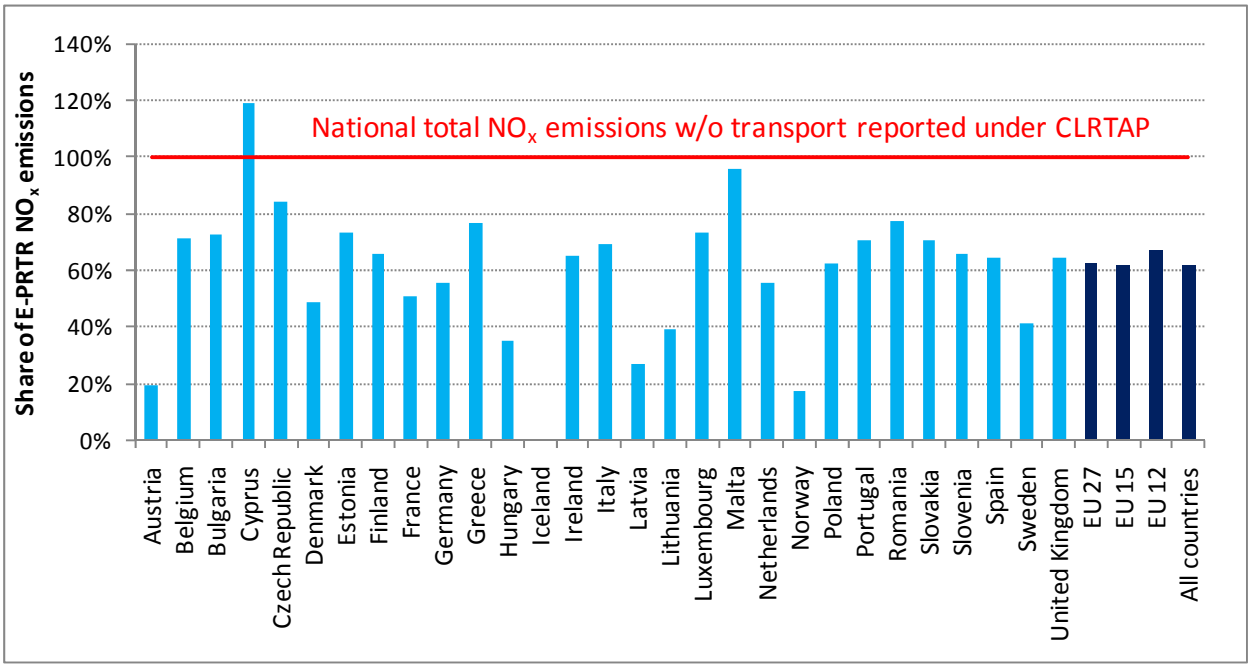


2.3. NO_x

The share of E-PRTR releases in the national total is significant for NO_x – the total percentage of NO_x emissions accounted for in E-PRTR reporting for all countries is 62% of the national total without transport reported under CLRTAP (Figure C.7). For individual countries the total percentage of NO_x emissions accounted for is on average 62% (minimum 18% for Norway, maximum 119% for Cyprus, standard deviation 22%).

The excess of E-PRTR releases over national total NO_x emissions without (w/o) transport in Cyprus might indicate that transport emissions under CLRTAP are overestimated and/or national total emissions are underestimated and/or E-PRTR releases are incorrect.

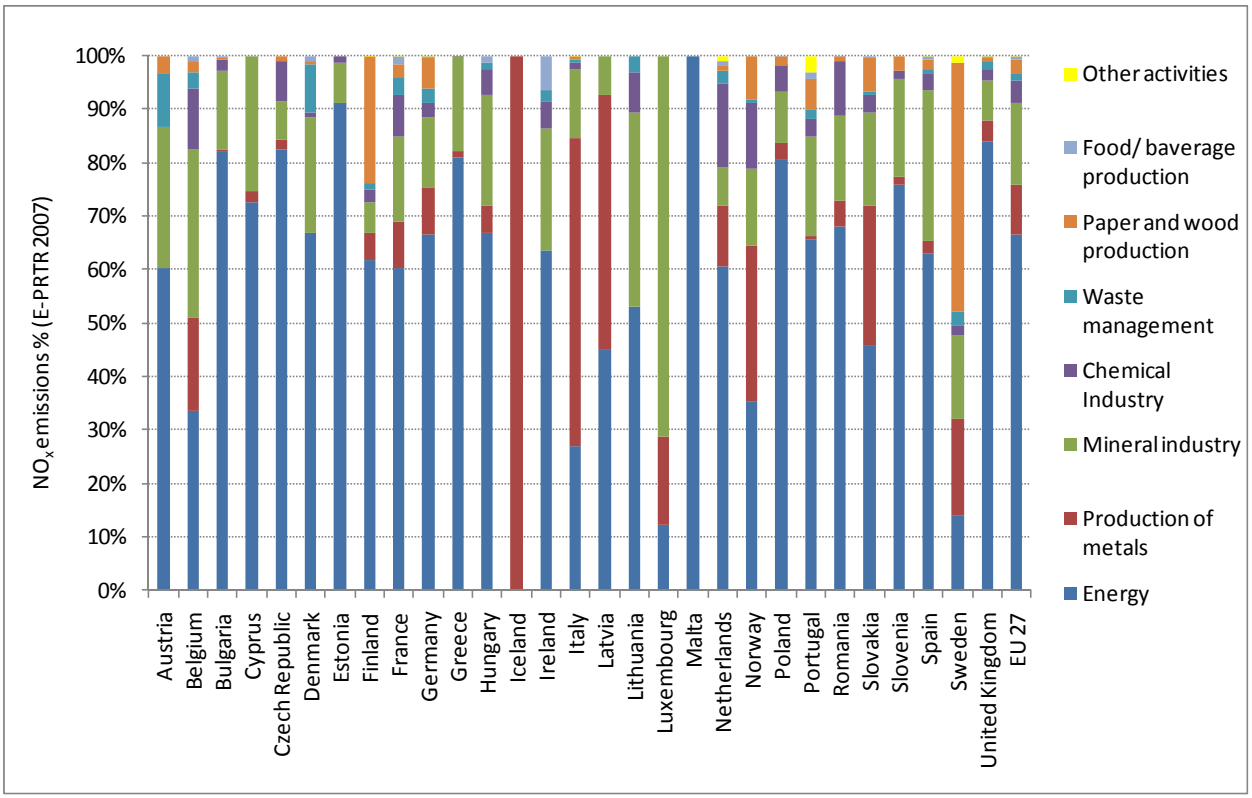
Figure C.7 Share of E-PRTR NO_x releases in the national total reported under CLRTAP (national total without transport)



Note: Iceland did not report NO_x emissions under CLRTAP.

E-PRTR NO_x releases mainly stem from *Energy*, followed by *Production of metals*, *Mineral industry, Paper and wood processing and Chemical industry*. As expected the share of *Energy* in E-PRTR NO_x releases is lower than the share of *Energy* in SO_2 E-PRTR releases (compare Figure C.8).

Figure C.8 Contribution of E-PRTR main activities to the total NO_x releases reported under E-PRTR 2007



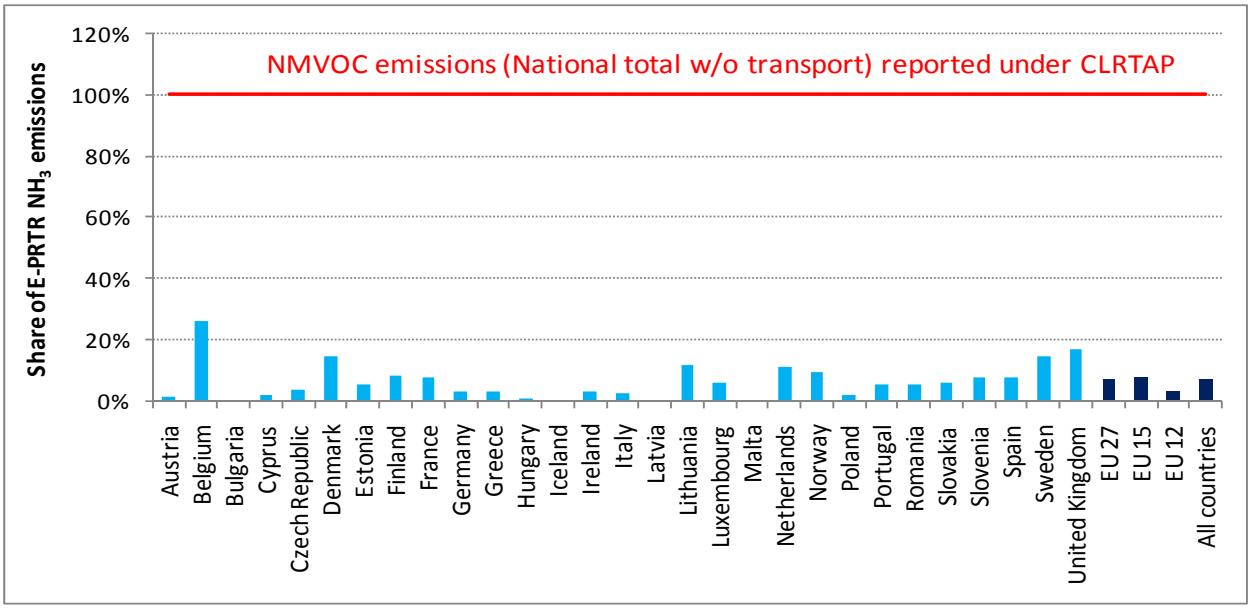
2.4. NMVOC

The total percentage of NMVOC emissions accounted for in E-PRTR reporting for all countries is 9% of the national total reported under CLRTAP (Figure C.9). For individual countries the total percentage of NMVOC emissions accounted for is on average 10% (minimum 1% for Austria, maximum 26% for Belgium, standard deviation 8%). This finding is consistent with the results of the CLRTAP key category analyses indicating that in general NMVOC emissions are occurring from a number of (small) area (diffuse) sources[24] like residential heating and domestic solvent and other product use.

Figure C.10 shows that *Energy* and *Other activities* are the most important activities for NMVOC releases under E-PRTR. Luxembourg, however, reports NMVOC emissions only from *Production of metals* and Cyprus only from *Production of metals* and *Mineral industry*.

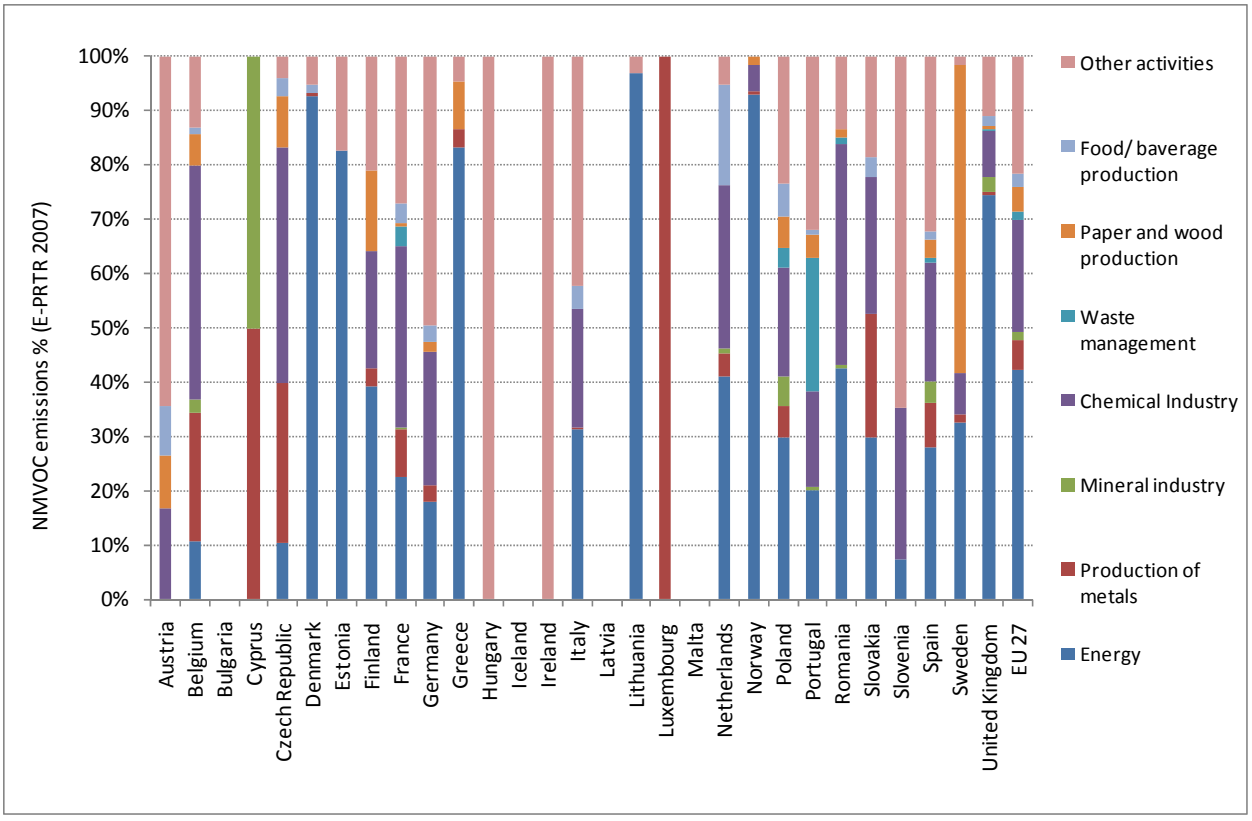
[24] See results of KCA analyses in CEIP &EEA report; Inventory Review 2009. http://www.ceip.at/review-process/review-2009/

Figure C.9 Share of E-PRTR NMVOC emissions in the national total reported under CLRTAP (national total without transport)



Note: *Iceland did not report NMVOC emissions under CLRTAP and Bulgaria, Iceland, Latvia and Malta did not report NMVOC emissions under E-PRTR 2007.*

Figure C.10 Contribution of E-PRTR main activities to the total NMVOC releases reported under E-PRTR 2007

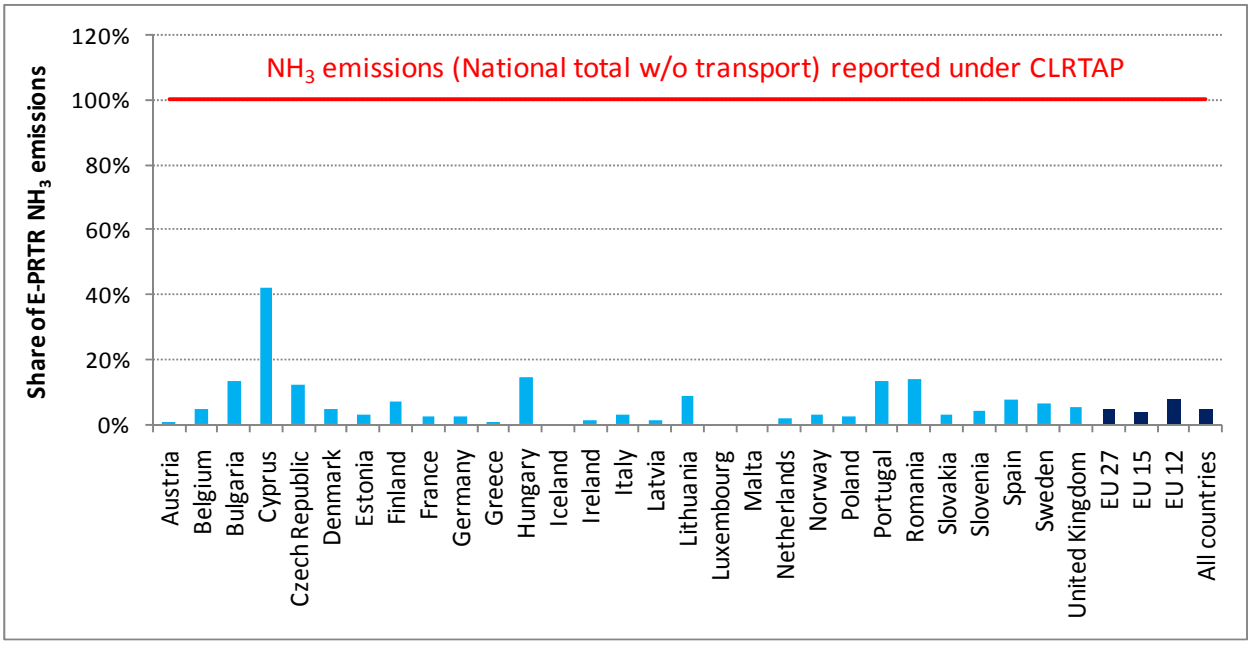


Note: *Bulgaria, Iceland, Latvia, Liechtenstein and Malta did not report NMVOC emissions under E-PRTR 2007*

2.5. NH_3

All countries but Luxembourg, Liechtenstein and Malta reported NH_3 emissions in E-PRTR 2007. The total percentage of NH_3 emissions accounted for in E-PRTR reporting by both all countries and the EU 27 is 5% of the national total reported under CLRTAP (Figure C.11). The percentage for the EU 12 is 8% compared to 4% for the EU 15, which indicates a significantly higher share of large point sources in in the EU 12 than in the EU 15. For individual countries the total percentage of NH_3 emissions accounted for is on average 7% (minimum 0.3% for Austria, maximum 42% for Cyprus, standard deviation 8%). The results indicate that NH_3 emissions occur prevailingly by small or area sources.

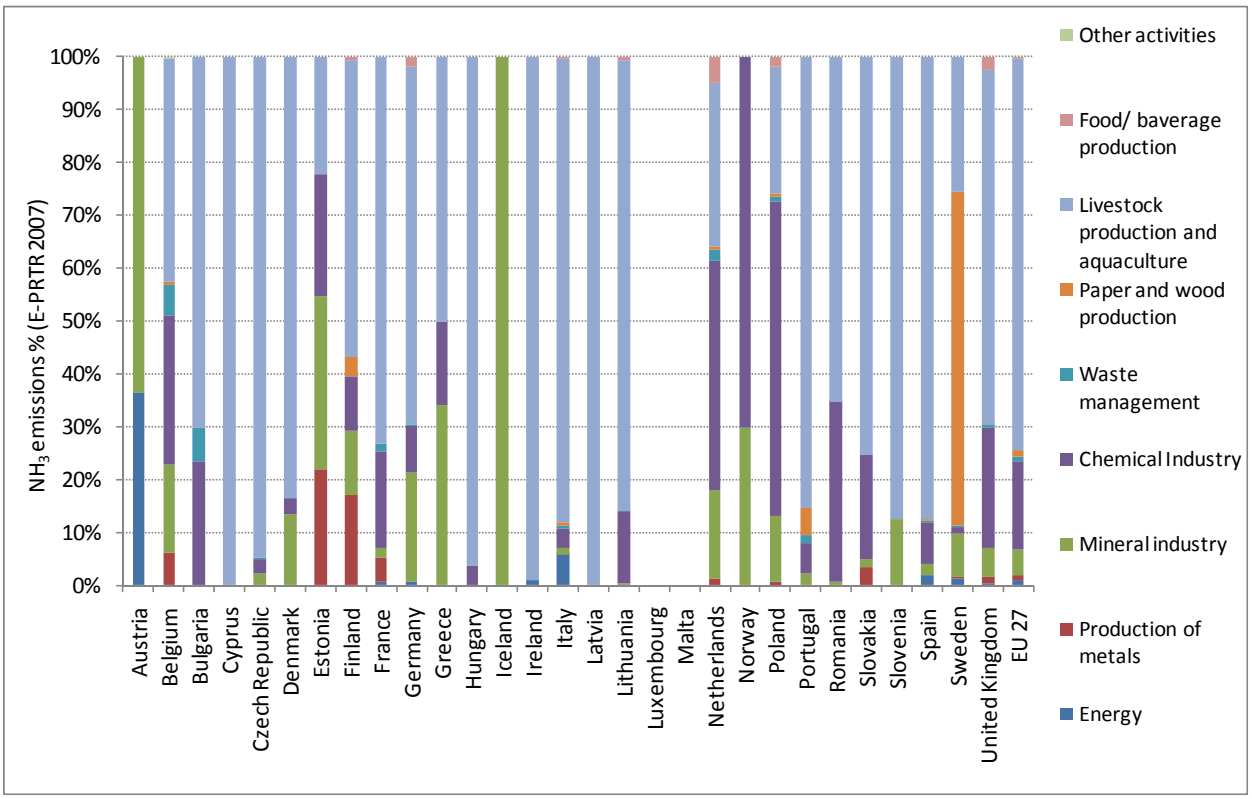
Figure C.11 Share of E-PRTR NH_3 emissions in the national total reported under CLRTAP (national total without transport)



Note: *Iceland and Malta did not report NH_3 emissions under CLRTAP and Liechtenstein, Luxembourg and Malta did not report NH_3 emissions under E-PRTR 2007.*

The main source of ammonia emissions under E-PRTR is *Livestock production and aquaculture*, followed by *Chemical industry* and *Mineral industry* (Figure C.12). However, three countries (Austria, Ireland and Norway) did not report NH_3 emissions occurring in the *Livestock production and aquaculture*. Austria is the only country reporting a relatively high share (36%) of NH_3 emissions from the *Energy sector* and Sweden is the only country reporting a high share (63%) of NH_3 emission from *Paper and wood production*. Such anomalies can be correct, but can be justified only by countries themselves. The E-PRTR dataset does not contain explanatory information.

Figure C.12 Contribution of E-PRTR main activities to the total NH_3 releases reported under E-PRTR 2007



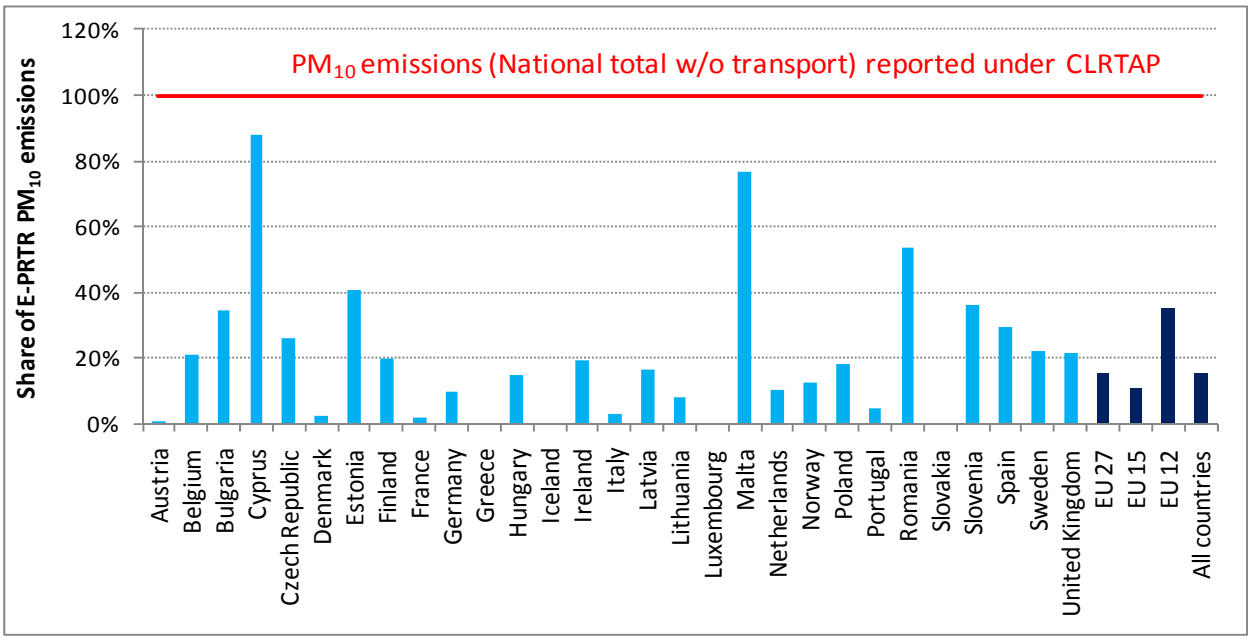
Note: *Liechtenstein, Luxembourg and Malta did not report NMVOC emissions under E-PRTR 2007.*

2.6. PM_{10}

The total percentage of PM_{10} emissions accounted for in E-PRTR reporting for all countries and the EU 27 is 15% (11% for the EU 15 but 35% for the EU 12) of the national total without transport reported under CLRTAP (Figure C.13). For individual countries the total percentage of PM_{10} emissions accounted for is rather variable: minimum 1% for Austria and maximum 88% for Cyprus (on average it is 24%, standard deviation 24%).

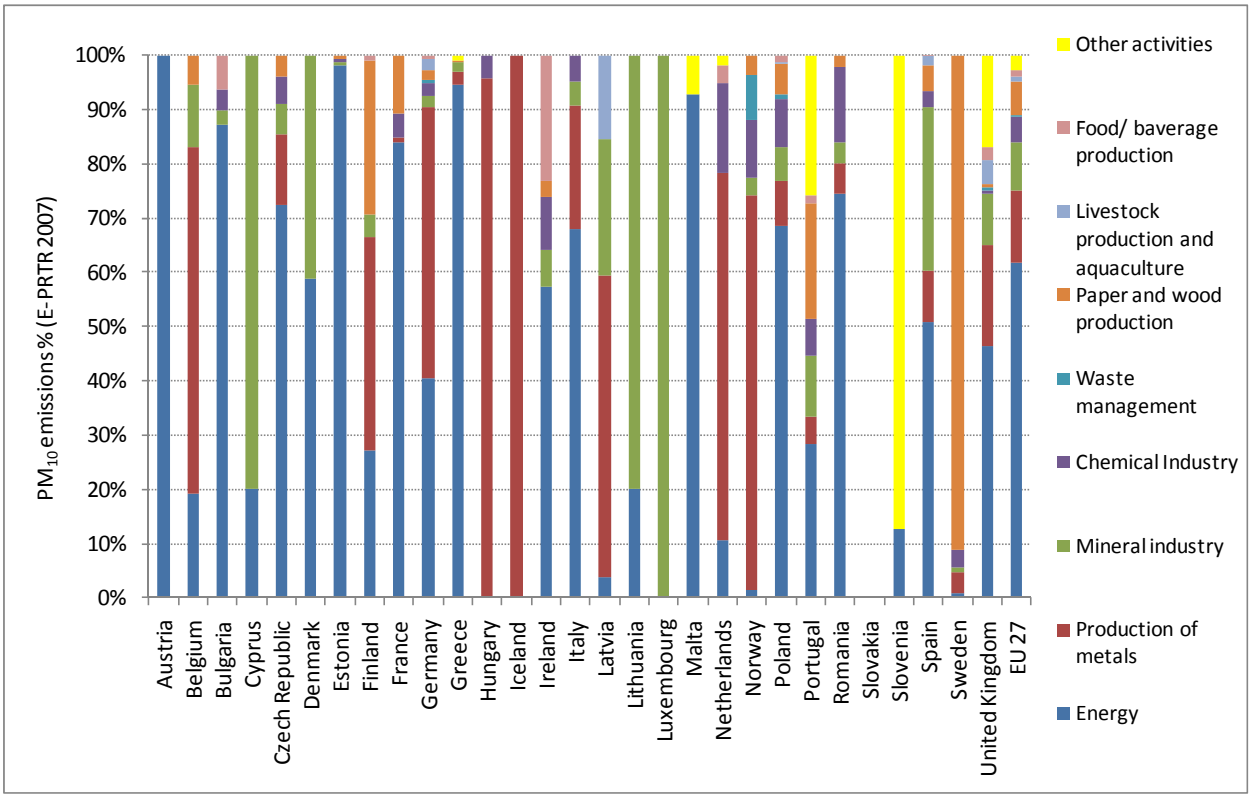
The most relevant activities producing PM_{10} emissions seem to be *Energy* and *Industry* (production of metals and mineral industry). However, Slovenia, Portugal and the United Kingdom reported a relatively high share of PM_{10} emissions from *Other activities*. The results of key category analyses under CLRTAP also indicate that PM emissions occure for a number of area sources (diffuse emissions).

Figure C.13 Share of E-PRTR PM_{10} emissions in the national total reported under CLRTAP (national total without transport)



Note: *Greece, Iceland, Liechtenstein, Luxembourg and Slovakia did not report PM_{10} emissions under CLRTAP and the latter also did not report PM_{10} emissions under E-PRTR 2007.*

Figure C.14 Contribution of E-PRTR main activities to the total PM_{10} releases reported under E-PRTR 2007



Note: *Liechtenstein and Slovakia did not report PM_{10} emissions under E-PRTR 2007.*

3. Comparison of aggregated sectoral data of E-PRTR and CLRTAP

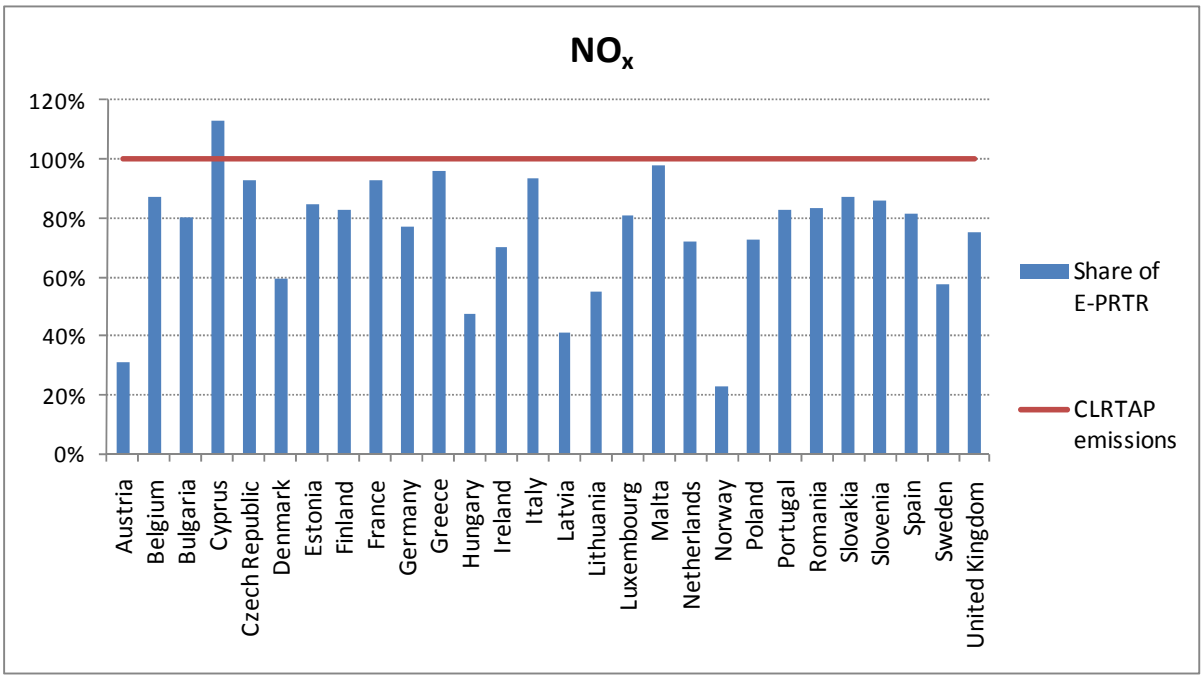
The purpose of this section is to put E-PRTR data into context with other reporting obligations. However, the comparison of sectoral data has limitations because of the differences between the reporting obligations under E-PRTR, CLRTAP, UNFCCC and EU ETS as explained earlier in this report. It has to be noted that a) not all E-PRTR pollutants are reported under CLRTAP/UNFCCC b) a signifcant share of E-PRTR in CLRTAP/UNFCCC was observed only in sectors A (Energy, manufacturing industries and waste incineration) and C (Agriculture (poultry, pigs)) and only for some pollutants.

Table C.4 Aggregated E-PRTR sectors as used for comparison with national totals reported under CLRTAP/UNFCCC

Aggregated sector	Description	E-PRTR	CLRTAP/UNFCCC
A	Energy, manufacturing industries and waste incineration	1 (a-f), 2 (a-f), 3(c-g) 4 (a -f), 5 (a-b), 5 (e), 6 (a-c), 8(a-c), 9 (b-e)	1A1, 1A2, 1B1, 1B2, 2A - 2G, 3A, 3B, 3C, 3D1, 3D2, 6C
B	Fugitive emissions from mining	3(a), 3 (b)	1B1a, 2A7 a-d
C	Agriculture (poultry, pigs)	7(a) , 7(a) i-iii	4B8, 4B9 a-d
D1	Landfills/waste disposal	5 (c), 5 (d)	6A
D2	Waste water treatment	5 (f), 5 (g)	6B

3.1. Energy, manufacturing industries and waste incineration (A)

Figure C.15 Share of E-PRTR NO_x releases (Energy, manufacturing industries and waste incineration) in sectoral emissions reported under CLRTAP



Note: *Iceland and Liechtenstein did not report NO_x emissions for „Energy" sector.*

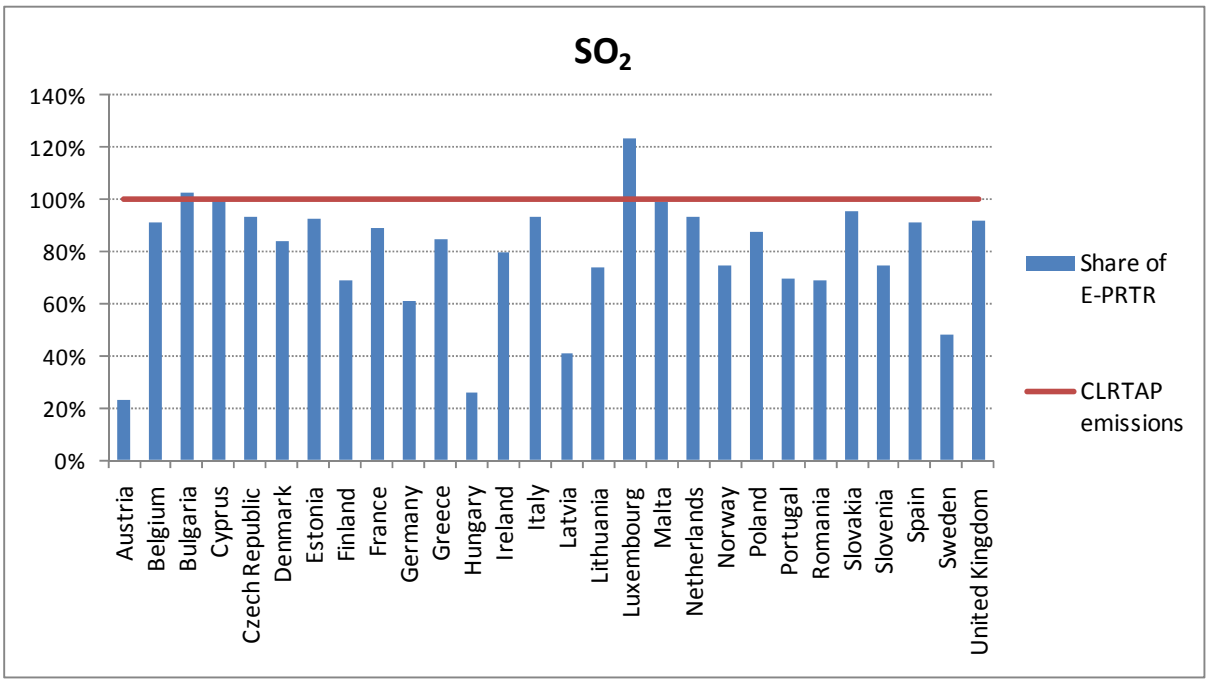
The mapping of energy and industry sectors between E-PRTR and CLRTAP/UNFCCC is difficult because under the LRTAP/UNFCCC conventions emissions occurring in industrial processes are reported separately from combustion emissions in the industrial sector whereas under E-PRTR all emissions occurring in one facility are reported as sum under the main activity. To enable at least some comparison combined emissions of key pollutants from energy, manufacturing industries and waste incineration are compared (Figure C.15, Figure C.16, Figure C.17, Figure C.18). In addition, a few activities (e.g. Iron and steel, Refineries) for which the mapping was feasible are compared at a more disaggregated level.

In 22 countries the share of NO_x E-PRTR releases in national totals is between 70% and 99%. In Cyprus E-PRTR NO_x releases account for 113% of the national total (Figure C.15). For SO_2 only three countries reported higher emission under E-PRTR than their national totals being Bulgaria (102%), Cyprus (101%) and Luxembourg (123%). For 20 countries the share of NO_x E-PRTR releases in their national totals ranges between 60% and 99% (Figure C.16).

For PM_{10} the results differ widely for individual countries: in three countries the share of PM_{10} E-PRTR releases in national totals exceeded 100%; in four countries the share accounted for less than 10% (Figure C.17).

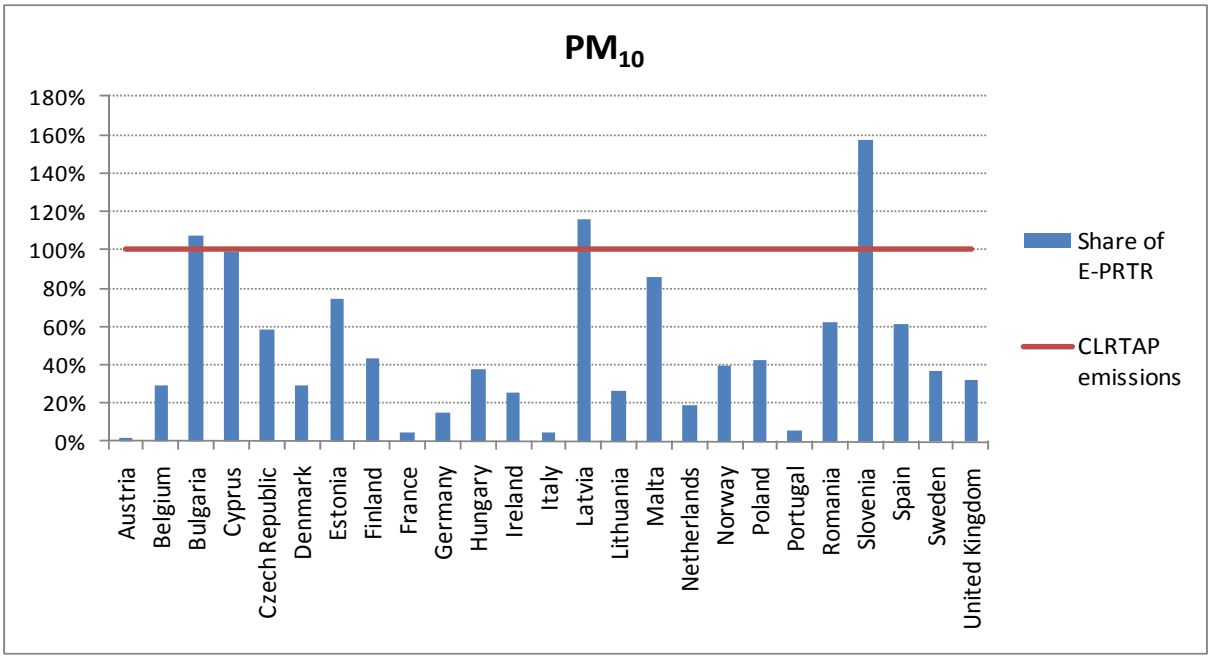
For mercury the results also differ very much between countries. In Germany the share of Hg E-PRTR releases in national totals is 212%; in the Czech Republic, Estonia and the Netherlands the share is around 95% and in Hungary, Ireland, Italy and Slovenia less than 10% (Figure C.18).

Figure C.16 Share of E-PRTR SO_2 releases (Energy, manufacturing industries and waste incineration) in sectoraL emissions reported under CLRTAP



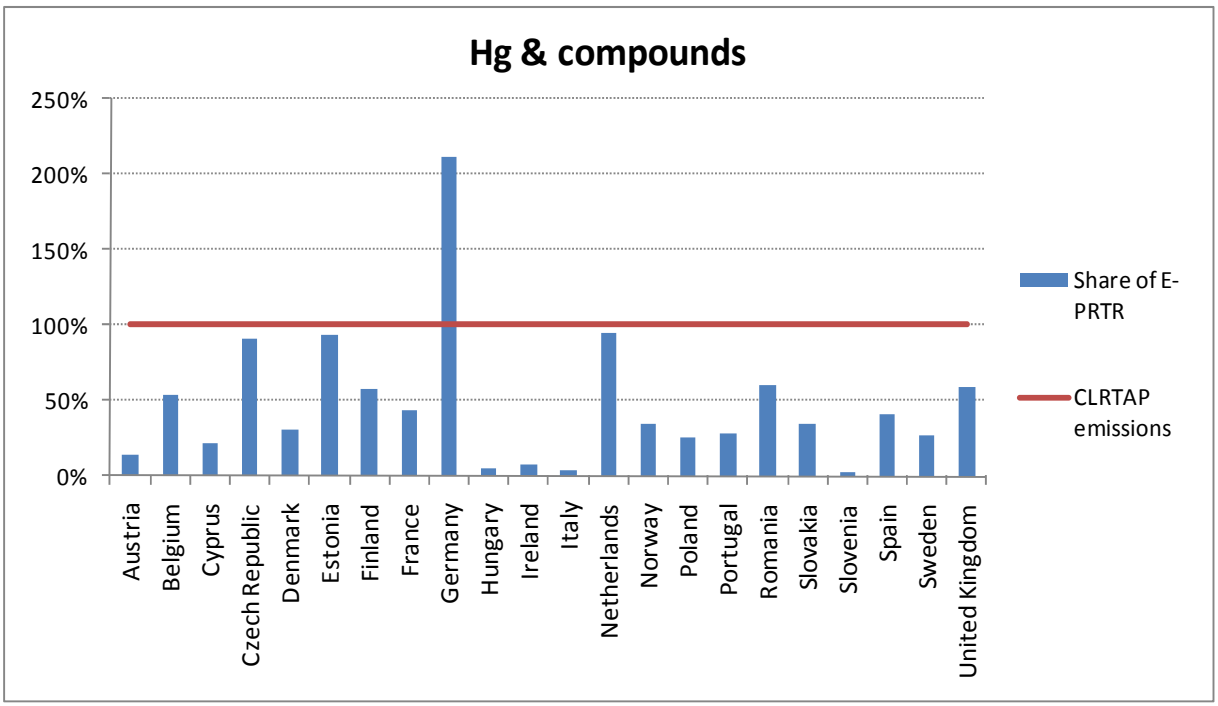
Note: *Iceland and Liechtenstein did not report SO_2 emissions for „Energy" sector.*

Figure C.17 Share of E-PRTR PM_{10} releases (Energy, manufacturing industries and waste incineration) in sectoral emissions reported under CLRTAP



Note: *Greece, Iceland, Liechtenstein and Slovakia did not report PM_{10} emissions for „Energy" sector.*

Figure C.18 Share of E-PRTR Hg releases (Energy, manufacturing industries and waste incineration) in sectoral emissions reported under CLRTAP



Note: *Bulgaria, Greece, Iceland and Latvia, Lithuania, Liechtenstein and Malta did not report Hg emissions for „Energy" sector.*

A more detailed comparison was performed for *Electricity and heat production* (Table C.5), *Refineries* (Table C.6) and the *Iron and steel industry* (Table C.7). These are the sectors for which also under CLRTAP emissions are occurring from large point sources, however not all of them necessarily exceed E-PRTR thresholds. The tables show identical figures reported under CLRTAP and E-PRTR in a number of countries.

Table C.5 Comparison of E-PRTR and CLRTAP emissions (NO_x, SO_x and PM_{10}) occurring in Electricity and heat production

Country	E-PRTR NOx/NO2 Gg	CLRTAP NOx/NO2 Gg	Share E-PRTR on CLRTAP %	E-PRTR SOx/SO2 Gg	CLRTAP SOx/SO2 Gg	Share E-PRTR on CLRTAP %	E-PRTR PM10 Gg	CLRTAP PM10 Gg	Share E-PRTR on CLRTAP %
Austria	4,694	9,85	48%	0,855	2,74	31%	0,1624	1,03	16%
Belgium	18,73	24,79	76%	17,79	18,36	97%	0,38	0,64	59%
Bulgaria	61,57	54,79	112%	827,86	769,16	108%	11,47	11,94	96%
Cyprus	7,64	7,37	104%	25,18	25,49	99%	0,60	0,60	100%
Czech Republic	95,83	96,29	100%	128,85	130,03	99%	3,21	3,49	92%
Denmark	25,48	33,61	76%	7,26	8,64	84%	0,40	0,78	52%
Estonia	12,50	13,71	91%	76,72	81,68	94%	10,36	11,35	91%
Finland	38,21	45,66	84%	30,05	38,26	79%	1,49	2,52	59%
France	115,88	93,09	124%	115,38	99,59	116%	5,47	5,86	93%
Germany	208,79	257,27	81%	151,24	210,30	72%	5,30	9,10	58%
Greece	132,52	142,96	93%	379,82	375,16	101%	29,15		
Hungary	13,57	27,97	49%	11,00	10,18	108%		0,29	
Ireland	20,43	27,04	76%	25,68	30,83	83%	1,10	4,27	26%
Italy	60,55	68,00	89%	62,17	81,57	76%	1,51	2,35	64%
Latvia	2,07	3,83	54%	0,99	1,13	88%		0,35	
Lithuania	2,55	9,40	27%	3,33	10,14	33%		1,70	
Luxembourg	0,53	1,23	43%		0,01				
Malta	5,47	5,47	100%	12,44	12,39	100%	0,79	0,99	80%
Netherlands	27,78	30,32	92%	8,41	8,58	98%	0,21	0,34	62%
Poland	257,25	283,86	91%	706,32	763,07	93%	27,21	24,14	113%
Portugal	52,94	39,50	134%	83,20	80,07	104%	1,38	1,78	78%
Romania	83,97	87,27	96%	442,63	461,56	96%	21,01	14,54	144%
Slovakia	9,91	11,23	88%	37,91	37,88	100%		0,82	
Slovenia	11,00	12,47	88%	7,88	8,35	94%	0,24	0,46	52%
Spain	298,85	313,62	95%	793,10	822,44	96%	14,36	18,94	76%
Sweden	3,18	12,64	25%	1,13	7,73	15%		4,21	
United Kingdom	358,90	360,47	100%	289,13	285,47	101%	7,80	9,51	82%
Iceland									
Liechtenstein		0,00			0,00			0,00	
Norway	0,13	1,29	10%		1,16			0,21	

Note: *E-PRTR activities 1.(c) Thermal power stations and other combustion installations and 5.(b) Installations for the incineration of non-hazardous waste (NACE 35.11 Production of electricity and 35.30 Steam and air conditioning supply) are compared with CLRTAP/UNFCCC sector 1 A1a Public Electricity and Heat production*

Table C.6 Comparison of E-PRTR and CLRTAP NO_x and SO_x, emissions occurring in Refineries, 2007

Country	E-PRTR NOx/NO2 Gg	CLRTAP NOx/NO2 Gg	Share E-PRTR on CLRTAP %	E-PRTR SOx/SO2 Gg	CLRTAP SOx/SO2 Gg	Share E-PRTR on CLRTAP %
Austria	3,05	3,05	100%	3,23	3,23	100%
Belgium	7,71	5,58	138%	22,80	22,80	100%
Bulgaria		2,58			11,56	
Cyprus						
Czech Republic	0,74	0,57	129%	5,21	0,96	543%
Denmark	1,42	1,75	81%	1,54	0,42	367%
Estonia	0,12			0,46		
Finland	4,06	2,50	162%	6,97	1,06	658%
France	24,04	18,48	130%	102,04	51,74	197%
Germany	13,04	21,72	60%	29,81	53,03	56%
Greece	5,66	6,24	91%	15,37	39,45	39%
Hungary	1,48			1,07		
Ireland	0,89	0,89	99%	1,03	1,03	100%
Italy	10,56	24,61	43%	34,20	48,26	71%
Latvia						
Lithuania	1,65	0,88	188%	11,60	3,66	317%
Luxembourg						
Malta						
Netherlands	9,26	5,04	184%	29,95	13,37	224%
Poland	9,05	9,10	99%	26,03	26,05	100%
Portugal	7,15	6,66	107%	20,88	19,42	108%
Romania	5,35	10,95	49%	16,16	55,90	29%
Slovakia	2,48	1,10	225%	8,07	1,91	423%
Slovenia						
Spain	22,88	24,04	95%	83,09	61,98	134%
Sweden	1,27	1,28	99%	0,60	0,47	127%
United Kingdom	12,82	25,96	49%	21,16	78,97	27%
Iceland						
Liechtenstein						
Norway	2,34	0,99	236%	1,45	0,35	415%

Note: *E-PRTR activity 1.(a) Mineral oil and gas refineries (NACE 19.20 Manufacture of refined petroleum products) is compared with CLRTAP sector 1A1b Petroleum refining*

Table C.7 Comparison of NO_x and CO emissions occurring in Iron and steel industry

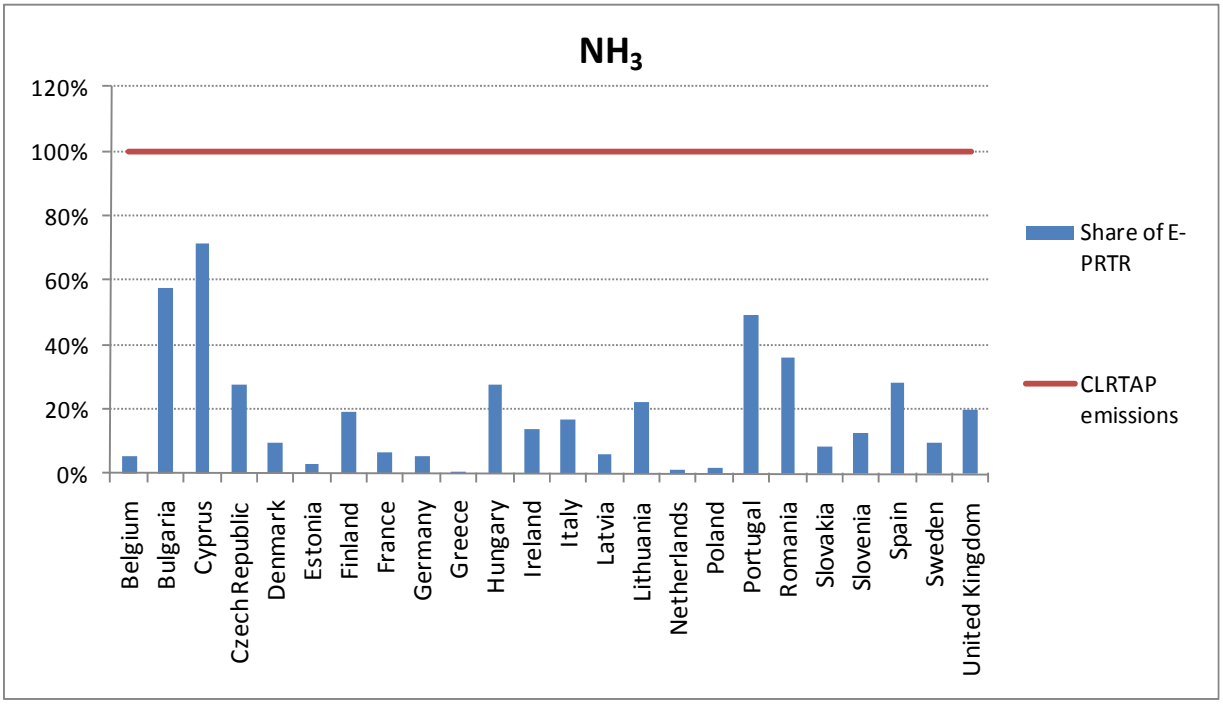
Country	E-PRTR NOx/NO2 Gg	CLRTAP NOx/NO2 Gg	Share E-PRTR in CLRTAP %	E-PRTR CO Gg	CLRTAP CO Gg	Share E-PRTR in CLRTAP %
Austria		5,2			141,39	
Belgium	11,36	14,25	80%	247,30	325,90	76%
Bulgaria		5,61			52,75	
Cyprus						
Czech Republic	1,73	7,74	22%	76,11	151,66	50%
Denmark						
Estonia		0,02			0,14	
Finland	3,46	3,57	97%	24,93	7,40	337%
France	12,23	21,09	58%	100,18	1365,70	7%
Germany	26,95	32,11	84%	612,57	1041,58	59%
Greece	0,18	0,84	21%	1,36	0,07	1943%
Hungary	0,48	4,60	10%	24,50	42,18	58%
Ireland		0,00			0,00	
Italy	3,26			22,24		
Latvia	2,19	3,68	60%		0,15	
Lithuania						
Luxembourg	0,62	0,77	80%	5,01		
Malta						
Netherlands	6,14	5,61	109%	66,60	83,56	80%
Poland	8,63	2,26	382%	145,40	3,90	3728%
Portugal	0,57	0,45	128%	1,05	13,26	8%
Romania	5,86	1,49	393%	117,43	2,06	5700%
Slovakia	7,78	7,29	107%	102,00	89,36	114%
Slovenia	0,21			3,31		
Spain	9,55	19,31	49%	113,11	465,35	24%
Sweden	2,04	1,98	103%		2,78	
United Kingdom	11,52	20,17	57%	205,70	363,21	57%
Iceland	0,00					
Liechtenstein						
Norway	0,00	6,09	0%		0,02	

***Note**: E-PRTR activities: 2.(a) Metal ore (including sulphide ore) roasting or sintering installations, 2.(b) Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting and 2.(c) Installations for the processing of ferrous metals (NACE 24.10 Manufacture of basic iron and steel and of ferro-alloys and 24.20 Manufacture of tubes, pipes, hollow profiles and related fittings, of steel) are compared with CLRTAP categories 1 A 2 a Stationary combustion in manufacturing industries and construction: Iron and steel, 2 C 1 Iron and steel production and 2 C 2 Ferroalloys Production.*

3.2. Agriculture (C)

The comparison of emissions stemming from agriculture at sectoral level shows only a limited share of E-PRTR in CLRTAP emissions. This indicates that this type of emissions is occuring prevailingly from sources under the E-PRTR thresholds. The share of E-PRTR 2007 NH_3 emissions in CLRTAP emissions is under 10% in ten countries. A higher share was observed only for Portugal (49%), Cyprus (58%) and Bulgaria (78%).

Figure C.19 Share of E-PRTR NH_3 emissions (Agriculture –Poultry, pigs) in the CLRTAP emissions (Manure management)



Note: *Austria, Iceland, Liechtenstein and Malta did not report Hg emissions for „Agriculture" sector.*

D. Stage 2 Review – Comparisons with other Data on Waste

1. General information on the waste data included in the E-PRTR database (reporting year 2007)

The stage 2 review of the E-PRTR dataset for the waste data was performed on the E-PRTR dataset which was launched in November 2009 covering reporting year 2007[25].

The public E-PRTR database was used as data source. By combining the tables named "WASTETRANSFER" and "FACILITYREPORT" the waste streams were linked to a certain facility. The "FACILITYREPORT" table includes the facility addresses from which the country code was used. The combined data was exported to an Excel sheet and prepared for the comparison.

The number of reported waste streams was reviewed. In Table D.1 this statistic is shown for the individual countries. In total 37,717 waste streams were included in the database in 2007. German and French companies were responsible for most of the reports in 2007 whereas Italian and Polish companies reported the highest total amounts of waste transferred.

Altogether 15,507 facilities have reported waste data. 13,233 facilities have reported data on hazardous waste and 6,552 facilities have reported data on non-hazardous waste.

The different orders of magnitude for the hazardous waste (HW) and the non hazardous waste (NHW) data are partly due to the different reporting threshold for operators. Off-site transfers have to be reported for non hazardous waste in case the facility transfers in total an amount of over 2000 tonnes per year. For hazardous waste the threshold is set to 2 tonnes per year.

The reporting of hazardous waste is divided into transfer within the country (domestic) and transfer out of the country (transboundary). Table D.1 shows that in total 926 facilities have reported transboundary shipment of hazardous waste, whereas 13,122 facilities have reported domestic transfer of hazardous waste.

Table D.1 Number of facilities reporting waste data and quantities of off-side waste transfers per country

Country	Hazardous and non hazardous waste		Hazardous Waste						Non-hazardous waste	
			Total		Domestic		Transboundary			
	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count
Austria	10,465,702	115	5,991,512	69	4,556,930	65	1,434,582	12	4,474,190	49
Belgium	14,589,980	597	1,661,968	511	1,329,275	509	332,693	129	12,928,012	347
Bulgaria	7,457,759	58	53,719	41	53,538	40	182	2	7,404,040	32

[25] The dataset can be downloaded at the EEA dataservice: http://www.eea.europa.eu/data-and-maps/data/member-states-reporting-art-7-under-the-european-pollutant-release-and-transfer-register-e-prtr-regulation

Country	Hazardous and non hazardous waste		Hazardous Waste						Non-hazardous waste	
			Total		Domestic		Transboundary			
	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count	Waste transfer (tonnes)	Facility count
Cyprus	1,082,518	16	688	12	661	11	27	1	1,081,830	4
Czech Republic	3,805,371	353	307,442	329	307,198	329	244	5	3,497,929	131
Denmark	3,482,610	280	350,744	224	246,979	202	103,765	30	3,131,866	136
Estonia	2,177,953	77	552,752	66	551,846	65	907	10	1,625,201	33
Finland	12,166,591	404	1,351,978	340	1,351,978	340			10,814,613	234
France	12,789,087	2,119	3,028,881	1,993	2,766,321	1,975	262,560	266	9,760,207	506
Germany	66,803,408	3,399	8,981,673	2,935	8,981,673	2,934		10	57,821,735	1,497
Greece	2,779,867	101	23,987	89	21,536	85	2,451	11	2,755,880	33
Hungary	1,818,342	270	263,400	243	257,893	243	5,507	6	1,554,942	102
Iceland	37,611	3	5,732	3	5,514	3	218	1	31,879	3
Ireland	4,778,083	220	325,578	186	76,392	158	249,186	114	4,452,505	100
Italy	91,732,832	1,291	16,829,061	1,141	16,586,382	1,141	242,679	48	74,903,772	594
Latvia	64,373	21	16,924	18	5,584	17	11,340	3	47,448	7
Lichtenstein	2,430	1	0	0					2,430	1
Lithuania	212,667	36	9,454	32	7,216	31	2,238	2	203,213	17
Luxembourg	1,186,541	22	105,711	22	98,104	19	7,607	13	1,080,830	14
Malta	6,034	4	2,173	4	1,531	3	642	2	3,861	1
Netherlands	13,703,030	437	3,747,974	358	3,456,637	355	291,337	88	9,955,055	214
Norway	1,318,348	91	715,160	85	715,160	85			603,187	27
Poland	80,048,904	1,021	1,346,939	706	1,335,306	705	11,634	18	78,701,965	652
Portugal	12,275,251	335	678,198	305	592,929	303	85,269	30	11,597,053	130
Romania	9,897,692	239	183,545	110	183,485	109	60	1	9,714,148	176
Slovenia	1,067,124	106	159,150	93	137,276	87	21,874	40	907,974	50
Slovakia	3,612,721	184	180,389	172	174,763	171	5,626	5	3,432,332	67
Spain	20,758,386	1,289	2,311,841	1,183	2,280,119	1,181	31,722	18	18,446,544	391
Sweden	3,337,807	321	410,157	306	324,606	302	85,551	21	2,927,650	143
United Kingdom	35,274,289	2,097	5,202,583	1,657	5,121,142	1,654	81,440	40	30,071,706	861
Total	**418,733,311**	**15,507**	**54,799,312**	**13,233**	**51,527,972**	**13,122**	**3,271,340**	**926**	**363,933,999**	**6,552**

The distributions of the different off-side waste transfers over the different economic sectors (expressed in NACE codes) are presented in Figure D.1, Figure D.2 and Figure D.3. The different figures present the total waste, the non-hazardous waste and the hazardous waste (domestic and transboundary) transferred respectively.

Figure D.1 and Figure D.2 show that overall, the largest amounts of all off-side waste transfers and of off-side transfers of non hazardous waste included in E-PRTR originate from the economic sectors with the following NACE codes: NACE code 38 (Waste collection, treatment and disposal activities; materials recovery); NACE code 35 (electricity, gas, steam and air-conditioning supply); NACE code 24 (manufacture of basic metals); NACE code 17 (manufacture of paper and paper products); code 7 (mining of metal ores); NACE code 37 (sewerage); NACE code 5 (mining and quarrying; NACE code 10 (manufacture of food products); NACE code 20 (manufacture of chemicals and chemical products).

Figure D.1 Distribution of all off-side waste transfers (HW and NHW) included in E-PRTR over NACE codes

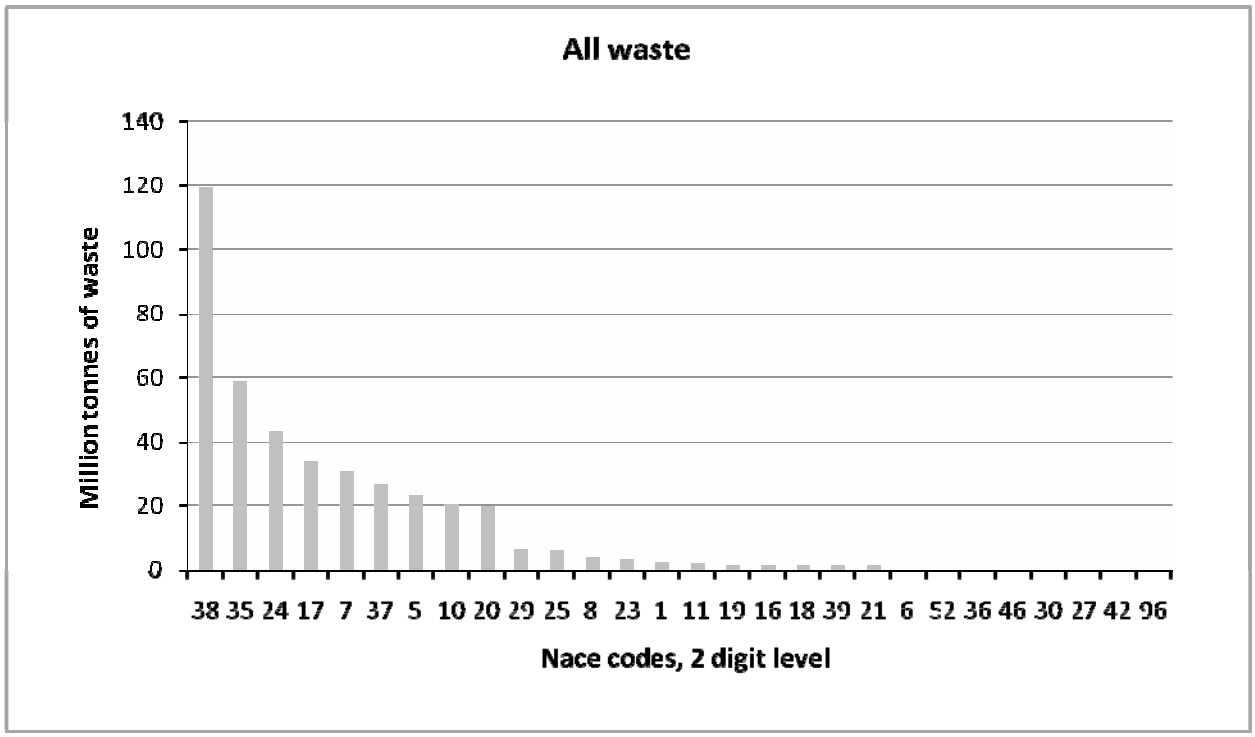
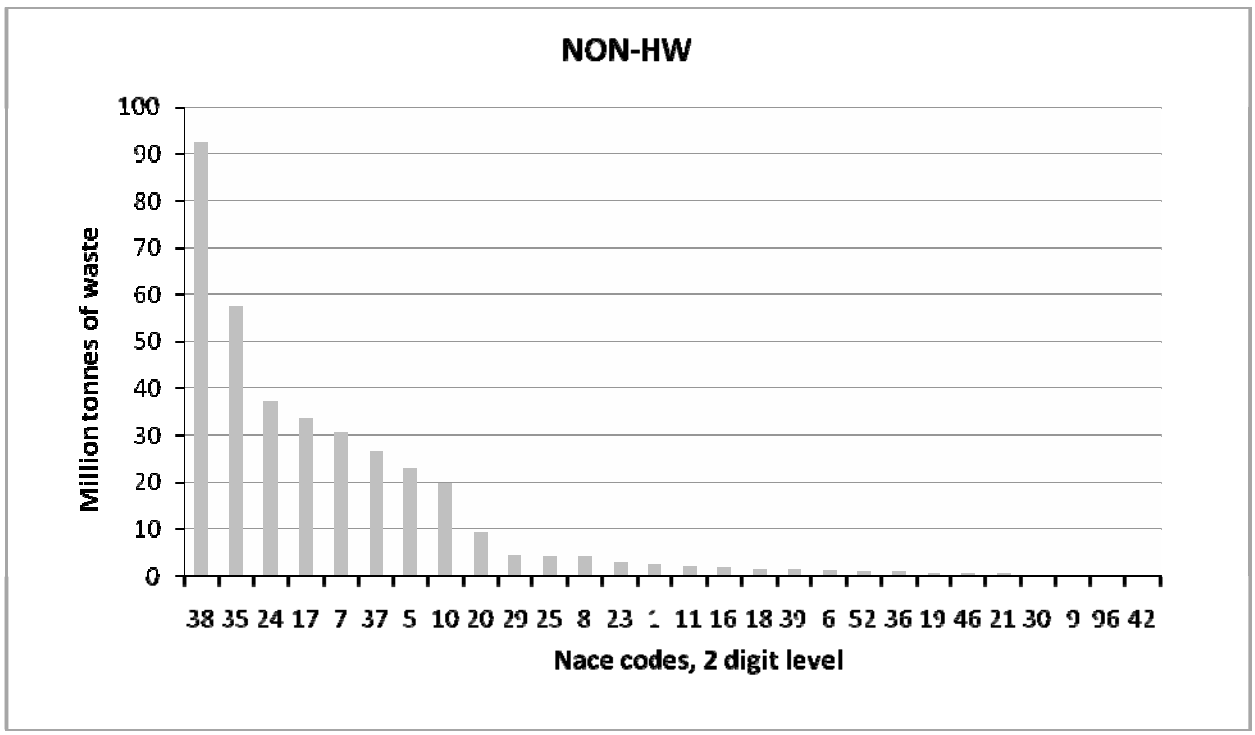


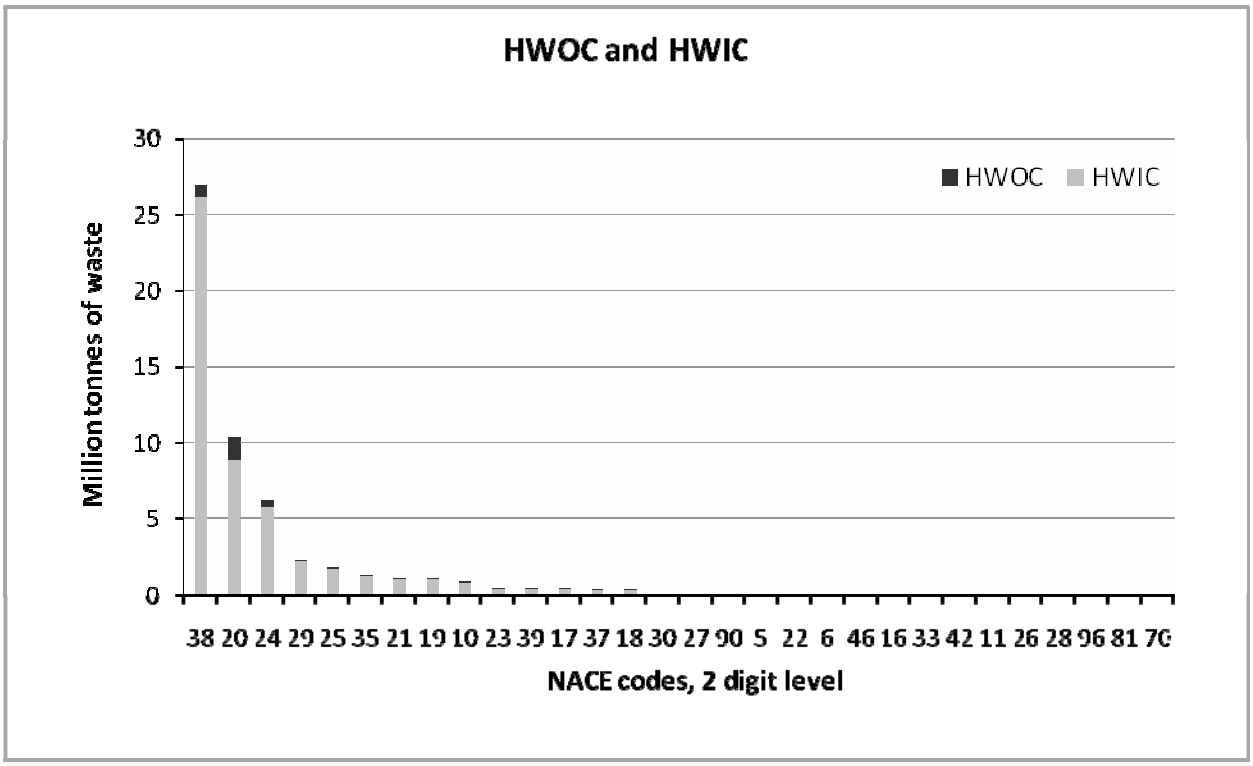
Figure D.2 Distribution of off-side transfers of non-hazardous waste included in E-PRTR over NACE codes



In Figure D.3 the distribution of hazardous waste over the economic activities (NACE codes) can be seen. The transboundary transfers of (export) of hazardous waste originate mainly from the NACE sector 20

(manufacture of chemicals and chemical products) [47.6%], NACE sector 38 (waste collection, treatment and disposal activities; materials recovery) [27.8%] and NACE sector 24 (manufacture of basic metals) [15.4%]. These 3 sectors therefore represent 90.1% of the transboundary transfers of waste.

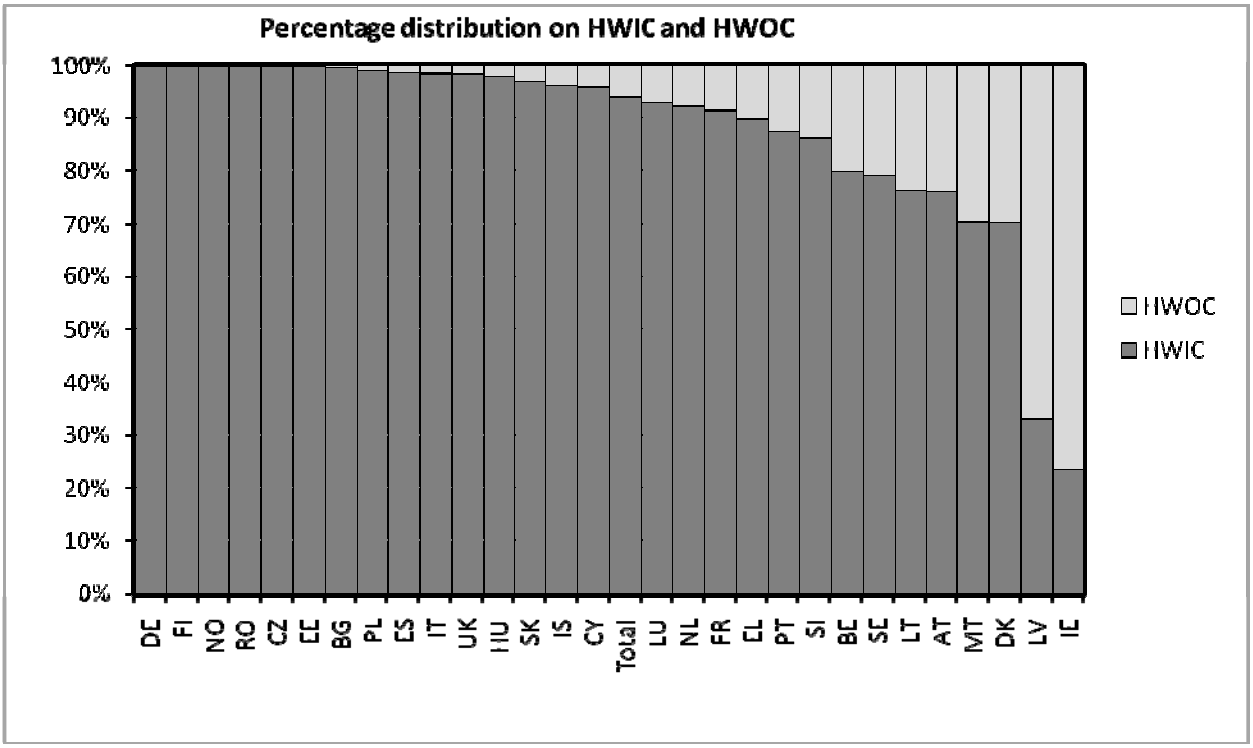
Figure D.3 Distribution of transboundary transfers of hazardous waste (HWOC) and domestic off-side transfers of hazardous waste (HWIC) included in E-PRTR over NACE codes



For domestic off-side transfers of waste originate from NACE sector 38 (waste collection, treatment and disposal activities; materials recovery) 50.6%, NACE sector 20 (manufacture of chemicals and chemical products) 17.2%, and NACE sector 24 (manufacture of basic metals) 11.2%.

Figure D.4 shows the amounts of hazardous waste transferred per country and related in percentage to transfer inside (HWIC) and outside the country (HWOC). There is a huge variety among the countries regarding how much of the hazardous waste is transferred transboundary. Countries like Germany, the Czech Republic, Estonia, Finland, Norway and Romania hardly export any, whereas countries like Ireland and Latvia have reported export of up to almost 80% of the total transferred hazardous waste.

Figure D.4 Percentage of transboundary HWOC) and domestic (HWIC) off-side transfers of hazardous waste related to the total amount of transferred hazardous waste included in E-PRTR per country



2. Comparison of E-PRTR data concerning off-side transfers of waste with waste data reported to Eurostat

2.1. Eurostat dataset, characteristics and constraints

The Eurostat waste generation data reported according to the EU Waste Statistical Regulation[26] were downloaded from the Eurostat website[27].

The following general constraints concerning the comparison of the two datasets were identified:

- **Period covered**: The Eurostat data are only reported every second year. At the time of the review the latest dataset available was the one covering the reporting year 2006. This means that the reporting years of the compared datasets do not correspond and therefore the review can only provide indications rather than firm conclusions concerning comparability between the datasets.

[26] Waste Regulation: Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics, (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:332:0001:0036:EN:PDF)

[27] Eurostat waste data were downloaded from: (http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

- **Geographical coverage**: The Eurostat data cover EU-27 plus the 4 additional countries Croatia, Iceland. Norway and Turkey. Of the non-EU countries, only Norway and Turkey reported for 2006.

- **NACE revision**: The 2006 waste generation data reported to Eurostat is based on NACE 2-digit level, revision 1.1 ($NACE_{rev1.1}$)[28]. The main classification under E-PRTR is based on the industrial activity classification laid down in Annex 1 of the E-PRTR Regulation. However, for each facility included in the E-PRTR dataset, also the main economic activity of the facility under the form of the NACE code on 4-digit level, revision 2.0 ($NACE_{rev2.0}$)[29] is reported.
  - The comparison between E-PRTR data and the Eurostat waste on a sector level was therefore done on the basis of the economic activities rather than on the basis of E-PRTR activities.

The comparison on economic activity level, was done on an aggregated NACE 2-digit level based on a mapping between the NACE 1.1 revision and the NACE 2.0 revision (see section 2.2).

- **E-PRTR thresholds**: The reporting of waste transfers under E-PRTR is subject to thresholds:
  - capacity thresholds of the specific facilities covered (Annex 1 of E-PRTR Regulation) and
  - transfer thresholds per facility (article 5 of E-PRTR Regulation): operators only have to report waste transfers if the total quantity of non hazardous waste exceeds 2000 tonnes per year or if hazardous waste exceeds 2 tonnes per year.

  Due the reporting thresholds under the E-PRTR Regulation, the reported E-PRTR waste transfers are expected to be lower than the reported generated amounts according to the Eurostat data for comparable sectors/activities.

- **Eurostat data on treatment of waste**
  - Eurostat data concerning the treatment (recovery and disposal) are not related to economic activity but only to the waste categories. Therefore, only on a very aggregated level a comparison can be made on the level of treatment of the E-PRTR data and the Eurostat data. The E-PRTR amounts for recovery and disposal operations will always be much less than the Eurostat data amount.
  - Further, the recovery and disposal amounts covering each country in the Eurostat data are not necessarily the same as the amounts generated in each country. This is due to the amounts of recovered and disposed waste being based on what the treatment plants receive. It means that imported waste can be included and the exported waste excluded.
  - These restrictions in the Eurostat treatment data mean that it is not possible to compare the Eurostat treatment data with the E-PRTR reporting.

2.2. Mapping of NACE Revision 2.0 (used in E-PRTR) and NACE Revision 1.1 (used in the EUROSTAT waste generation data for 2006)

The comparison of the different NACE sectors turned out to be rather complicated as the $NACE_{rev2.0}$ codes used in the E-PRTR database were only introduced in 2006 leaving the EUROSTAT data organized according to $NACE_{rev1.1}$ for the reporting year 2006.

[28] NACE revision 1.1, Commission Regulation (EC) No 29/2002 of 19 December 2001 amending Council Regulation (EEC) No 3037/90 on the statistical classification of economic activities in the European Community. (http://eur-lex.europa.eu/pri/en/oj/dat/2002/l_006/l_00620020110en00030034.pdf)

[29] NACE revision 2.0, Regulation (EC) No 1893/2006 of the European Parliament and of the Council of 20 December 2006 establishing the statistical classification of economic activities NACE Revision 2 and amending Council Regulation (EEC) No 3037/90 as well as certain EC Regulations on specific statistical domains. (http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_393/l_39320061230en00010039.pdf)

An example of a complication is the $NACE_{rev2.0}$ code 37 (Sewerage). This code was earlier included in $NACE_{rev1.1}$ code O90 (Sewage and refuse disposal, sanitation and similar activities) and is therefore not available as a separate NACE code for the EUROSTAT waste data.

In order to compare the two sources of data, it was therefore decided to make a conversion table of the most commonly used NACE codes. In 2 the used conversion (mapping) between $NACE_{rev1.1}$ and $NACE_{rev2.0}$ is presented.

Table D.2 Conversion NACE categories rev. 1.1 (used in the Eurostat waste data) to NACE categories rev. 2.0 (used in the E-PRTR)

NACErev1.1 (Eurostat data)		$NACE_{rev2.0}$ (E-PRTR data) [2 digit level / Division level]
Category code	**Description of category**	
Section A	Agriculture, hunting and forestry	01, 02
Section B	Fishing	03
Section C	Mining and quarrying	05, 06, 07, 08, 09
Subsection DA	Manufacture of food products; beverages and tobacco	10, 11, 12
Subsection DB and DC	Manufacture of textiles and textile products, leather and leather products	13, 14, 15
Subsection DD	Manufacture of wood and wood products	16
Subsection DE	Manufacture of pulp, paper and paper products; publishing and printing	17, 18
Subsection DF	Manufacture of coke, refined petroleum products and nuclear fuel	19
Subsection DG and DH	Manufacture of chemicals, rubber and plastic products	20, 21, 22
Subsection DI	Manufacture of other non-metallic mineral products	23
Subsection DJ	Manufacture of basic metals and fabricated metal products	24
Subsection DN NACE 2 digit 37, Section O NACE 2 digit 90	Waste management activities	37, 38, 39, 81.29
Section G, NACE 4 digit 51.57	Wholesale of waste and scrap	46.77
Section E	Electricity, gas and water supply	35, 36
TOTAL	All sections covered in Eurostat waste dataset	All divisions (covered in E-PRTR)

Due to fact that the two datasets are reported using different NACE revisions, many of the NACE activities included in the E-PRTR reporting have to be aggregated in order to compare the reporting with the Eurostat data. This implies that the comparison check will be less precise. This is especially the case for the largest waste generator of both hazardous waste and non-hazardous waste in the E-PRTR reporting: $NACE_{rev2.0}$ activity 38 (Waste collection, treatment and disposal activities; materials recovery)

which covers 25% of all the non hazardous waste and 49% of all the hazardous waste included in the E-PRTR dataset. In order to compare the E-PRTR data reported under $NACE_{rev2.0}$ activity 38 with the Eurostat reporting, it is necessary to aggregate the waste transfers reported under $NACE_{rev2.0}$ activity 38 with a number of other $NACE_{rev2.0}$ activities namely activity 37 (sewerage), activity 39 (Remediation activities and other waste management services) and activity 81.29 (Other cleaning activities /under 81: Services to buildings and landscape activities), in the E-PRTR reporting (see Table D.3).

Table D.3 Aggregation of E-PRTR data from $NACE_{rev2.0}$ activities 37, 38, 39 and 81.29 in order to make the data comparable with Eurostat waste data available (Subsection DN NACE 2 digit 37, Section O NACE 2 digit 90)

NACE (rev 2.0)	Units	Reported waste transfers			
		Non HW Total	HW		
			Total	Domestic	Transboundary
38	tonnes	92,223,018	27,006,448	26,096,945	909,503
	% of E-PRTR total	25%	49%	51%	28%
37	tonnes	26,511,162	306,219	298,965	7,254
	% of E-PRTR total	7%	1%	1%	0%
39	tonnes	1,382,923	392,594	385,763	6,831
	% of E-PRTR total	0%	1%	1%	0%
81.29	tonnes	0	16,202	16,202	0
	% of E-PRTR total	0%	0%	0%	0%
Total of aggregation	**tonnes**	**120,117,103**	**27,721,463**	**26,797,875**	**923,588**
(37,38,39,81.29)	**% of E-PRTR total**	**33%**	**51%**	**52%**	**28%**

2.3. Description of checks

In Table D.4 and Table D.5 the principles of the methodology used to make checks of the E-PRTR data with the Eurostat data are described.

Table D.4 Generation of hazardous waste per activity code of E-PRTR (off-site transfer of more than 2 tonnes per year). Made per country and total for EEA countries, which have reported to the EU.

E-PRTR				Eurostat. Regulation 2150/2002/EC[30]			
	Off-site transfer type	Annex I sector or activity code (1 to 9 codes, or 1.a,1,b etc)	Quantity (t/year)	NACE code most comparable to E-PRTR activity or NACE code, cf. Section 8 in annex I (2150/2002/EC)	Quantity (t/year)	Repor-ting year	Share that the E-PRTR reporting covers of the latest reported figures to Eurostat (%)
1	Off-site transfer within the country						
2	Off-site transfer to other countries						
3	Total amount per country off-site per Annex I activity code						
4	Total amount off-site per Annex I activity code, all countries						

Since the E-PRTR data are only covering facilities which transfer at least 2 tonnes of hazardous waste per year, the reported E-PRTR data is expected to be lower than the reported amounts of generated waste to Eurostat. Otherwise the reported datasets have to be assumed to be inconsistent.

Table D.5 Generation of non-hazardous waste per activity code of E-PRTR (off-site transfer of more than 2,000 tonnes per year). Made per country and total for EEA countries, which have reported to the EU.

E-PRTR				Eurostat. Regulation 2150/2002/EC[31]			
	Off-site transfer type	Annex I sector or activity code (1 to 9 codes, or 1.a,1,b etc)	Quantity (t/year)	NACE code most comparable to E-PRTR activity code or NACE code, cf. Section 8 in annex I (2150/2002/EC)	Quantity (t/year)	Repor-ting year	Share that the E-PRTR reporting covers of the latest reported figures to Eurostat
1	Total amount off-site per country						
2	Total amount off-site, all countries						

[30] Waste Regulation: Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics, (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:332:0001:0036:EN:PDF)

[31] Waste Regulation: Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics, (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:332:0001:0036:EN:PDF)

Since the E-PRTR data are only covering facilities which transfer at least 2,000 tonnes of non-hazardous waste per year, the reported E-PRTR is expected to be lower than the reported amounts of generated waste to Eurostat. Otherwise the reported datasets have to be assumed to be inconsistent.

2.4. Results and conclusions of comparison of E-PRTR waste transfers with Eurostat data on waste generation

The off-side waste transfers included in the E-PRTR dataset for the reporting year 2007 were compared with the 2006 waste generation data reported according to EU Waste Statistical Regulation extracted from the EUROSTAT homepage[32].

2.4.1. Comparison at European level

In Table D.6 this EUROSTAT 2006 data is compared with corresponding 2007 data from the E-PRTR database on aggregated economic activity level (NACE codes). The comparison uses the mapping of economic activities/sectors (NACE classification) as presented in section 2.2. The geographical scope of the comparison consists of all the E-PRTR countries (EU 27 countries plus Iceland, Liechtenstein and Norway).

In general the E-PRTR quantities (total amounts of waste transferred) are lower than the extracted EUROSTAT quantities (total amounts of waste generated). This fits with the expected scenario. Altogether the E-PRTR reporting covers 15% of the total waste amounts reported to Eurostat. The hazardous waste covered by E-PRTR amounts to 64%. Where the non-hazardous waste in the E-PRTR dataset amounts to 14% of the Eurostat quantity.

However for certain sector/activity aggregations, the quantities covered in the E-PRTR register exceed the EUROSTAT quantities (marked with grey colour). This will be examined in more details later in this section.

[32] Eurostat waste data were downloaded from:
(http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)

Table D.6 Reported waste quantities on NACE code level. EUROSTAT data is from 2006 whereas E-PRTR data is from 2007. The percentages show how big a percentage the E-PRTR database includes of the EUROSTAT data.

	Hazardous waste			Non-hazardous waste			All waste		
NACE CODE (Rev 2.0)	∑EUROSTAT	∑E-PRTR	%	∑EUROSTAT	∑E-PRTR	%	∑EUROSTAT	∑E-PRTR	%
01, 02	858,011	23,356	3	161,369,041	2,599,733	2	162,227,052	2,623,088	2
03	17,990	0	0	738,380	4,830	1	756,370	4,830	1
05, 06, 07, 08, 09	3,273,442	173,749	5	737,471,842	59,414,371	8	740,745,284	59,588,120	8
10, 11, 12	747,318	836,736	112	60,261,904	21,878,845	36	61,009,221	22,715,581	37
13, 14, 15	125,718	32,085	26	6,000,134	188,954	3	6,125,852	221,039	4
16	303,347	57,941	19	46,810,296	1,761,489	4	47,113,643	1,819,430	4
17, 18	425,658	588,764	138	35,004,808	35,219,055	101	35,430,465	35,807,818	101
19	2,406,422	1,083,225	45	1,333,581	744,410	56	3,740,003	1,827,635	49
23	689,252	401,138	58	25,482,117	2,923,263	11	26,171,373	3,324,400	13
24	10,378,065	6,281,740	61	105,894,302	37,294,795	35	116,272,367	43,576,536	37
35, 36	7,180,565	1,298,802	18	188,345,517	58,532,513	31	195,526,083	59,831,315	31
37, 38, 39, 81.29	10,834,078	27,705,261	256	107,139,925	120,117,103	112	117,974,003	147,838,566	125
20. 21. 22	8,074,799	11,591,465	144	31,510,626	10,304,508	33	39,585,425	21,895,973	55
46.77	1,654,457	11,282	1	18,732,317	532,115	3	20,386,773	543,396	3
Other	39,143,508	4,681,367	12	1,125,685,349	12,418,014	1	1,164,800,672	17,115,584	1
All	**86,112,630**	**54,799,312**	**64**	**2,651,780,139**	**363,933,999**	**14**	**2,737,864,586**	**418,733,311**	**15**

Low coverage in E-PRTR for both hazardous and nonhazardous waste

The comparison shows that only a very minor part of the waste coming from agriculture, forestry and fishing (NACE rev 2.0: 01, 02, 03) is included in the E-PRTR reporting (≤ 3%). This might be mostly related to the limited coverage of the agriculture, forestry and fishing sector by the E-PRTR facilities (defined by the activities and activity thresholds in Annex I of the E-PRTR Regulation, as well as the waste transfer thresholds defined in Article 5 of the Regulation).

The same arguments can explain the low rate for categories 5, 6, 7, 8 and 9, which are activities related to mining and quarrying. Another explanation for categories 5-9 can be that even if mining and quarrying activities generate large amounts of waste, these waste amounts are not always off-site transferred, cf. the criteria for the activities included in the E-PRTR reporting.

Note:

For the fishing sector covered by the economic activity NACE category 3 (rev 2.0), only Norway has reported transfers of waste. The data cover one facility which with as a main E-PRTR activity "8.(b) Treatment and processing of animal and vegetable materials in food and drink production".

E-PRTR covers ≥ 19% for either hazardous or non-hazardous waste

Categories 13-15, 16, 19, 23, 24 and 35 -36 cover reasonable parts (18-61%) of the amounts of hazardous waste reported to EUROSTAT. In general for the same NACE activities, the coverage rates are smaller for the non-hazardous wastes, especially for categories 13-15, 16 and 23 (3-11%), whereas the rate is between 31-56% for categories 19, 24 and 35-36.

Some reasons for the low coverage by E-PRTR could be:

1. the fact that the economic activity covers a lot of small companies (e.g. 13-15: Manufacture of textiles and textile products, leather and leather products) which are therefore not covered by the E-PRTR reporting obligation (capacity threshold and waste transfer threshold)
2. the fact that the E-PRTR industrial activity does not cover the full economic activity (e.g. certain companies under NACE code 13 do not fall under the E-PRTR activity list)
3. certain facilities have waste treatment on-site and report therefore no waste transfers under the E-PRTR Regulation (e.g. NACE 2.0 19: Manufacture of coke, refined petroleum products and nuclear fuel, NACE 2.0 35-36: Electricity, gas and water supply)

E-PRTR covers ≥ 100% for either hazardous or non-hazardous waste

For non-hazardous waste the E-PRTR reporting rate is in line with the Eurostat data for manufacturing of food products, beverages and tobacco (categories 10, 11, 12) and For manufacturing of chemicals, rubber and plastic products (category 20-22). However, for the hazardous waste belonging to these NACE activities the E-PRTR waste transfers are higher than the generated amounts reported to Eurostat (112-144%).

The economic activities covering the manufacture of pulp, paper and paper products; publishing and printing (categories 17, 18), the transfers of hazardous and non-hazardous waste cover 138% and 101% respectively of the Eurostat waste quantities. The high ratio between the E-PRTR and Eurostat data for hazardous waste seems to be due to high ratios in a number of countries (Germany: 162%, France: 153%, Italy: 184%, the Netherlands: 684%, Norway: 313%, Poland: 492%, Slovenia: 2994% and UK: 277%)

For the waste management sector (categories 37-39 and 81.29), the waste transfers covered in E-PRTR amount to 256% of the hazardous waste and to 125% of the non-hazardous waste generated (Eurostat). Categories 37-39 is the largest sector covered by both the E-PRTR and the Eurostat reporting.

Overall, the following possible reasons could cause the E-PRTR data to be higher than the EUROSTAT data.

1. The conversion of NACE codes from revision 1.1 to revision 2.0 is not precise/correct enough
2. For the waste management sector, high ration of E-PRTR versus Eurostat data might be due to the fact that E-PRTR data are transfers and therefore the same waste can be counted several times in case it is transferred between different waste management facilities. Whereas the Eurostat data covers the generated waste.
3. Incomplete or wrong reporting under one of the reporting obligations (E-PRTR Regulation or EU Waste Statistical Regulation)

Note:
Some inconsistencies between the E-PRTR and the Eurostat data might also be due to the difference in the reporting year (2006 for Eurostat data and 2007 for E-PRTR data).

2.4.2. Comparison at country level

In order to identify further the inconsistencies found in Table D.6, it is necessary to compare each of the NACE activities (or groupings) at country level. All tables covering all sector groupings and countries, are included in Appendix VII – Comparison tables on county level.

The hazardous waste fraction from the E-PRTR database is showed as HWIC, HWOC and total hazardous waste. The three columns with percentages show the ratio between E-PRTR and Eurostat waste data expressed in percentages. In the same way as in Table D.6, waste transfer amounts in the E-PRTR reporting at country level, which exceeds the Eurostat amounts “potential outliers”, are marked with a colour.

The “potential outliers” which are marked in the tables in Appendix VII – Comparison tables on county level are described in more detail in paragraph D.2.5 Detailed country comments.

As an example of the interpretation of the tables in Annex, the comparison of E-PRTR and Eurostat data covering NACE category 10, 11 and 12 is provided using the information in Table F.7.

Table D.7 Comparison of Eurostat and E-PRTR data on NACE codes 10, 11 and 12 at country level.

DA = 10, 11, 12 Manufacture of food products; beverages and tobacco												
Country	Hazardous waste					Non-hazardous waste			All waste			
	∑EUROSTAT	HWIC	HWOC	∑E-PRTR	E-PRTR % of Eurostat	∑EUROSTAT	∑E-PRTR	E-PRTR % of Eurostat	∑EUROSTAT	∑E-PRTR	E-PRTR % of Eurostat	
Austria	1,544	12	0	12	1	724,998	80,100	11	726,542	80,112	11	
Belgium	21,396	4,544	0	4,544	21	3,694,828	1,715,119	46	3,716,224	1,719,662	46	
Bulgaria	141	2,943	0	2,943	2,087	507,692	11,000	2	507,832	13,943	3	
Cyprus	6,742	0	0	0	0	252,642	1,071,000	424	259,384	1,071,000	413	
Czech Republic	7,235	2,112	0	2,112	29	631,233	60,154	10	638,468	62,267	10	
Denmark	123,008	1,198	6,560	7,758	6	177,414	554,662	313	300,422	562,420	187	
Estonia	116	0	0	0	0	277,906	6,160	2	278,022	6,160	2	
Finland	6,295	5,592	0	5,592	89	844,245	329,883	39	850,540	335,476	39	
France	98,660	12,177	1,000	13,177	13	1,973,740	1,805,985	92	2,072,400	1,819,162	88	
Germany	309,837	16,830	0	16,830	5	3,225,165	2,110,968	65	3,535,002	2,127,798	60	
Greece	361	76	0	76	21	431,203	30,270	7	431,564	30,345	7	
Hungary	12,958	4,136	0	4,136	32	2,304,858	291,682	13	2,317,816	295,818	13	
Ireland	2,482	7,069	34	7,104	286	1,737,955	1,495,843	86	1,740,437	1,502,946	86	
Italy	41,574	11,084	93	11,177	27	11,469,122	253,883	2	11,510,696	265,060	2	
Latvia	89	103	0	103	116	187,466	23,635	13	187,555	23,738	13	
Lithuania	139	143	0	143	103	367,038	10,466	3	367,177	10,609	3	
Luxembourg	137	0	0	0	0	8,677	0	0	8,814	0	0	
Malta	0	0	0	0	0	310	0	0	310	0	0	
Netherlands	2,811	69,835	4,137	73,972	2,632	7,679,280	492,071	6	7,682,091	566,043	7	
Norway	897	77	0	77	9	781,439	24,884	3	782,337	24,961	3	
Poland	14,265	189,565	0	189,565	1,329	8,171,888	5,637,116	69	8,186,153	5,826,681	71	
Portugal	33,125	392,513	0	392,513	1,185	1,002,715	764,477	76	1,035,840	1,156,990	112	
Romania	2,090	442	0	442	21	816,351	152,129	19	818,441	152,571	19	
Spain	11,773	63,534	0	63,534	540	4,279,472	1,291,453	30	4,291,245	1,354,987	32	
Slovenia	163	21	0	21	13	90,477	11,500	13	90,640	11,521	13	
Slovakia	12,730	4,267	1,390	5,657	44	595,376	124,384	21	608,105	130,041	21	
Sweden	2,112	4,145	0	4,145	196	986,714	108,340	11	988,826	112,485	11	
United Kingdom	35,535	31,087	16	31,102	88	7,823,140	3,419,252	44	7,858,675	3,450,354	44	

Table D.6 shows that for $NACE_{rev2.0}$ categories 10-12 the E-PRTR reporting exceeds the Eurostat reporting for hazardous waste generation (112%). The E-PRTR report includes app. 840,000 tonnes hazardous waste transferred, whereas the Eurostat reporting includes app. 750,000 tonnes of generated hazardous waste. However, Table D.7 shows that the high difference for hazardous waste is mainly due to the reporting from four countries: Spain (ES), Netherlands (NL), Poland (PL) and Portugal (PT). Some other countries also exceed the Eurostat amounts but contribute to a lesser extend to the overall European picture (Bulgaria (BG), Ireland (IE), Lithuania (LT), Latvia (LV) and Sweden (SE).For non hazardous waste there is a very high ratio between E-PRTR and Eurostat data for Cyprus (424%) and Denmark (313%).

Table D.7 also shows that some countries have reported very low amounts of waste to E-PRTR compared to the Eurostat data.

Table D.7 shows that aggregated geographical presentation made in Table D.6 covers a much more differentiated and more complex picture. Some countries have much larger amounts of hazardous waste generated than reported to Eurostat. Other countries have much less waste reported.

Conclusion:
Each country for which there seems to be an inconsistency between the total waste amounts reported to E-PRTR and to Eurostat (very high or very low ratio), should evaluate the waste data reported under both reporting schemes in order to identify whether the reported data are correct and complete.

2.5. Detailed country comments

2.5.1. Supporting materials

In the attached document, [Comparison - EUROSTAT and E-PRTR.xls] the sheet [COMP - EPRTR vs EUST Detailed] compares the different NACE categories on country level. In the tables, the EUROSTAT data are coloured coded when the waste transfer quantities reported under E-PRTR exceed the waste generation EUROSTAT data. The pink colour is used for cases were the EUROSTAT data is 50% or less than the E-PRTR data. Orange is used for the interval 50-80% and finally yellow is used when the EUROSTAT data is between 80% and 99.9% of the E-PRTR data. In the following the cell reference in the described document will be used in the data review.

In Table D.8 the coverage percentages for the tables in Appendix VII are reviewed. The table shows the number of times different coverage percentages occur for all the tables. The values listed below ">0%" therefore show the number of times the corresponding waste data are registered in the E-PRTR database. The column ">150%" shows the number of cases were the E-PRTR data are more than 150% of the Eurostat data. The ideal situation would therefore be if the countries had a high count for up to 100% and no situations with E-PRTR being more than 100% of the Eurostat data.

For example for Austria data was available in the E-PRTR for 29 cases (count of number of times data is available in the waste types hazardous, non-hazardous and total waste in the 13 different NACE categories defined in annex VII, that is to say data can maximum be included in 42 cells). In 25 of the cases the E-PRTR data constitutes more than 1% of the Eurostat data. In 13 cases the E-PRTR waste amount constitutes more than 50% of the Eurostat amount and etc. Finally 6 times the E-PRTR data covers more than 500% of the Eurostat amount. If there should full compliance between E-PRTR and Eurostat data, the value should be 42 in the columns up to column >100%. If higher than 100% the value should be zero.

Table D.8 Number of times the E-PRTR data exceeds different percentages of the EUROSTAT data.

	Number of times the E-PRTR data covers a given % of the EUROSTAT data						
	> 0%	> 1%	> 10%	> 50%	> 100%	> 150%	> 500%
Austria	29	25	13	8	7	7	6
Belgium	37	33	26	9	2	1	0
Bulgaria	32	27	10	8	4	2	1
Cyprus	16	13	9	5	2	2	0
Czech Republic	38	37	30	6	3	0	0
Denmark	33	31	24	15	11	7	1
Germany	38	36	29	21	12	5	0
Estonia	30	25	19	5	5	4	0
Finland	37	33	30	12	3	2	0
France	38	34	27	14	4	1	0
Greece	29	23	13	6	2	1	1
Hungary	37	35	26	7	3	1	0
Ireland	24	22	17	9	3	3	2
Italy	39	39	29	13	7	7	3
Latvia	23	21	13	3	2	1	1
Lithuania	30	25	16	6	4	2	0
Luxembourg	16	14	12	7	7	4	0
Malta	4	2	1	1	1	1	0
Netherlands	34	33	25	14	9	8	2
Norway	31	30	21	11	9	5	2
Poland	36	34	33	15	7	3	2
Portugal	38	34	23	11	9	5	3
Romania	39	36	23	10	3	3	0
Slovenia	31	31	28	12	6	5	2
Slovakia	35	33	31	9	1	0	0
Spain	39	39	33	17	5	3	1
Sweden	32	29	24	11	2	1	0
United Kingdom	39	36	33	18	10	5	1
Total	**884**	**810**	**618**	**283**	**143**	**89**	**28**

2.5.2. Country comments

The country remarks included below focus on the cases where the E-PRTR quantities concerning waste transfers exceed the Eurostat data.

AUSTRIA

NACE 19: The E-PRTR data (8,880 tonnes) on non-hazardous waste is 45 times higher than the amount reported to Eurostat (195 tonnes). There is a high difference between the data reported to Eurostat for 2004 and 2006. For example for non-hazardous waste, 16,135 tonnes were reported for 2004 and only 195 tonnes in 2006. This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 20, 21 and 22: Austria has informed the Commission that the hazardous waste data of one facility (NationalID 20000.00371, Donau Chemie Aktiengesellschaft) were incorrectly reported under E-PRTR. The quantity of transboundary transferred hazardous waste (HWOC) for recovery should be 1,368 tonnes instead of 1,370,000 tonnes. The amount of domestically transferred hazardous waste (HWIC) for recovery should be 5,180 tonnes instead of 4,460,000 tonnes.

This reporting mistake appears to be the main reason for the inconsistency between the E-PRTR data and the reported hazardous waste to Eurostat (60,118 tonnes).

NACE 37, 38, 39 and 81.29: The E-PRTR data (3,9 million tonnes) on non-hazardous waste is 30 times higher thanthe amount reported to Eurostat (128,948 tonnes). A single facility (National ID 20000.00597, Reinhaltungsverband Pöls) reports 3,090,000 tonnes of non-hazardous waste on NACE code 37 (Sewerage). It is the 9th biggest reporter of non-hazardous waste in the EU27.

BELGIUM

NACE 19: The non-hazardous waste reported under E-PRTR for economic sector NACE 19 (43,615 tonnes) is 13% higher than the data reported to Eurostat (38,468 tonnes). Two facilities are included under E-PRTR: ESSO RAFFINADERIJ ANTWERPEN (National ID vl01749024006827) and TOTAL RAFFINADERIJ ANTWERPEN (National ID vl01855069000179) which report 30,100 tonnes and 13,070 tonnes respectively of transferred non-hazardous waste.

Note: The Eurostat data increased with about 8,000 tonnes from 2004 to 2006 so the E-PRTR data from 2007 might fit the unknown Eurostat 2007 amount.

NACE 35 and 36: The E-PRTR data on hazardous waste transfers cover 243% compared to the amount reported to Eurostat in 2006 (16,680 tonnes). Out of the 29 facilities included, one (National ID vl01853961001010, ELECTRABEL CENTRALE RUIEN) reports 26,105 tonnes of hazardous waste, HWOC (total HW transfer of 26,824 tonnes).

BULGARIA

NACE 01 and 02: The Eurostat database does not contain information on hazardous waste for BG covering NACE 01 and 02 sectors. In the E-PRTR dataset 1 facility is included (90.8 tonnes HWOC).

NACE 10, 11 and 12: The E-PRTR data on hazardous waste transfers (2,943 tonnes) are about 21 times higher than the amount reported to Eurostat in 2006 (141 tonnes).

Note: There is a high difference between the data reported to Eurostat for 2004 (2,210 tonnes) and 2006 (141 tonnes). This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 35 and 36: The E-PRTR data on hazardous waste transfers (4,090 tonnes) cover 235% compared to the amount reported to Eurostat in 2006 (2,493 tonnes). 10 facilities report under E-PRTR of which one (National ID 03000001, "Deven" AD) reports 3,190 tonnes of hazardous waste which covers 78% of the hazardous waste transfers included in E-PRTR for the corresponding economic sectors in Bulgaria.

For non-hazardous waste the quantities in E-PRTR are 1% higher than the reported amounts to Eurostat.

Note: In 2004 Eurostat reported 1.2 million tonnes more than in 2006. This could indicate an inconsistency in the reporting to Eurostat for both years.

CYPRUS

NACE 10, 11, 12: The non-hazardous waste reported under E-PRTR (1,071,000 tonnes) covers 424% of the data reported to Eurostat (252,642 tonnes). In E-PRTR 2 facilities are included A&A SLAUGHTERHOUSE LTD (National ID 81) and KOFINOY SLAUGHTERHOUSE (National ID 82) which report 327,000 tonnes and 744,000 tonnes respectively. (which places them on the 5th and 2nd place in the list of highest transfers for the economic sector NACE 10)

CZECH REPUBLIC

NACE 01 and 02: The hazardous waste reported under E-PRTR covers 103% of the amount reported to Eurostat (5,287 tonnes). Under E-PRTR, 2 facilities are included namely Farma Astra Žatec and Farma Červenka which report 3,310 tonnes and 2,130 tonnes respectively.

Note: There is a large difference in the data reported to Eurostat for 2004 and 2006. This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 19: The E-PRTR data on hazardous waste exceed the corresponding Eurostat data with 2%. This small difference could be due to the fact that 2 different years are compared.

NACE 35 and 36: The E-PRTR hazardous waste transfers exceed the 2006 Eurostat hazardous waste with 1,700 tonnes (5%).

Note: In 2004 Eurostat reported 5,600 tonnes more than in 2006.

GERMANY

NACE 17 and 18: The hazardous waste reported to the E-PRTR database covers 162% of the amount reported to Eurostat (31,850 tonnes). E-PRTR includes 174 facilities for the economic activities of which one facility Colordruck Pforzheim GmbH & Co. KG (National ID EP06-08-3416089) reports 27,700 tonnes of hazardous waste (or 54% of the total reported amount).

The non-hazardous waste reported to the E-PRTR database covers 155% of the amount reported to Eurostat (2,578,054 tonnes). E-PRTR includes 144 facilities for the economic activities which in total report 3,985,976 tonnes of which 98% is destined for recovery. The total amount is not reported by a single facility (for example 10 different facilities report more than 100,000 tonnes).

NACE 35 and 36:. The non-hazardous waste reported to the E-PRTR database covers 173% of the amount reported to Eurostat (8,032,461 tonnes). E-PRTR includes 98 facilities for the economic activities which in total report 13,877,345 tonnes of which 98% is destined for recovery. Most of the plants have as main E-PRTR activity 1.(c) "1.(c) Thermal power stations and other combustion installations". 3 facilities report more than 1 million tonnes of which one (National ID 12-40710010000, Vattenfall Europe Generation AG & Co. KG Kraftwerk Jänschwalde) reported 3.22 million tonnes.

The hazardous waste reported to the E-PRTR database covers 105% of the amount reported to Eurostat (435,836 tonnes). E-PRTR includes 193 facilities for the economic activities of which one facility (InfraServ GmbH & Co. Höchst KG, National ID 06-00453010412) reported 124,500 tonnes which equals 27% of the total waste reported on these codes.

NACE 37, 38, 39 and 81.29: The E-PRTR data exceed the Eurostat data with 18% for hazardous and with 7% for non-hazardous waste. No clear outliers could be identified in the E-PRTR dataset.

DENMARK

NACE 05, 06, 07, 08 and 09: The hazardous waste reported to the E-PRTR database covers 181% of the amount reported to Eurostat (53 tonnes). The E-PRTR dataset covers 2 facilities of which one (Dankalk, National ID 1230) reports alone covers 92% (88 tonnes) of the sector in Denmark.

NACE 10, 11 and 12: The non-hazardous waste quantity (554,662 tonnes) reported to the E-PRTR database covers 313% of the amount reported to Eurostat (177,414 tonnes). Of the 35 facilities included in E-PRTR, 2 reported amounts above 100,000 tonnes (CP Kelco ApS, National IDs 1090 and Nordic Sugar Nykøbing, National ID 1196).

Note: The amount reported to Eurostat was double in 2004 compared to in 2006. This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 13, 14 and 15: The hazardous waste included in E-PRTR (475 tonnes) covers 485% of the generated waste amount reported to Eurostat (98 tonnes). The E-PRTR dataset covers 2 facilities of which one (Scan-Hide A.m.b.a, National ID 5246) reports 96% (457 tonnes) of the total amount for the sector in Denmark.

NACE 20, 21 and 22: The hazardous waste included in E-PRTR (151,070 tonnes) is 14% higher than the generated waste amount reported to Eurostat (27,575 tonnes). E-PRTR includes 33 facilities reporting hazardous waste of which 7 facilities have transfers above 1,000 tonnes.

The non-hazardous waste included in E-PRTR covers 295% of the generated waste amount reported to Eurostat (51,172 tonnes). Out of the 8 facilities included in E-PRTR, 5 facilities reported more than 10,000 tonnes one of which (Leo Pharma A/S, National ID 3753) reports 49,610 tonnes.

NACE 23:. The hazardous waste included in E-PRTR includes reporting of 3 facilities and is 14% higher than the generated waste amount reported to Eurostat (892 tonnes). The non-hazardous waste included in E-PRTR includes reporting of 4 facilities and is 24% higher than the generated waste amount reported to Eurostat (49,756 tonnes). In the E-PRTR dataset there is no clear indication for potential outliers.

NACE 37, 38, 39 and 81.29: The hazardous waste included in E-PRTR (258,803 tonnes) covers 724% of the generated waste amount reported to Eurostat (35,738 tonnes). Below is a list of the companies

reporting the most waste to the E-PRTR database The total quantity included in E-PRTR database 258,803 tonnes (38 facilities).

National ID	Facility name	Quantity (tonnes)	NACE code
2333	H. J. Hansen Genvindingsindustri A/S	105,000	38.32
3428	Kommunekemi A/S	41,119	38.11
2878	I/S Amagerforbrænding	22,100	38.21
3176	JYSK MILJØRENS A/S	17,529	38.21
6458	I/S Vestforbrænding	16,600	38.21

ESTONIA

NACE 19: The E-PRTR reporting includes 2 facilities, of one reports only hazardous waste and the other reports hazardous and non-hazardous waste. The non-hazardous waste in E-PRTR (2,600 tonnes) is 82% higher than the amount included in the 2006 Eurostat database.

Note: There is a high difference in the reported amount of non-hazardous waste to Eurostat for 2004 (11,300 tonnes) and 2006 (1,432 tonnes). This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 37, 38, 39 and 81.29: The hazardous waste included in E-PRTR (17,493 tonnes) is reported by 23 facilities and covers 324% of the generated waste amount reported to Eurostat for 2006 (5,404 tonnes). Below are the 4 facilities which report the highest total transfers of hazardous waste under E-PRTR.

National ID	Facility name	Quantity (tonnes)	NACE code
EE079560	Epler & Lorenz AS, Lõuna-Eesti ohtlike jäätmete käitluskeskus	3959	38.22
EE06143	Kesto OÜ, Harjumaa osakond	2639	38.22
EE03876	Kuusakoski AS, Tallinna osakond	2,507	38.22
EE038758	EcoPro AS, Tallinna ohtlike jäätmete kogumiskeskus	2,361	38.22

The non-hazardous waste included in E-PRTR (530,269 tonnes) is reported by 11 facilities and covers 200% of the amount reported to Eurostat for 2006 (265,169 tonnes). One facility (Kuusakoski AS, Paldiski osakond, National ID EE05805) reports 304,900 tonnes which is 57% of the amount in the E-PRTR database.

SPAIN

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 540% of the amount reported to Eurostat (11,773 tonnes) in 2006.

Note: There is a high difference in the reported amount to Eurostat for 2004 and 2006. For 2006 11,773 tonnes were reported to Eurostat whereas 88,921 tonnes were reported for 2004. This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 19:. The hazardous waste included in E-PRTR (38,071 tonnes) is reported by 9 facilities and is 33% higher than the amount reported to Eurostat (28,521 tonnes) in 2006. The non-hazardous waste included in E-PRTR (57,574 tonnes) is reported by 5 facilities and covers 216% of the amount reported to Eurostat (26,630 tonnes) in 2006.

Note: There is a difference in the reported amount to Eurostat for hazardous waste (2004: 40,429 tonnes and 2006: 28,521 tonnes) and for non-hazardous waste.

NACE 23: The hazardous waste included in E-PRTR (82,946 tonnes) is reported by 127 facilities and is 3% higher than the amount reported to Eurostat in 2006.

Note: There is a difference in the reported amount of hazardous waste to Eurostat for 2004 (156,130 tonnes) and 2006 (80,176 tonnes).

FINLAND

NACE 19: The non-hazardous fraction included in the E-PRTR database (13,910 tonnes) is reported by one facility (Neste Oil Oyj, Porvoon jalostamo, National ID 1866). The amount is 31% higher than the Eurostat database record from 2006 (10,641 tonnes).

NACE 23: The hazardous waste reported to the E-PRTR database (1,200 tonnes) covers 15 facilities and is 54% higher than the amount included in the Eurostat 2006 dataset (764 tonnes). When comparing the transfers of the facilities with other countries, no potential outliers could be identified.

NACE 24: The hazardous waste included in the E-PRTR database (942,989 tonnes) covers 20 facilities and is 162% higher than the amount of hazardous waste in the Eurostat database (359,815 tonnes). Two facilities cover together 99% of the transfers. Boliden Kokkola Oy, Sinkkitehdas (National ID 1376) reports 653,560 tonnes and Boliden Harjavalta Oy, Harjavallan tehtaa reports 283,005 tonnes.

FRANCE

NACE 17 and 18: The hazardous waste reported to the E-PRTR database (110,792 tonnes) includes transfers from 91 facilities and is 53% higher than the amount reported to Eurostat in 2006.

Note: There is a difference in the reported amount to Eurostat for 2004 (131,760 tonnes) and 2006 (72,636 tonnes). This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 19: The hazardous waste included in the E-PRTR database (126,262 tonnes) covers 18 facilities and is 41% higher than the quantity included in the Eurostat database (89,440 tonnes). One facility (National Raffinerie de Normandie, , ID 058.00297) reports approximately 55,094 tonnes. The same facility reports 34,700 tonnes of the 77,418 tonnes of non-hazardous waste in the E-PRTR database.

GREECE

NACE 01 and 02: No data was reported to the Eurostat database on these NACE codes. In E-PRTR, one facility is included which reported 3,52 tonnes of hazardous waste.

NACE 05, 06, 07, 08 and 09: The hazardous waste reported to the E-PRTR database (152 tonnes) includes transfers from 7 facilities and is about 9 times higher than the amount reported to Eurostat (17 tonnes) in 2006.

Note: There is a high difference in the reported amount to Eurostat for 2004 (1,340 tonnes) and 2006 (17 tonnes). This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 19:. The non-hazardous waste included the E-PRTR database (12,992 tonnes) includes transfers from 2 facilities and is 15% higher than the amount reported to Eurostat in 2006.

NACE 37, 38, 39 and 81.29: The Eurostat database does not contain any hazardous waste generation data for the economic sectors for 2006. However for 2004, a quantity of 18,897 tonnes were reported to Eurostat.

The non-hazardous waste reported under E-PRTR (21,977 tonnes) includes transfers from 4 facilities and covers only 2% of the amounts in the Eurostat 2006 dataset (972,283 tonnes)

HUNGARY

NACE 13, 14 and 15: The hazardous waste quantities included in E-PRTR are 32% higher than the amounts in the Eurostat 2006 dataset (904 tonnes)

Note: There is a high difference in the reported amount to Eurostat for 2004 and 2006. For 2006 904 tonnes were reported to Eurostat whereas 2.838 tonnes were reported for 2004. This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 35 and 36:. The hazardous waste quantities included in E-PRTR (22,119 tonnes) covers 24 facilities and cover 206%of the amounts in the Eurostat 2006 dataset.

Note: There is a high difference in the reported amount to Eurostat for 2004 (47,380 tonnes) and 2006 (10,737 tonnes).

NACE 37, 38, 39 and 81.29: The hazardous waste quantities included in E-PRTR (50,294 tonnes) cover 27 facilities and are 26% higher than the amounts in the Eurostat 2006 dataset.

Note: There is a high difference in the reported amount to Eurostat for 2004 (261,850 tonnes) and 2006 (39,809 tonnes).

IRELAND

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 286% of the amount reported to Eurostat (2,482 tonnes) in 2006. Out of the 35 facilities included in E-PRTR, 1 facility (AIBP Limited T/A AIBP Bandon / National ID P0188) reports 4,000 tonnes out of the 7,104 tonnes.

Note: There is a high difference in the reported amount to Eurostat for 2004 (928 tonnes) and 2006 (2,482 tonnes). This could indicate an inconsistency in the reporting to Eurostat for both years.

NACE 19: In 2004 and 2006 IE did not report any waste for this economic activity to Eurostat. However both hazardous and non-hazardous waste quantities were reported under E-PRTR for 2007.

NACE 37, 38, 39 and 81.29: The Eurostat database does not contain any data for hazardous waste for these economic activities in 2006. However, under E-PRTR 50 facilities reported in total 187,434 tonnes of which 95% were transboundary transfers.

For non-hazardous waste the E-PRTR database contains a 5 times higher quantity (reported by 49 facilities) than the Eurostat data (533,763 tonnes).

ITALY

NACE 17 and 18: The hazardous waste quantities included in E-PRTR (81,830 tonnes) covers 65 facilities is 84% higher than the amount in the Eurostat 2006 dataset (44,563 tonnes). Under E-PRTR, one facility (AHLSTROM TURIN SPA, National ID 2007001844) reports 93% (76,200 tonnes).

Non-hazardous waste is reported under E-PRTR data by 59 facilities. The total quantity (20 million tonnes) is a factor of 10 times higher than the Eurostat data (2.5 million tonnes). One facility (AHLSTROM TURIN SPA, National ID 2007001844) reports approximately 19.5 million tonnes of this waste on NACE code 17.

NACE 37, 38, 39 and 81.29: The hazardous waste quantities included in E-PRTR (15 million tonnes) cover 140 facilities covers 662% of the amount in the Eurostat 2006 dataset (2,3 million tonnes). Non-hazardous waste is reported under E-PRTR data by 176 facilities. The total quantity (44 million tonnes) is about 2.5 times higher than the Eurostat data (17 million tonnes).

One facility (SED srl, 2007001847) reported 40,268,160 tonnes of non-hazardous waste and 13,655,950 tonnes of hazardous waste or respectively 91% and 90% of the total amounts reported under E-PRTR for the concerned economic activities in Italy.

LITHUANIA

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database exceeds the Eurostat quantities with 3% (143 tonnes versus 139 tonnes).

NACE 16: The hazardous waste reported in E-PRTR is 23% higher than the Eurostat amount (45 tonnes). In E-PRTR , only one facility is included. The difference could be due to yearly variations.

Note: There is a difference in the reported amount to Eurostat for 2004 (67 tonnes) and 2006 (45 tonnes)..

NACE 35 and 36: The non-hazardous waste quantity in E-PRTR (52,050 tonnes) cover 12 facilities and are 61% higher than the the amount included in the Eurostat 2006 database (32,360 tonnes).

Note: There is a difference in the reported amount to Eurostat for 2004 (52,323 tonnes) and 2006 (32,360 tonnes).

LUXEMBOURG

NACE 16:. The non-hazardous waste quantity in E-PRTR (57,600 tonnes) is reported by one facility and is 15% higher than the amount included in the Eurostat 2006 database (49,912 tonnes).

Note: There is a difference in the reported amount to Eurostat for 2004 (57,600 tonnes) and 2006 (49,912 tonnes).

NACE 24: The hazardous waste quantity in E-PRTR (65,638 tonnes) is reported by 10 facilities and is 25% higher than the amount included in the Eurostat 2006 database (52,374 tonnes). One facility (ArcelorMittal Belval & Differdange (Site de Differdange), National ID LU-02) reports 54% of the total quantity (35,350 tonnes).

The amount of non-hazardous waste in the E-PRTR database (973,066 tonnes) is a 2.5 times higher than the quantity reported to Eurostat. Primarily 3 facilities report high amounts of non-hazardous waste; ArcelorMittal Belval & Differdange (Site de Differdange) (National ID: LU-02), ArcelorMittal Belval & Differdange (Site de Belval) (National ID LU-03) and ARES Esch-Schifflange (National ID: LU-01). They contribute each with approximately 257,000 to 326,000 tonnes

NACE 23: The hazardous waste quantity in E-PRTR (2,585 tonnes) is reported by 3 facilities and is 4 times bigger higher than the amount included in the Eurostat 2006 database. One facility (Guardian Luxguard II S.A., National ID LU-06) reports the 2,373 tonnes. This alone is 3.7 times the amount reported to Eurostat.

NACE 37, 38, 39 AND 81.29: The hazardous waste quantity in E-PRTR (34,972 tonnes) is reported by 3 facilities and covers 212% of the amount included in the Eurostat 2006 database (16,525 tonnes). One facility (SIDOR) reports 32,850 tonnes on code 38.32.

Note: The facility Primorec Differdange has as a main E-PRTR activity "2.(b) Production of pig iron or steel including continuous casting" and as NACE category: "38.32 Recovery of sorted materials".

LATVIA

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 116% of the amount reported to Eurostat (89 tonnes) in 2006.

Note: There is a difference in the reported amount to Eurostat for 2004 (213 tonnes) and 2006 (89 tonnes).

NACE 37, 38, 39 and 81.29: The hazardous waste reported under E-PRTR database (6,500 tonnes) is reported by 1 facility and is transferred transboundary. This is 23 times higher than the amount reported to Eurostat (281 tonnes) in 2006.

MALTA

NACE 20, 21, 22: No data on hazardous waste was reported to Eurostat for 2006. In E-PRTR, two facilities (MEDICHEM MANUFACTURING (MALTA) LTD, National ID: API1 and AMINO CHEMICALS LTD, National ID: API2) in total reported 646 tonnes in 2007 (of which 642 tonnes was transferred outside the country).

NACE: 35 and 36: In 2006 no hazardous waste on this NACE code was reported to Eurostat. In 2004 only 52 tonnes were reported. The E-PRTR report (458 tonnes) covers only 1 facility (MARSA POWER STATION, National ID PS1)

NETHERLANDS

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 2,632% of the amount reported to Eurostat (2,811 tonnes) in 2006. Out of the 41 facilities included in E-PRTR, 3 facilities have transfers of HW > 4000 tonnes: Unimills B.V. (National ID 10097) reports 48,380 tonnes, Cargill BV (Soja) (National ID 22617) reported 4,040 tonnes and Cargill BV (Multiseed) (National ID 22,626) reports 16,417 tonnes.

NACE 13, 14 and 15: The hazardous waste reported to the E-PRTR database is 15% higher than the amount reported to Eurostat (5,821) in 2006. The sector includes 2 facilities of which one (Ecco Tannery Holland BV, National ID 45676) reported 5,600 tonnes (96%).

Note: There is a difference in the reported amount to Eurostat for 2004 (9,015 tonnes) and 2006 (5,821 tonnes).

NACE 17 and 18: The hazardous waste quantity reported to the E-PRTR database (74,166 tonnes) covers 19 facilities and is about a factor 7 higher than the amount reported to Eurostat (10,841 tonnes) in 2006. One facility (ESKA Graphic Board BV (Hoogezand), National ID 104304) reports 67% (49,900 tonnes) of the total E-PRTR amount.

NACE 19: The hazardous waste in the E-PRTR database (91,919 tonnes) covers 4 facilities. The reported amount covers 364% of the amount in the Eurostat 2006 dataset.

Note: There is a difference in the reported amount to Eurostat for 2004 (77,186 tonnes) and 2006 (25,262 tonnes).

NACE 20, 21, 22: The hazardous waste included in E-PRTR covers 203% of the amount reported to Eurostat (322,750 tonnes) in 2006. 90 facilities are included in E-PRTR of which one (Lyondell Bayer Maasvlakte Manufacturing VOF, National ID: 115036) reported 244,600 tonnes of hazardous waste (37%).

NACE 23: The hazardous waste in the E-PRTR dataset (9,111 tonnes) is about 91% higher than the Eurostat 2006 dataset (4,779 tonnes). Out of the 12 facilities which reported under E-PRTR, one (Monier BV(Woerden) ,National ID 10789) reported 5,440 tonnes of hazardous waste (60% of the E-PRTR quantity).

NACE 37, 38, 39 and 81.29: The hazardous waste included in E-PRTR (788,102 tonnes) covers 63 facilities and covers 262% of the Eurostat dataset 2006. The non-hazardous waste included in E-PRTR (6,544,422 tonnes) covers 96 facilities and covers 265% of the Eurostat dataset 2006. There are no clear indications for potential outliers in the E-PRTR dataset. One facility (RWZI Westpoort) covers 1,600,000 tonnes of the total amount of non-hazardous waste.

NORWAY

NACE 17 and 18: The hazardous waste reported under E-PRTR (2,478 tonnes) covers 9 facilities and is more than a factor 3 higher than the amount reported to Eurostat (791 tonnes) for 2006. One facility (Borregaard Ind. Ltd., Cellulosesektor) reported 2,000 tonnes or 81% of the total E-PRTR amount.

Note: There is a difference in the reported amount to Eurostat for 2004 (3,021 tonnes) and 2006 (791 tonnes).

NACE 19: The hazardous waste reported under E-PRTR (11,227 tonnes) is about 4.7 times higher than the amounts reported to Eurostat (2,384 tonnes). One facility (STATOIL ASA, Mongstad, National ID 1263.002.01) reports 10,900 tonnes hazardous waste.

NACE 20, 21, 22:. The hazardous waste reported to the E-PRTR database covers 17,468% of the amount reported to Eurostat (2,259 tonnes) in 2006. For the sector, 21 facilities report HW transfers, of which two cover together 98% of the hazardous waste transfers (KRONOS TITAN AS, 201,000 tonnes and INEOS BAMBLE AS, 184,000 tonnes)

Note: There is a substantial difference in the reported amount to Eurostat for 2004 (231,553 tonnes) and 2006 (2,259 tonnes*).*

NACE 24: The hazardous waste quantity reported under E-PRTR (233,079 tonnes) is 141 times higher than the amount reported to Eurostat (1,646 tonnes) for 2006. One facility (Boliden Odda AS) reports 120,000 tonnes or 51% of the E-PRTR transfers.

Note: There is a difference in the reported amount of hazardous waste to Eurostat for 2004 (218,596 tonnes) and 2006 (1,646 tonnes).

NACE 35 and 36: The quantities of hazardous (38,060 tonnes) and non-hazardous waste (14,687 tonnes) in E-PRTR are respectively 17% and 9% higher than the amount reported to Eurostat for 2006. One facility (Trondheim Energiverk, Varmesentral, National ID 1601.176.01) reports 26,400 tonnes of hazardous waste.

Note: There is a difference in the reported amount of non-hazardous waste to Eurostat for 2004 (18,308 tonnes) and 2006 (13,505 tonnes).

POLAND

NACE 05, 06, 07, 08 and 09: The hazardous waste reported to the E-PRTR database covers 3,250% of the amount reported to Eurostat (1,653 tonnes) in 2006. For the sector, 85 facilities report HW transfers, of which one (Kompania Węglowa S.A., Oddział Kopalnia Węgla Kamiennego "RYDUŁTOWY-ANNA" - Ruch II, National ID: 12S000537) reports 42,700 tonnes (79% for the sector in Poland). This is the highest quantity reported on facility level for the sector within the E-PRTR dataset.

The non-hazardous waste reported to the E-PRTR database (52.6 million tonnes)covers 136% of the amount reported to Eurostat (38,7 million tonnes) in 2006 and covers 88% of the non-hazardous waste for the sector included in E-PRTR (all countries). For the sector, 48 facilities report NHW transfers, of which 12 have transfers of more than 1 million tonnes and of which one (KGHM POLSKA MIEDŹ S.A., Zakłady Wzbogacania Rud rejon RUDNA, National ID 01D002751) reports 13.99 million tonnes.

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 1,329% of the amount reported to Eurostat (14,265 tonnes) in 2006. Out of the 80 facilities for Poland, one facility (Spółdzielcza Agrofirma Witkowo, Przetwórnia Mięsa i Drobiu, National ID 16Z002581) covers 67% (127,000 tonnes) of all the hazardous waste transfers within the sector in Poland. It has the 2nd highest transfers of all the facilities in the sector within the E-PRTR database.

NACE 17 and 18: The E-PRTR data on hazardous waste seems too high. National ID 07W002125 reports 24,700 tonnes which seems too high compared to the total hazardous waste included in the Eurostat database (5,587 tonnes).

NACE 23: The hazardous waste quantity reported to the E-PRTR database (4,581 tonnes) covers 54 facilities and 15% higher than the amount reported to Eurostat for2006.

Note: There is a difference in the reported amount of hazardous waste to Eurostat for 2004 (5,538 tonnes) and 2006 (3,981 tonnes).

NACE 35 and 36: The hazardous waste quantity reported to the E-PRTR database (203,235 tonnes) covers 72 facilities and 10% higher than the amount reported to Eurostat for 2006 (184,645 tonnes). One facility (Elektrociepłownie Kujawskie Sp. z o.o., Zakład Janikowo, National ID 02C 000081) reports 122,000 tonnes (60% of the data in E-PRTR for the sector).

Overall Note: *For Poland, the transferred amounts reported under E-PRTR are substantially higher than the generated waste amounts (Eurostat). The E-PRTR transfers cover 136% of the non-hazardous waste and 3,250% of the hazardous waste reported to Eurostat.*

PORTUGAL

NACE 10, 11 and 12: The hazardous waste reported to the E-PRTR database covers 1,185% of the amount reported to Eurostat (33,125 tonnes) for 2006. Out of the 41 facilities for Portugal, one SOVENA PORTUGAL - Consumer Goods, S.A., National ID 100005833) covers 98% of all the hazardous waste transfers (385,400 tonnes). Within the sector this facility has the highest transfers of all the facilities within the E-PRTR database.

NACE 19: Hazardous waste under E-PRTR is reported for 2 facilities. The transferred amount (16,953 tonnes) is 63% higher than the amount reported to Eurostat for 2006

Note: There is a difference in the reported amount of hazardous waste to Eurostat for 2004 (10,370 tonnes) and 2006 (10,370 tonnes).

NACE 23: The hazardous waste reported to the E-PRTR database (25,876 tonnes) covers 30 facilities and is 26% higher than the amount reported to Eurostat (20,585 tonnes) for 2006. One facility (Saint-Gobain Mondego, S.A., National ID 100003060) reports 24,307 tonnes (94%).

NACE 37, 38, 39 and 81.29: The hazardous waste reported to the E-PRTR database (126,207 tonnes) covers 46 facilities. The total amount covers 462% of the quantity reported to Eurostat for 2006. Of the transfers 38% are transboundary movements of hazardous waste.

The non-hazardous waste reported to the E-PRTR database (9.4 million tonnes) covers 41 facilities. The total amount is more than a factor 8 higher than the quantity reported to Eurostat for 2006. The non-hazardous waste is for 92% covered by two facilities: ETAR Norte – SIMRIA (National ID 100018541) and

ETAR Sul - SIMRIA (National ID 100018540) which report 6,020,000 and 2,650,000 tonnes of non-hazardous waste respectively

ROMANIA

NACE 13, 14 and 15: The hazardous waste reported to the E-PRTR database covers 246% of the amount reported to Eurostat (73 tonnes). Three facilities are included in the E-PRTR database of which one (J & P COATS Ltd. - SC COATS ODORHEI SRL , National ID RO7HR_91) reported 117 tonnes (65%)

NACE 19: The non-hazardous waste reported to the E-PRTR database (73,770 tonnes) covers 2 facilities and is more than the double amount reported to Eurostat (33,963 tonnes). ARPECHIM (National ID RO3AG_11) and PETROM SA - Petrobrazi (National ID RO3PH_15) report 34,030 tonnes and 39,740 tonnes respectively

NACE 20, 21, 22: The hazardous waste reported to the E-PRTR database covers 279% of the amount reported to Eurostat (47,257 tonnes) in 2006. A single company (RO3TR_41) reported 91,000 tonnes of hazardous waste to the E-PRTR database.

SWEDEN

NACE 10, 11 and 12: The hazardous waste reported under E-PRTR covers 196% of the amount reported to Eurostat (2,112 tonnes) in 2006. Out of the 17 facilities, one (Scan AB, Skara, National ID 1495-1101) reports 3,500 tonnes waste or 84% of total quantity for the sector included in the E-PRTR database for Sweden.

NACE 19: The non-hazardous waste quantity included in the E-PRTR database (10,110 tonnes) is 10% higher than the amount reported to Eurostat. One facility (Preemraff, Lysekil, National ID 1484-1115) reports 7,830 tonnes. Compared to facilities in other countries is this is not a high quantity.

SLOVENIA

NACE 05, 06, 07, 08 and 09: The hazardous waste included in E-PRTR covers 241% of the amount reported to Eurostat (63 tonnes) in 2006. In E-PRTR only one facility is included (Premogovnik Velenje, d.d., National ID 153) which reports 152 tonnes.

NACE 17 and 18: The hazardous waste included in E-PRTR (16,077 tonnes) covers 5 facilities. The total quantity is nearly 30 times higher than the amount reported to Eurostat (537 tonnes) in 2006. One facility (PALOMA d.d, National ID 27) reports 16,000 tonnes. This is 99.5% of the E-PRTR amount. The facility has the seventh highest transfer in the sector across all countries in E-PRTR.

NACE 20, 21, 22:. The hazardous waste reported under E-PRTR covers 386% of the amount reported to Eurostat (25,565 tonnes) in 2006. Out of the 17 facilities, one (LEK farmacevtska družba d.d., Proizvodnja Lendava, National ID: 58) reported 88,200 tonnes of hazardous waste (89% of sector total for Slovenia).

NACE 37, 38, 39 and 81.29: The hazardous waste included in E-PRTR (16,788 tonnes) covers 3 facilities and is nearly 6 times higher than the amount reported to Eurostat (2,849 tonnes) for 2006. In E-PRTR, 32% of the hazardous waste transfers are transboundary movements.

The facility "Saubermacher Slovenija d.o.o., Obrat Kidričevo," (National ID 159) reported 16,673 tonnes of hazardous waste (99%). The transferred quantity was not identified as a potential outlier when comparing with transfers from facilities in other countries.

SLOVAKIA

NACE 19: The non-hazardous waste reported to the E-PRTR database (25,210 tonnes) covers only one facility and is 49% higher than the amount reported to Eurostat for 2006.

Note: There is a difference in the reported amount to Eurostat for 2004 (36,760 tonnes) and 2006 (16,915 tonnes).

UNITED KINGDOM

NACE 01 and 02:. The non-hazardous waste quantity included in E-PRTR (812,993 tonnes) is about 4 times higher than the amount reported to Eurostat (205,679 tonnes) in 2006. No potential outliers could be identified between the 88 facilities included in E-PRTR.

NACE 05, 06, 07, 08 and 09: The hazardous waste included in E-PRTR covers 369% of the amount reported to Eurostat (13,104 tonnes) in 2006. Out of the 163 facilities, 11 facilities have a transfer of at least 1,000 tonnes. One facility has a (BP Expoloration Operating Co Ltd, National ID EW_EA-411) reports 12,300 tonnes. However, this can not alone explain the difference between the two datasets.

Note: Facility P Expoloration Operating Co Ltd, National ID EW_EA-411, has as a main E-PRTR activity "5.(a) Disposal or recovery of hazardous waste " and has NACE classification: "06.10 Extraction of crude petroleum"

NACE 17 and 18: The hazardous waste included in E-PRTR covers 74 facilities and the total amount (201,830 tonnes) is about a factor 3 higher than the quantity reported to Eurostat (72,818 tonnes) for 2006. One facility (Mondi Packaging Wheatley, National ID E210_113) reports 187,000 tonnes (93% of the total E-PRTR amount). This is the highest transferred amount of hazardous waste in the sector across E-PRTR (out of the 688 facilities).

NACE 19: The non-hazardous waste included in E-PRTR covers 6 facilities and the total amount (106,771 tonnes) is 49% higher than the quantity reported to Eurostat for 2006.

Note: There is a difference in the reported amount to Eurostat for 2004 (217,621 tonnes) and 2006 (87,538 tonnes).

NACE 20, 21, 22: The hazardous waste included in E-PRTR is 5% higher than the amount reported to Eurostat (988,806 tonnes) in 2006. Out of the 330 facilities, one (Wrexham, National ID W22_56) reported 530,000 tonnes (51% of the sectoral total in the UK)

Note: There is a difference in the reported amount to Eurostat for 2004 (1,373,223 tonnes) and 2006 (988,806 tonnes).

NACE 35 and 36: Under E-PRTR, 130 facilities reported hazardous waste transfer for a total amount of 155,236 tonnes. This is 31% higher than the reported quantity to Eurostat for 2006. The facility "Damhead Creek Power Station" contributes with 76,780 tonnes (49% of the E-PRTR data) and is 3rd in the list of highest transfers of hazardous waste within the sector (across all E-PRTR countries).

NACE 37, 38, 39 and 81.29: The hazardous waste included in E-PRTR covers 258 facilities. The total transfers (2,878,863 tonnes) are a factor of 5 higher than the amount reported to Eurostat for 2006. Two facilities have the 2nd and 3rd highest transfers of hazardous waste for the sector across the EU "Associated Reclaimed Oils Limited" and "SOLVENT RESOURCE MANAGEMENT LTD" with 927,500 tonnes and 806,640 tonnes respectively.

Note: There is a difference in the reported amount to Eurostat for 2004 (2,318,158 tonnes) and 2006 (570,721 tonnes).

2.6. Conclusions on waste generation

The main findings of the comparison between the Eurostat waste generation data and the E-PRTR waste transfer data are the following:

- The E-PRTR reporting for 2007 covers all together 15% of the waste amounts reported by EU-27 Member States and Norway to EUROSTAT for the year 2006. For the hazardous waste the coverage rate is 64% and for the non-hazardous waste 14%.
- The waste management sector is the economic sector with the largest generation of both non-hazardous and hazardous waste. This is the case in the E-PRTR reporting as well as in the Eurostat reporting. However, the E-PRTR reporting is larger than the Eurostat reporting both for hazardous and non-hazardous waste.
- The E-PRTR reporting for the manufacturing industry all together covers 35% of the amounts of non-hazardous waste reported to EUROSTAT for the same type of industrial activities and 90% for the hazardous waste. For the energy sector the figures are 31% for non-hazardous waste and 18% for hazardous waste.
- It has to be underlined that even if the comparison of the figures for each of the NACE categories often are reasonable at an European aggregated level, large variations have been found among the countries.

Potential reasons for differences in reported quantities between the two datasets are:

- Issues concerning the comparability of the datasets
  - Mapping between the NACE rev1.1 and the NACE rev2.0 used respectively for the Eurostat reporting and the E-PRTR reporting,
  - Different reporting years covered: 2006 for Eurostat and 2007 for E-PRTR
  - Generated waste quantities in Eurostat versus transferred waste quantities in E-PRTR
  - Transfer thresholds on facility level under the E-PRTR Regulation
- Issues related to the quality of the reporting
  - Wrong attribution of NACE code to a facility in the E-PRTR reporting (main code is E-PRTR Activity code)
  - Under reporting due to facilities which are not included in the E-PRTR dataset but are actually covered by the E-PRTR Regulation
  - Incorrect reporting of the waste quantities on facility level under E-PRTR (mostly over reporting due to the use of the wrong unit for reporting)

- Inconsistency (under/over reporting) between the data reporting to Eurostat for the years 2006 and 2004

Conclusion:
Each country for which there seems to be an inconsistency between the total waste amounts reported to E-PRTR and to Eurostat (very high or very low ratio), should evaluate the waste data reported under both reporting schemes in order to identify whether the reported data are correct and complete.

3. Comparison of E-PRTR data concerning transboundary off-side transfers of hazardous waste with data on transboundary shipments reported to the European Commission and the ETC/SCP

3.1. Shipment of waste data reported to the EU-Commission

3.1.1. Datasets and constraints

EU Member States are reporting to the Basel Convention[33] and the EU Commission regarding transboundary shipment of waste[34]. This reporting covers only hazardous and problematic wastes. The information reported in accordance to article 13.3 of the Basel Convention (Article 51 of Regulation 1013/2006/EC) covers the amount of hazardous wastes exported (type, destination country, disposal and recovery method) as well as the amount of hazardous wastes imported. The yearly report to the EU Commission shall be delivered 12 months after the end of the reporting year concerned (e.g. 31/12/2008 for the 2007 data).

The following general constraints concerning the comparison of the two datasets were identified:

- The latest dataset available covers the reporting year 2006 even if the official reporting deadline for reporting year 2007 was 31 December 2008. The 2006 dataset does not include the Czech Republic, France, Italy, Malta, Portugal and Spain. The latest full report to the Commission available, covers the reporting year 2005.
- The reported data are classified according to waste type using one of the so called y-codes [35]. It means that the transboundary shipped waste can not be related to the type of activity, which has generated the waste and can therefore not be related to the industrial or economic activity reported by E-PRTR. As a result is the comparison only be possible on the aggregated national level without a split-up over industrial or economic sectors.

Based on the above constraints and taking into account the fact that more updated data for 2007 were reported to the ECT/SCP (paragraph 3.2), the comparison with the shipment of waste data reported to the EU-Commission was excluded from the stage 2 review.

3.1.2. Potential future comparisons

In the future EU Member States will have to send their copy of the reporting to the Basel Convention Secretariat to Eurostat and not to DG Environment in the Commission. It is expected that some

[33] Basel Convention of 22 March 1989 on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (http://www.basel.int/text/con-e-rev.pdf)

[34] Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_190/l_19020060712en00010098.pdf)

[35] The Y codes are defined in Annex I and Annex II of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal

amendments will be introduced in the reporting procedure, when Eurostat takes over receiving the data.

Potential future data comparisons between the E-PRTR data and the transboundary shipments of waste could use the data checks presented in Table D.9.

Table D.9 Total transboundary shipment of hazardous waste related to recovery and disposal according to the E-PRTR reporting (off-site transfer of more than 2 tonnes per year) and the reporting to the Commission and the Basel Convention Secretariat. Made per country and in total for EEA countries who have reported to the Commission.

E-PRTR			Reporting to the Commission according to the shipment of waste regulation 1013/2006/EC[34]	
	Off-site transfer type	The total mount of hazardous waste from **all** industrial activities in Annex I of the E-PRTR Regulation	Total amount of notified exported hazardous waste (y code 1-45 according to Annex VIII in the Basel Convention)	Share that the E-PRTR reporting covers of the latest reported exported figures to the Commission (%)
1	Total amount of off-site transfer to other countries for recovery			
2	Total amount of off-site transfer to other countries for disposal			
3	Total amount of off-site transfer to other countries (recovery and disposal)			

3.2. Comparison of E-PRTR data concerning transboundary off-side transfers of hazardous waste with data on transboundary shipments reported to the ETC/SCP

3.2.1. Datasets and constraints

The ETC/SCP is at the moment running a project about transboundary shipment of waste, covering the EEA[36] member countries. The shipped waste data reported to the ETC/SCP are classified according to the European Waste List Code[37] (EWL Code). The European Waste List Code is source-activity based and can, therefore, more easily be related to E-PRTR reporting.

The data are at present stored at the ETC/SCP. The data will be published in an ETC/SCP working paper expected to be released in early 2010.

[36] EEA, European Environment Agency

[37] List of Wastes, is a catalogue of all waste types generated in the EU. It was established by Commission Decision 2000/532/EC of 3 May 2000: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2000:226:0003:0024:EN:PDF

This data source has certain limitations:

- The reporting is does not result from a legal reporting obligation. The reporting covers the reporting years 2004 to 2007. 22 EEA countries have answered that they register shipment of waste based on the European Waste List code. Seven countries do no make such a registration. 16 Countries have reported data for 2007 to the ETC/SCP based on the EWL . Detailed information on the countries concerned is provided in section 3.2.2.
- For future data reviews, the data availability will be limited. This is since the ETC/SCP project is not permanent (no data after 2007 will be collected). However, 11 countries publish data concerning shipment of waste based on the European Waste List Code on a regular basis. This information could therefore in principle be used for checking the E-PRTR reporting.

3.2.2. Data derived for non-reporting countries

Because data have not been received from all countries, a methodology has been developed, where the reported data from one country are used as information for other countries, which have not reported. For example, the German data on waste export to other countries are used as information on quantities imported by other countries (the countries to which Germany has exported waste), which have not reported. Similarly, the German import data are used as export data for countries, which have not reported.

Belgium, Germany and the Netherlands are the largest importers/exporters of notified waste. Therefore, it has been possible in this way to get information about 4.72 million tonnes of exported hazardous waste in accordance with the European Waste List Codes from EEA countries covering the year 2007. The amount of hazardous waste reported by the EU-25 countries to the Commission based on the Basel Codes was 5.4 million tonnes for the reporting year 2006. Therefore it can be assumed that the data collected by the ETC/SCP covers approximately 80-90% of the expected amounts of transboundary shipped waste for 2007. The available data have the advantage that they are available in accordance with the European Waste List codes.

Table D.10 shows transboundary shipped waste based on reported or derived data. The table shows both the total amount and the amount related to code 19 in the European Waste List.

Table D.10 Data reported to ETC/SCP broken down according to origin (reported or derived)

Country	Imported HW				Exported HW			
	Total HW		EWC 19		Total HW		EWC 19	
	tonnes	origin	tonnes	origin	Tonnes	origin	tonnes	origin
Austria	79,394	Reported	10,165	Reported	271,629	Reported	48,293	Reported
Belgium	264,911	Reported	67,212	Reported	641,483	Reported	25,283	Reported
Bulgaria					325	Derived		
Cyprus					316	Derived		
Czech Republic	6,319	Derived			5,522	Derived	1	Derived

Country	Imported HW				Exported HW			
	Total HW		EWC 19		Total HW		EWC 19	
	tonnes	origin	tonnes	origin	Tonnes	origin	tonnes	origin
Denmark	75,725	Reported	9,719	Reported	142,641	Reported	64,406	Reported
Estonia	1,786	Derived	1	Derived	336	Derived		
Finland	1,062	Derived			14,527	Derived		
France	119,838	Derived	18,974	Derived	357,104	Derived	57,902	Derived
Germany	2,410,164	Reported	760,131	Reported	259,744	Reported	50,944	Reported
Greece					5,091	Derived	106	Derived
Hungary					38,217	Reported	656	Reported
Iceland					5,141	Derived		
Ireland	6,476	Derived			197,430	Reported	23,777	Reported
Italy	4,368	Derived			987,981	Derived	555,868	Derived
Latvia	203	Reported			7,178	Reported		
Liechtenstein					23	Derived		
Lithuania	3,342	Reported			1,176	Reported	24	Reported
Luxembourg	8,797	Reported			188,338	Reported	40,421	Reported
Malta					1,289	Reported		
Netherlands	342,742	Reported	14,964	Reported	678,045	Reported	230,124	Reported
Norway	75,854	Reported	51,669	Reported	60,305	Reported	1,792	Reported
Poland	4,204	Derived	473	Derived	14,790	Derived	108	Derived
Portugal					171,817	Reported	26,087	Reported
Romania					647	Derived		
Slovenia	22,903	Reported			42,272	Reported	21,597	Reported
Slovakia	1	Derived			4,203	Derived		
Spain	114,018	Derived	22,826	Derived	17,624	Derived	101	Derived
Sweden	60,436	Derived	16,939	Derived	209,793	Reported	54,746	Reported
United Kingdom	52,707	Reported	3,548	Reported	134,092	Reported	31,780	Reported

3.2.3. Description of checks

The data check included in the document, cf. Table F.11, are the following:

- comparison of total exported amounts of hazardous waste in E-PRTR with amounts according to the reporting based on the European Waste List. Furthermore, a comparison on the level of treatment type is included: split up of total hazardous waste exported for recovery and disposal.

- comparison for the waste treatment sector (waste data reported under main code 19 of the EWL in the ETC/SCP dataset with the transboundary transfers reported under economic activity 38 in the E-PRTR dataset).

Note:

The industrial activities (Annex I of E-PRTR Regulation) and the economic activities (NACE revision 2.0 codes) used in E-PRTR can not be directly compared with the European Waste List codes. Therefore it is not feasible to compare both datasets on sector/activity level. However main code 19 in the European Waste List (Waste from management facilities, off site waste water treatment plants and the preparation of water intended for human consumption and water industrial use), can be mapped with NACE rev 2.0 codes 38 (Waste collection, treatment and disposal activities; materials recovery), 37 (sewerage) and 36 (Water collection, treatment and supply) used in E-PRTR. In E-PRTR, no transboundary transfers are included for economic activity 36. For economic activity 37, six transfers are included covering 7,254 tonnes of waste. Economic activity 38 covers 909,503 tonnes of transboundary transfers of hazardous waste. Based on this short assessment, which shows that 98.5% of the waste is related to NACE activity 38, it was decided to compare the waste data reported under main code 19 of the EWL (ETC/SCP dataset) with the transboundary transfers in economic activity 38 (E-PRTR dataset).

Table D.11 Data comparisons between: Total transboundary shipment of hazardous waste related to recovery and disposal according to the E-PRTR reporting (off-site transfer of more than 2 tonnes per year) and the reporting to the ETC/SCP based on the European Waste List Code.

		Comparison of totals			Comparison of waste management sector		
		E-PRTR total	**ETC/SCP reporting totals**	**E-PRTR share of total**	**E-PRTR NACE code 38**	**ETC/SCP reporting totals**	**E-PRTR share of total**
	Off-site transfer type	The total amount of hazardous waste in E-PRTR (sum of all activities)	Total amount of notified exported hazardous waste reported to ETC/SCP[38]	Share of E-PRTR compared to ETC/SCP reporting	Hazardous waste transfers from facilities with NACE category 38 in E-PRTR	Amount of exported hazardous waste in EWL main group 19 in ETC/SCP reporting	Share of hazardous waste exports in E-PRTR NACE 38 compared to EWL 19 in ETC/SCP reporting
1	Total amount transboundary off-site transfer by country for recovery						
2	Total amount transboundary off-site transfer for disposal						
3	Total amount transboundary off-site transfer						

The total amounts of transboundary transfers of hazardous waste according to the E-PRTR are expected to be lower than the national transboundary shipment data included in the ETC/SCP dataset.

This is because the E-PRTR dataset covers only transfers of a limited number of activities (included in Annex I of the E-PRTR Regulation) and since a specific facility only needs to report if it has a total quantity of hazardous waste being transferred off-side of at least 2 tonnes.

[38] EWL code according to Annex V part 2 in 1013/2006/EC

3.2.4. Results

Comparison on EU level

InTable A.12 the comparison between the 2 data sources can be seen on aggregated level.

Table D.12 Comparison of data from E-PRTR database with transboundary shipped waste on aggregated level.

Tonnes	All EWC	All NACE		EWC 19	NACE 38	
	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
All treatments	4,459,079	3,271,340	73%	1,234,016	909,503	74%
Disposal	1,420,160	477,623	34%	645,391	309,758	48%
Recovery	2,868,658	2,793,718	97%	560,582	599,745	107%

The comparison shows that a large amount of the transboundary shipped hazardous waste included in the reporting to the ETC/SCP based on the European Waste List Code is covered in the E-PRTR reporting. The E-PRTR coverage is 73% across treatments and 97% for recover. For waste disposal the E-PRTR data however cover only 34% of the total transboundary shipments. There is no obvious explanation for this.

When comparing the E-PRTR for NACE category 38 with EWL main group 19 it seems that the E-PRTR reporting is covering a large part of the waste reported to ETC/SCP. The total amount of waste destined for recovery is higher in E-PRTR than in the ETC/SCP dataset.

Comparison on country level

The tables below provide a comparison between both datasets according to the treatment options: all treatments (Table D.13), disposal (Table D.14) and recovery (Table D.15).

Table D.13 shows the total export of hazardous waste by country for “all treatment options” . The data are aggregated over all sectors and over the waste management sector (NACE category 38 in E-PRTR compared to EWL main group 19). The table shows that even if the E-PRTR reporting for all countries together compared to the reporting to the ETC/SCP has a good coverage rate of 73%, there are major differences between the countries. Seven countries have much larger exported amounts according to the E-PRTR reporting than compared to ETC/SCP reporting (AT, EE, ES, IE, LT, LV and SK). On the other hand nine countries have only reported between 0 and 9% of the amounts, which are included in the ETC/SCP reporting (CY, CZ, DE, FI, IS, LI, LU, NO and RO,).

Table D.13 Comparison of the E-PRTR data with transboundary shipped waste for all treatment categories.

	Export of hazardous waste, all treatments					
	All EWC	All NACE		EWC 19	NACE 38	
Country	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
Austria	271,629	1,434,582	528	48,293	8,296	17
Belgium	641,483	332,693	52	25,283	106,335	421
Bulgaria	325	182	56	0	0	0
Cyprus	316	27	9	0	27	>
Czech Republic	5,522	244	4	1	41	4,120
Germany	259,744	0	0	50,944	0	0
Denmark	142,641	103,765	73	64,406	81,469	126
Estonia	336	907	270	0	827	>
Spain	17,624	31,722	180	101	1,048	1,038
Finland	14,527	0	0	0	0	0
France	357,104	262,560	74	57,902	56,825	98
Greece	5,091	2,451	48	106	1,807	1,705
Hungary	38,217	5,507	14	656	4,928	751
Ireland	197,430	249,186	126	23,777	176,550	743
Iceland	5,141	218	4	0	0	0
Italy	987,981	242,679	25	555,868	191,892	35
Liechtenstein	23	0	0	0	0	0
Lithuania	1,176	2,238	190	24	2,238	9,325
Luxembourg	188,338	7,607	4	40,421	3,950	10
Latvia	7,178	11,340	158	0	6,500	>
Malta	1,289	642	50	0	0	0
Netherlands	678,045	291,337	43	230,124	153,993	67
Norway	60,305	0	0	1,792	0	0
Poland	14,790	11,634	79	108	6,739	6,240
Portugal	171,817	85,269	50	26,087	47,513	182
Romania	647	60	9	0	0	0
Sweden	209,793	85,551	41	54,746	48,708	89
Slovenia	42,272	21,874	52	21,597	5,313	25
Slovakia	4,203	5,626	134	0	0	0
United Kingdom	134,092	81,440	61	31,780	4,504	14
Total	**4,459,079**	**3,271,340**	**73**	**1,234,016**	**909,503**	**74**

Even more pronounced differences can be found in the waste quantities transferred from waste management activities (NACE category 38 in E-PRTR compared to EWL main group 19). Although E-PRTR

covers on average 74% of the amount covered in the ETC/SCP data, 10 countries have larger amounts in the E-PRTR reporting than in the ETC/SCP reporting (BE, CZ, DK, ES, GR, HU, IE, LT,PL and PT). The E-PRTR data are up to 62 times higher than the data reported to the ETC/SCP. On the other hand 10 countries have only a coverage of between 0-10% in the E-PRTR dataset.

Table D.14 shows the comparison of the exported waste related to disposal only. Totally, the E-PRTR reporting includes 34% of the ETC/SCP reporting and for NACE category 38 the coverage is 48%. At country level there are large differences. A few countries have larger amounts included in the E-PRTR reporting for total waste. Eight countries have only 0-10% of the waste for disposal included in the E-PRTR reporting. 12 countries have for NACE category 38 only a coverage of 0-12% in the E-PRTR compared to the amount reported to the ETC/SCP.

Table D.14 Comparison of the E-PRTR data with transboundary shipped waste for disposal.

	Export of hazardous waste, waste for disposal					
	All EWC	All NACE		EWC 19	NACE 38	
Country	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
Austria	37,712	8,286	22	27,545	8,043	29
Belgium	56,668	10,500	19	3,416	7,801	228
Bulgaria	253	182	72	0	0	0
Cyprus	316	0	0	0	0	0
Czech Republic	0	0	0	0	0	0
Germany	16,160	0	0	7,900	0	0
Denmark	61,112	66,821	109	52,872	51,198	97
Estonia	105	296	282	0	265	>
Spain	6,808	28,324	416	82	38	46
Finland	0	0	0	0	0	0
France	16,858	30,694	182	908	15,300	1,685
Greece	3,973	1,706	43	106	1,476	1,392
Hungary	0	4,401	>	0	4,290	>
Ireland	113,914	61,444	54	19,924	30,642	154
Iceland	225	0	0	0	0	0
Italy	711,983	133,972	19	447,172	121,484	27
Liechtenstein	0	0	0	0	0	0
Lithuania	538	0	0	0	0	0
Luxembourg	110,186	2,107	2	16	0	0
Latvia	356	0	0	0	0	0
Malta	249	469	188	0	0	0
Netherlands	137,236	42,255	31	61,659	27,549	45
Norway	17,705	0	0	0	0	0
Poland	184	239	130	68	161	237

	Export of hazardous waste, waste for disposal					
	All EWC	All NACE		EWC 19	NACE 38	
Country	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
Portugal	76,020	73,939	97	18,244	38,358	210
Romania	301	60	20	0	0	0
Sweden	35,852	398	1	398	398	100
Slovenia	15,446	10,029	65	5,081	2,755	54
Slovakia	0	1,406	>	0	0	0
United Kingdom	0	96	>	0	0	0
Total	**1,420,160**	**477,623**	**34**	**645,391**	**309,758**	**48**

Table D.15 shows the comparison of the exported waste for recovery. The E-PRTR covers 97% of the total amounts for recovery and 107% of the waste from waste management activities. However, when the comparison is done at country level high differences between both datasets are shown.

Table D.15 Comparison of the E-PRTR data with transboundary shipped waste for recovery.

	Export of hazardous waste, waste for recovery					
	All EWC	All NACE		EWC 19	NACE 38	
Country	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
Austria	233,917	1,426,296	610	20,748	253	1
Belgium	584,815	322,193	55	21,867	98,534	451
Bulgaria	72	0	0	0	0	0
Cyprus	0	27	>	0	27	>
Czech Republic	5,475	244	4	1	41	4,120
Germany	214,680	0	0	30,354	0	0
Denmark	81,529	36,944	45	11,534	30,271	262
Estonia	231	611	264	0	563	>
Spain	10,592	3,398	32	19	1,010	5,316
Finland	14,527	0	0	0	0	0
France	333,975	231,866	69	56,994	41,525	73
Greece	1,118	745	67	0	331	>
Hungary	0	1,106	>	0	638	>
Ireland	83,456	187,743	225	3,813	145,908	3,827
Iceland	4,916	218	4	0	0	0
Italy	275,848	108,707	39	108,696	70,408	65
Liechtenstein	23	0	0	0	0	0
Lithuania	294	2,238	761	24	2,238	9,325
Luxembourg	78,152	5,500	7	40,405	3,950	10

	Export of hazardous waste, waste for recovery					
	All EWC	All NACE		EWC 19	NACE 38	
Country	∑Shipment	∑E-PRTR	% Covered	∑Shipment	∑E-PRTR	% Covered
Latvia	6,822	11,340	166	0	6,500	>
Malta	777	173	22	0	0	0
Netherlands	540,809	249,082	46	168,465	126,444	75
Norway	42,600	0	0	1,792	0	0
Poland	14,570	11,394	78	40	6,578	16,445
Portugal	52,185	11,330	22	965	9,155	949
Romania	84	0	0	0	0	0
Sweden	138,605	85,153	61	54,348	48,310	89
Slovenia	26,535	11,845	45	16,516	2,558	15
Slovakia	4,203	4,220	100	0	0	0
United Kingdom	117,848	81,344	69	24,001	4,504	19
Total	**2,868,658**	**2,793,718**	**97**	**560,582**	**599,745**	**107**

Conclusion

Taking into account the constraints of the EWL dataset such as the incomplete geographical coverage (section 3.2.2), there still seems to be an inconsistency between both datasets for a large number of countries. In certain instances reported amounts in E-PRTR are very high compared to the EWL dataset and in other cases the coverage is extremely low. These issues appear on the aggregated level (all sectors) as well as on the waste management sector level.

The reasons for these potential inconsistencies are not clear and should be assessed by the countries in order to improve future reportings. However, some explanations could be for the lower amount reported in E-PRTR

- Many facilities do yearly only generate less hazardous waste than 2 tonnes or 2000 tonnes non-hazardous waste and are therefore not included in the E-PRTR..
- Many facilities generating more than 2 tonnes hazardous deliver the waste to a collector. The facilities are therefore not always aware of that the hazardous wastes are transboundary shipped. Since collectors are not included in the E-PRTR reporting, this type of hazardous waste transboundary shipped will not be reported.
- In the same way, if the generator of the hazardous waste uses a dealer or a broker to arranging the transboundary shipment, there might be a risk that the amounts transboundary shipped are not reported.

3.3. Detailed country comments

As mentioned above the comparison shows some major differences between the two sources of data. In the following the situations with the E-PRTR data exceeding the transboundary shipped waste reported to the ETC/SCP are described in more detail, country by country.

AUSTRIA

Hazardous waste, recovery (E-PRTR data cover 610% compared to EWL data): A single company (NationalID 20000.00371, Donau Chemie Aktiengesellschaft) reported 1,370,000 tonnes which causes the big difference between the data.

(Note: Austria has informed the Commission that the correct waste transfer is 1,368 tonnes.)

BELGIUM

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 228% compared to EWL data): In total the disposed amount is 7,801 tonnes. This covers only two facilities of which one (NationalID W211, GEOCYCLE sa) reported 6,021 tonnes.

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 451% compared to EWL data): A single company (NationalID vl01747084000157, ISVAG) reported 31,000 tonnes which partly causes the difference between the data. The following companies reported transboundary transfers of hazardous waste for recovery above 5,000 tonnes.

National ID	Facility name	Quantity (tonnes)	NACE code
vl01747084000157	ISVAG	31,000	38.21
vl01817001000171	MARPOBEL	15,110	38.21
vl00606795000156	APPAREC	8,322	38.32
Bxl06	Bruxelles-Energie	8,280	38.21
vl00604627000242	VEOLIA ES TREATMENT	7,344	38.21
W149	WOS Hautrage	6,926	38.22
vl00553761000288	SITA REMEDIATION	6,780	38.21
W158	RECYFUEL S.A.	5,934	38.22

The screening of the detailed facility data does not provide clear reasons for the differences between both datasets.

CYPRUS

Hazardous waste, recovery, NACE 38: A single company (National ID 73, ECOFUEL (CYPRUS) Ltd) reported 27 tonnes which does not correspond with the 0 tonnes in the transboundary shipment database.

CZECH REPUBLIC

Hazardous waste, recovery: A single company (National ID CZ18844419, PRAKTIK system s.r.o.) reported 41 tonnes which does not correspond with the 0 tonnes in the transboundary shipment database.

DENMARK

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 262% compared to EWL data): A single company (National ID 2878, I/S Amagerforbrænding) reported 22,100 tonnes of HWOC and covers 73% of the transboundary hazardous waste destined for recovery.

Hazardous waste, disposal (E-PRTR data cover 109% compared to EWL data): 22 facilities report transfers of hazardous waste for disposal. The largest facility (National ID 6458, I/S Vestforbrænding) covers 25% of the waste.

ESTONIA

Hazardous waste, disposal, NACE 38: No data was registered in the EWL dataset for main group 19. However 265 tonnes was reported for disposal to the E-PRTR database. Three 3 facilities reported: National ID EE147259, EcoPro AS, Vaivara ohtlike jäätmete käitluskeskus: 104 tonnes / NationalID EE038710, Ragn-Sells AS, Betooni põik 8 OJ vaheladu: 139.77 tonnes / National ID EE03876, Kuusakoski AS, Tallinna osakond: 21.1 tonnes.

Hazardous waste, recovery, NACE 38: No data was registered in the EWL dataset for main group 19. However 563 tonnes was reported for recovery to the E-PRTR database (6 facilities).

SPAIN

Hazardous waste, disposal (E-PRTR data cover 416% compared to EWL data): A single company (National ID 1606, ACERINOX, S.A.) reported 21,200 tonnes of HWOC on NACE code 24.10 which causes the big difference with the data on transboundary shipment of waste (6,808 tonnes).

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 5,316% compared to EWL data): A single company (National ID 2999, VALLS QUIMICA, S.A.) reported 1,010 tonnes of HWOC on NACE code 38 which causes the big difference.

FRANCE

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 1685% compared to EWL data): The shipment of waste database only contains information on 908 tonnes of hazardous waste exported for disposal. The E-PRTR dataset contains 11 facilities with transfers for disposal. The seven facilities with transfers above 500 tonnes are listed below.

National ID	Facility name	Quantity (tonnes)	NACE code
067.00536	PROTIRES	6,414	38.21
061.02002	Usine d'incinération d'ordures ménagères	3,040	38.21
063.01051	APROCHIM	2,014	38.22
072.05805	UIOM DE PAILLE	1,210	38.21
061.04655	Centre de valorisation des déchets des Vallées du Mont Blanc	930	38.21
061.03617	LABO SERVICES Centre de GIVORS	778.8	38.12
058.01260	Usine d'incinération des ordures ménagères	672	38.11

GREECE

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 1,392% compared to EWL data):: E-PRTR includes 2 facilities reporting transboundary movements of hazardous waste for disposal. One facility (National ID ELA300980, POLYEKO S.A. – ASPROPYRGOS PLANT) reported 1,357 tonnes of HWOC on NACE code 38 which causes the big difference. Only 106 tonnes are listed in the transboundary shipment of waste database.

Hazardous waste, recovery, NACE 38 : 2 companies National ID EL5402019, "POLYEKO S.A. – SINDOS PLANT", and NationalID ELA300980, "POLYEKO S.A. – ASPROPYRGOS PLANT" reported 79 and 253 tonnes respectively. No data were registered in the transboundary shipment database.

HUNGARY

Hazardous waste, disposal, NACE 38: The data in E-PRTR cover one facility (National ID 100391724, SARPI Dorog Kft.-Hulladékégető) which reported 4,290 tonnes of HWOC on NACE code 38. No hazardous waste exports for disposal are listed in the transboundary shipment of waste database.

Hazardous waste, recovery: Six companies report transfer of hazardous waste for recovery (in total 1,106 tonnes). No hazardous waste export for recovery is included in the transboundary shipment database.

IRELAND

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 154% compared to EWL data):: Seven facilities are included in E-PRTR of which 2 facilities NationalID: W0036, Tolka Quay Road and NationalID: W0050, Veolia Environmental Services Technical Solutions Ltd, reported 16,400 and 13,600 tonnes respectively. 19,924 tonnes are included in the transboundary shipment database.

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 3,827% compared to EWL data): 17 facilities are included in the E-PRTR database.

The 7 facilities with transfers of hazardous waste for recovery in quantities above 1,000 tonnes are listed in the table below.

National ID	Facility name	Quantity (tonnes)	NACE code
W0192	Rilta Environmental Limited	86,300	38.32
W0050	Veolia Environmental Services Technical Solutions Ltd	37,600	38.32
W0036	Tolka Quay Road	11,600	38.21
W0185	Cedar Resource Management Limited	2,910	38.32
W0184	ENVA Ireland Ltd	2,660	38.32
W0233	Immark Ireland Ltd	1,990	38.32
W0041	Enva Ireland Ltd Trading As Enva	1,380	38.21

LITHUANIA

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 9,325% compared to EWL data):: 2 facilities are included in E-PRTR: National ID 000000102, UAB "EMP recycling" and National ID 000000110, UAB "Kuusakoski". They report 728 and 1,510 tonnes respectively. This is a lot higher than the 294 tonnes registered in the transboundary shipment database.

LATVIA

Hazardous waste, recovery, NACE 38: A single facility (National ID 52963, 'RENETA' SIA) reported 6,500 tonnes of HWOC on NACE code 38 which does not correspond with the 0 tonnes included in the transboundary shipment database.

MALTA

Hazardous waste, disposal (E-PRTR data cover 188% compared to EWL data): A single company (National ID API2, AMINO CHEMICALS LTD) reported 445 tonnes of HWOC. 249 tonnes are listed in the transboundary shipment of waste database.

POLAND

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 237% compared to EWL data): One facility is included in the E-PRTR database (National ID 11G000300, Port Service Sp. z o.o.). It reported 161 tonnes of HWOC on NACE code 38 which causes the big difference. 68 tonnes are listed in the transboundary shipment of waste database.

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 16,445% compared to EWL data): There is only 40 tonnes registered in the transboundary shipment database. Hazardous waste transfers for recovery are reported by 3 facilities (see table below).

National ID	Facility name	Quantity (tonnes)	NACE code
11G002480	Oiler Sp. Z o.o.	4,090	38.22
15P002694	Stena Sp. z o. o. Oddział w Swarzędzu	1,660	38.32
04F001578	Stena Sp. z o. o., Oddział w Swarzędzu, Obiekt Wschowa	828	38.32

PORTUGAL

Hazardous waste, disposal, NACE 38 (E-PRTR data cover 210% compared to EWL data): A single company (National ID 100003813, Exide Technologies Recycling II lda) reported 18,800 tonnes of HWOC on NACE code 38. Other 8 companies reported 19,558 tonnes. In the transboundary shipment of waste database 18,244 tonnes are included.

Hazardous waste, recovery, NACE 38 (E-PRTR data cover 949% compared to EWL data): 2 facilities are included in the E-PRTR dataset (National ID 100005352, Correia & Correia, Lda and National ID 100004829, Carmona, Soc. de Limpezas e Tratamento de Combustíveis, S.A.) which reported 2,986 and

6,169 tonnes respectively. The total waste export for recovery in the transboundary shipment database is 965 tonnes.

SLOVAKIA

Hazardous waste, disposal: In E-PRTR, 3 facilities have reported transboundary transfers of hazardous waste for recovery. The total waste quantity is 1,406 tonnes. This does not correspond with the 0 tonnes included in the transboundary shipment database.

National ID	Facility name	Quantity (tonnes)	NACE code
34325201	TAURIS DANUBIUS	1,000	10.11
37113206	Hydinár a.s.	390	10.12
57122811	Agrocass Plus s.r.o. - Hydinárska farma Zemplínska Teplica	16.2	01.47

UNITED KINGDOM

Hazardous waste, disposal: In E-PRTR, 3 facilities have reported transboundary transfers of hazardous waste for disposal. The total waste quantity is 95.9 tonnes. This does not correspond with the 0 tonnes included in the transboundary shipment database.

National ID	Facility name	Quantity (tonnes)	NACE code
EW_EA-764	Contract Chemicals (Knowsley)	72	20.14
EW_EA-1837	Rail Works	23.6	25.99
EW_EA-2673	Thales Optronics (Taunton) Ltd	0.295	25.11

3.4. Conclusions

The main findings of the comparison between the data on transboundary movements of waste and the E-PRTR waste transfer data are the following:

- Looking at an aggregated level for the total amounts included in the E-PRTR reporting on transboundary shipment of hazardous waste, it seems that the coverage rate compared to the reporting to the ETC/SCP based on the European Waste List code is quite good both for waste sent for all treatments (73%) and recovery (97%) and reasonable for waste for disposal (34%).
- Looking at the total amounts for transboundary shipped hazardous waste country by country the E-PRTR rate is however very fluctuating. The rate is much over 100% for some countries and very low for some countries (< 10%).
- The comparison of NACE category 38 (waste management) with the main group 19 included in the European Waste List indicates at country level huge differences.

Potential reasons for differences in reported quantities between the two datasets are:

- Issues concerning the comparability of the datasets
  - Mapping between NACE category 38 (waste management) in E-PRTR with the main group 19 included in the European Waste List for the data on transboundary movements
  - Transfer thresholds on facility level under the E-PRTR Regulation

- Issues related to the quality of the reporting
  - Wrong attribution of NACE code to a facility in the E-PRTR reporting (main code is E-PRTR Activity code)
  - Under reporting due to facilities which are not included in the E-PRTR dataset but are actually covered by the E-PRTR Regulation
  - Incorrect reporting of the waste quantities on facility level under E-PRTR (mostly over reporting due to the use of the wrong unit for reporting)
  - Confidentiality claims in E-PRTR concerning transboundary movements which result in unknown quantities of transfers which are not included in the E-PRTR dataset
  - incomplete coverage of the dataset on transboundary movements of waste. The data has been gap-filled and is therefore incomplete for a certain number of countries.
  - Incorrect reporting of the waste quantities in the reporting to the ETC/SCP on the transboundary movements of waste.

Conclusion:
Each country for which there seems to be an inconsistency between the total waste amounts reported to E-PRTR and to Eurostat (very high or very low ratio), should evaluate the waste data reported under both reporting schemes in order to identify whether the reported data are correct and complete.

E. Lessons learned/ Next Steps

1. Lessons learned

The increase of nearly 50% in the number of facilities between EPER 2004 and E-PRTR 2007 indicates that the enlarged scope of E-PRTR has resulted in a wider coverage of key environmental information related to point sources in Europe.

30 countries submitted E-PRTR data in 2009 for the reporting year 2007. The total number of release/transfer reports reported under E-PRTR for the media air, water and transfer in water amounted to 37,811 reports. In addition, 517 release reports were reported to soil under E-PRTR 2007. Releases to soil were not covered under EPER 2004. The number of E-PRTR release/transfer reports for the EU 25 plus Norway for the media air, water and transfer in water increased to 36,726 compared to 27,074 release/transfer reports under EPER 2004. This is an increase of about 36%. Reasons for this increase are that additional pollutants and activities are included under E-PRTR and that some countries possibly submitted more complete data.

The total quantity of waste reported under E-PRTR by all countries was about 419 million tones per year. Hazardous waste within country amounted to about 51.5 million tonnes per year (12% of total) and hazardous waste outside country to about 3.3 million tonnes per year (1% of total). The quantity of non-hazardous waste transfers accounted for 364 million tonnes per year (87% of total).

Often a small number of facilities make a large overall contribution to the total release/transfer of a pollutant or waste in Europe. For instance, just five large combustion plants were collectively responsible for more than 20% of all E-PRTR SO_2 emissions to air in 2007. SO_2 contributes to both environmental acidification and the formation of health-damaging particulate matter. Another example shows that 6% of CO_2 and almost 30% of N_2O E-PRTR emissions is produced by five largest plants. CO_2 and N_2O are key greenhouse gases responsible for global warming. Also top five largest sources of different heavy metals contribute to total E-PRTR emissions between 19-33%.

A number of pollutants were reported only by one facility or only by one country in Europe. Such findings have to be further investigated by Parties while this might indicate that a) E-PRTR thresholds are too high, b) reporting in other countries is not complete c) there are errors in reported data (e.g. wrong units) and/or d) emissions are not reported under the correct activity and/or media.

The Stage 1 review revealed a number of data anomalies that were communicated to E-PRTR countries so that they could improve their submission until the resubmission deadline in fall 2009. The stage 2 review highlighted potential inconsistencies in reporting under different obligations, which have to be checked by countries. Generally speaking, the EEA and the ETC/ACC received the feedback that E-PRTR countries considered the 2009 review provided them with useful information.

Some data has not been imported in the E-PRTR register due to technical issues related to the data format, confidentiality claims or delays in data collection, validation and compilation[39]. This has an effect on the completeness of the E-PRTR 2007 dataset and thus influences the results of the review. These technical problems are expected to be mostly solved for the submission of the 2008 dataset during 2010 reporting round.

2. Next steps

The stage 1 and 2 review of E-PRTR data is planned also for upcoming years. However, the way the results will be presented might change in the future. Suggestions for improvements for the review have been collected and will be implemented as far as possible for the 2010 review of E-PRTR data from the reporting year 2008. Concerning the timeline the E-PRTR review 2010 will have to be carried out earlier in the year because in 2010 the deadline for E-PRTR countries to submit their national E-PRTR data to the European Commission will already be 31 March 2010. By 30 April 2010 the data from 2008 will already have to be published on E-PRTR according to Article 7 of the E-PRTR Regulation.

[39] For those data, reporting countries have provided a list of facility names, which can be found at: http://prtr.ec.europa.eu/docs/Errors%20and%20emissions%20disclaimer_final23%2011%202009.pdf

Units and Abbreviations

kg ..... 1 kilogram = 10^3 g (gram)
t ..... 1 tonne (metric) = 1 megagram (Mg) = 10^6 g
Mg ..... 1 megagram = 10^6 g = 1 tonne (t)
Gg ..... 1 gigagram = 10^9 g = 1 kilotonne (kt)
Tg ..... 1 teragram = 10^{12} g = 1 megatonne (Mt)
TJ ..... 1 terajoule

As ..... arsenic
Cd ..... cadmium
CDR ..... central data repository of EEA's Eionet Reportnet
CEIP ..... EMEP Centre on Emission Inventories and Projections
CH_4 ..... methane
CLRTAP ..... LRTAP Convention
CO ..... carbon monoxide
CO_2 ..... carbon dioxide
Cr ..... chromium
CRF ..... UNFCCC common reporting format for greenhouse gases
Cu ..... copper
DDT dichlorodiphenyltrichloroethane
EEA ..... European Environment Agency
EEA ..... European Economic Area
Eionet European Environment Information and Observation Network
EPER European Pollutant Emission Register
EMEP ..... Co-operative programme for monitoring and evaluation of the long-range transmissions of air pollutants in Europe
E-PRTR ..... European Pollutant Release and Transfer Register
ETC/ACC ..... European Topic Centre on Air and Climate Change
EU ..... European Union
EWL ..... European Waste List
GHG greenhouse gas
HCB hexachloro-benzene
HCFCs hydrochlorofluorocarbons
HCH 1,2,3,4,5,6-hexachlorocyclohexane
HFCs ..... hydrofluorocarbons
HW ..... hazardous waste
HWIC ..... hazardous waste (transferred) inside the country
HWOC ..... hazardous waste (transferred) outside the country (transboundary waste movement)
Hg ..... mercury
HMs ..... heavy metals
KCA ..... key category analysis
LRTAP Convention ..... UNECE Convention on Long-range Transboundary Air Pollution
N_2O ..... nitrous oxide

NACE ..... Nomenclature statistique des activités économiques dans la Communauté européenne - Nomenclature of economic activities
NECD ..... National Emission Ceilings Directive (2001/81/EC)
NFR ..... UNECE nomenclature for reporting of air pollutants
NH_3 ..... ammonia
NHW ..... non hazardous waste
Ni ..... nickel
NMVOCs ..... non-methane volatile organic compounds
No ..... number
NO_2 ..... nitrogen dioxide
NO_x ..... nitrogen oxides
NP nonylphenol
NPEs nonylphenol ethoxylates
PAH polycyclic aromatic hydrocarbons
Pb ..... lead
PCB polychlorinated biphenyl
PCDD polychlorinated dibenzodioxins (PCDDs) - dioxines
PCDF polychlorinated dibenzofurans (PCDF) - furans
PCP pentachlorophenol
PFCs ..... perfluorocarbons
PM ..... particulate matter
PM_{10} ..... particles measuring 10 µm or less
$PM_{2.5}$ ..... particles measuring 2.5 µm or less
POPs ..... persistent organic pollutants
PRT ..... Pollutant Release and Transfer (release into air, water, land and transfer in water)
PR ..... pollutant release
PT ..... polutant transfer
Se ..... selenium
SF_6 ..... sulphur hexafluoride
SO_2 ..... sulphur dioxide
SO_x ..... sulphur oxides
SoE ..... State of the Environment
TOC total organic carbon
TSP ..... total suspended particles
UNECE ..... United Nations Economic Commission for Europe
UNFCCC ..... United Nations Framework Convention on Climate Change
UWWTD ..... Urban Waste Water Treatment Directive
UWWTP ..... Urban Waste Water Treatment Plant
VOCs ..... volatile organic compounds
WFD ..... Water Framework Directive
WT ..... waste transfer
w/o ..... without
Zn ..... zinc
..... number of

APPENDIX I – Pollutants* included in E-PRTR

As published 4.2.2006 in *Official Journal of the European Union.*

No	CAS number	Pollutant (1)	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
1	74-82-8	Methane (CH_4)	100 000	— (2)	—
2	630-08-0	Carbon monoxide (CO)	500 000	—	—
3	124-38-9	Carbon dioxide (CO_2)	100 million	—	—
4		Hydro-fluorocarbons (HFCs) (3)	100	—	—
5	10024-97-2	Nitrous oxide (N_2O)	10 000	—	—
6	7664-41-7	Ammonia (NH_3)	10 000	—	—
7		Non-methane volatile organic compounds (NMVOC)	100 000	—	—
8		Nitrogen oxides (NO_x/NO_2)	100 000	—	—
9		Perfluorocarbons (PFCs) (4)	100	—	—
10	2551-62-4	Sulphur hexafluoride (SF_6)	50	—	—
11		Sulphur oxides (SO_x/SO_2)	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 (as As) (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
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

(*) Releases of pollutants falling into several categories of pollutants shall be reported for each of these categories.

No	CAS number	Pollutant (1)	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
29	143-50-0	Chlordecone	1	1	1
30	470-90-6	Chlorfenvinphos	—	1	1
31	85535-84-8	Chloro-alkanes, C_{10}-C_{13}	—	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	—
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	Trichloroethylene	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

No	CAS number	Pollutant (1)	Threshold for releases (column 1)		
			to air (column 1a) kg/year	to water (column 1b) kg/year	to land (column 1c) kg/year
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	Isoproturon	–	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)
79		Chlorides (as total Cl)	–	2 million	2 million
80		Chlorine and inorganic com- pounds (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 (PM_{10})	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 Par- liament 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)fluo- ranthene (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).*

APPENDIX II - List of E-PRTR ANNEX I Activities

Code	Description
1	**Energy sector**
1.(a)	Mineral oil and gas refineries
1.(b)	Installations for gasification and liquefaction
1.(c)	Thermal power stations and other combustion installations
1.(d)	Coke ovens
1.(e)	Coal rolling mills
1.(f)	Installations for the manufacture of coal products and solid smokeless fuel
2	**Production and processing of metals**
2.(a)	Metal ore (including sulphide ore) roasting or sintering installations
2.(b)	Installations for the production of pig iron or steel (primary or secondary melting) including continuous casting
2.(c)	Installations for the processing of ferrous metals
2.(c).(i)	- Hot-rolling mills
2.(c).(ii)	- Smitheries with hammers
2.(c).(iii)	- Application of protective fused metal coats
2.(d)	Ferrous metal foundries
2.(e)	Installations:
2.(e).(i)	- For the production of non-ferrous crude metals from ore, concentrates or secondary raw materials by metallurgical, chemical or electrolytic processes
2.(e).(ii)	- For the smelting, including the alloying, of non-ferrous metals, including recovered products (refining, foundry casting, etc.)
2.(f)	Installations for surface treatment of metals and plastic materials using an electrolytic or chemical process
3	**Mineral industry**
3.(a)	Underground mining and related operations
3.(b)	Opencast mining and quarrying
3.(c)	Installations for the production of:
3.(c).(i)	- Cement clinker in rotary kilns
3.(c).(ii)	- Lime in rotary kilns
3.(c).(iii)	- Cement clinker or lime in other furnaces
3.(d)	Installations for the production of asbestos and the manufacture of asbestos-based products
3.(e)	Installations for the manufacture of glass, including glass fibre
3.(f)	Installations for melting mineral substances, including the production of mineral fibres
3.(g)	Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain
4	**Chemical industry**
4.(a)	Chemical installations for the production on an industrial scale of basic organic chemicals, such as:
4.(a).(i)	- Simple hydrocarbons (linear or cyclic, saturated or unsaturated, aliphatic or aromatic)
4.(a).(ii)	- Oxygen-containing hydrocarbons
4.(a).(iii)	- Sulphurous hydrocarbons
4.(a).(iv)	- Nitrogenous hydrocarbons
4.(a).(ix)	- Phosphorus-containing hydrocarbons

Code	Description
4.(a).(v)	- Halogenic hydrocarbons
4.(a).(vi)	- Organometallic compounds
4.(a).(vii)	- Basic plastic materials (polymers, synthetic fibres and cellulose-based fibres)
4.(a).(viii)	- Synthetic rubbers
4.(a).(x)	- Dyes and pigments
4.(a).(xi)	- Surface-active agents and surfactants
4.(b)	Chemical installations for the production on an industrial scale of basic inorganic chemicals, such as:
4.(b).(i)	- Gases
4.(b).(ii)	- Acids
4.(b).(iii)	- Bases
4.(b).(iv)	- Salts
4.(b).(v)	- Non-metals, metal oxides or other inorganic compounds
4.(c)	Chemical installations for the production on an industrial scale of phosphorous-, nitrogen- or potassium-based fertilisers (simple or compound fertilisers)
4.(d)	Chemical installations for the production on an industrial scale of basic plant health products and of biocides
4.(e)	Installations using a chemical or biological process for the production on an industrial scale of basic pharmaceutical products
4.(f)	Installations for the production on an industrial scale of explosives and pyrotechnic products
5	**Waste and wastewater management**
5.(a)	Installations for the recovery or disposal of hazardous waste
5.(b)	Installations for the incineration of non-hazardous waste in the scope of Directive 2000/76/EC of the European Parliament and of the Council of 4 December 2000 on the incineration of waste
5.(c)	Installations for the disposal of non-hazardous waste
5.(d)	Landfills (see note in Guidance Document)
5.(e)	Installations for the disposal or recycling of animal carcasses and animal waste
5.(f)	Urban waste-water treatment plants
5.(g)	Independently operated industrial waste-water treatment plants which serve one or more activities of this annex
6	**Paper and wood production and processing**
6.(a)	Industrial plants for the production of pulp from timber or similar fibrous materials
6.(b)	Industrial plants for the production of paper and board and other primary wood products
6.(c)	Industrial plants for the preservation of wood and wood products with chemicals
7	Intensive livestock production and aquaculture
7.(a)	Installations for the intensive rearing of poultry or pigs
7.(a).(i)	- With 40 000 places for poultry
7.(a).(ii)	- With 2 000 places for production pigs (over 30kg)
7.(a).(iii)	- With 750 places for sows
7.(b)	Intensive aquaculture
8	**Animal and vegetable products from the food and beverage sector**
8.(a)	Slaughterhouses
8.(b)	Treatment and processing intended for the production of food and beverage products from:
8.(b).(i)	- Animal raw materials (other than milk)
8.(b).(ii)	- Vegetable raw materials
8.(c)	Treatment and processing of milk

Code	Description
9	**Other activities**
9.(a)	Plants for the pre-treatment (operations such as washing, bleaching, mercerisation) or dyeing of fibres or textiles
9.(b)	Plants for the tanning of hides and skins
9.(c)	Installations for the surface treatment of substances, objects or products using organic solvents, in particular for dressing, printing, coating, degreasing, waterproofing, sizing, painting, cleaning or impregnating
9.(d)	Installations for the production of carbon (hard-burnt coal) or electro-graphite by means of incineration or graphitisation
9.(e)	Installations for the building of, and painting or removal of paint from ships

APPENDIX III - Number of facilities per activity and country

Annex I Activity		Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Malta	Netherlands	Portugal	Spain	Sweden	United Kingdom	Iceland	Liechtenstein	Norway
1	1.(a)	1	5	5	2	16	20	5	1	11			5	2	9	3	33			5
	1.(b)			1		3										1	25			
	1.(c)	16	32	28	68	130	207	26	23	127	1	2	46	17	131	51	239			
	1.(d)					2	4			1					2					2
	1.(e)					1	2										1			
	1.(f)						5									1				
2	2.(a)		6		1	4	1						3			3	2			
	2.(b)		11	2	5	34	35	5		37	4		2	2	28	10	7			1
	2.(c)	3	7	5	4	29	122	4		51	6		5	4	34	9	55			
	2.(d)	4	6	6	9	47	142		2	31			10	8	28	8	25			
	2.(e)	6	8	7	8	79	204	13	2	78	2		15	12	56	8	81	4		24
	2.(f)	8	29	30	37	475	435	3	9	161	1		38	47	202	53	114			2
3	3.(a)				6	3	33	3	3	32				3	23	5	17			1
	3.(b)		10	2		46	16	4	21	1				3	30	1	60			1
	3.(c)	7	21	2	6	45	55	9	5	29	1		1	10	53	7	27			3
	3.(e)	2	11	4	4	46	59	1	2	36	2		8	8	44	3	25			2
	3.(f)		2		6	7	6	1		5			3	3	1	2	2	1		2
	3.(g)	1	9	14	3	30	39	6	2	86			15	25	223	2	48			2
4	4.(a)	14	78	35	31	245	329	9	8	83	1		76	18	131	34	213			9
	4.(b)	5	14		12	48	73	1	2	22			19	8	47	8	97			5
	4.(c)		3		2		4	1		2			4	2	14	1	3			2
	4.(d)	1	3	1		13	8			4			3		10		11			
	4.(e)	3	14	13	5	38	27		25	62		2	5	2	49	9	32			2
	4.(f)		1		3	12	8			2				1	8	2	5			1
5	5.(a)	11	290	13	15	145	580	3	16	83	1		35	19	76	11	194			12
	5.(b)	6	10	24	1	128	73			27	1		10	1	10	13	120			4
	5.(c)	6	1	4	22	18	152	1	34	62		2	35	2	11		139			
	5.(d)	17	14	52	57	136	221	7	37	76	2		27	42	116	34	255	1		8
	5.(e)	1	2	6	3	5	19		4	6			4	4	15		17			3
	5.(f)	7	13	23	17	91	206	7	5	33	1		43	18	66	6	27			7
	5.(g)	3	3			31	4			1					1		1			
6	6.(a)	1	3	3	16	32	2			6			1	5	9	34	8			10
	6.(b)	8	8		34	52	151	6	3	69	1		19	17	63	16	50			2
	6.(c)		2	4	3	23	6						1	1	2					
7	7.(a)		84	150	85	754	344	5	58	375			43	168	970	49	446	1		
	7.(b)											4			2		91	1		257
8	8.(a)	3	9	17	8	51	64		19	3			10	12	47	7	78			4
	8.(b)	4	30	18	7	139	94	8	4	38			40	31	103	7	191		1	14
	8.(c)	2	9	16	10	94	65	3	11	15			26	9	26	10	52			4
9	9.(a)		14	1	1	27	34	2		18			3	20	11		25			
	9.(b)			1		2	1			2			1		1	1	3			
	9.(c)	8	23	9	19	148	215	3	6	55			14	21	75	16	89			
	9.(d)	1		1		7	7			1			2		2	1	4			
	9.(e)			4	3	12	23	4				1	14	2	13		1			
Total		**149**	**785**	**501**	**513**	**3248**	**4095**	**140**	**302**	**1731**	**24**	**11**	**586**	**547**	**2742**	**426**	**2913**	**8**	**1**	**389**

Annex I Activity		Bulgaria	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
1	1.(a)	1		4	2	3		1	11	8	1		118	31	149	154
	1.(b)								2				30	2	32	32
	1.(c)	24	3	64	10	34	8	11	231	38	26	4	1142	455	1597	1597
	1.(d)			3		1			8				9	12	21	23
	1.(e)								1				4	1	5	5
	1.(f)								1				6	1	7	7
2	2.(a)								2	1	1		20	4	24	24
	2.(b)	1		6		3	1		10	8	2	3	182	34	216	217
	2.(c)	3		8	1	5		1	37	11	1	1	338	68	406	406
	2.(d)			21		1			48	4	5	10	326	89	415	415
	2.(e)	6	1	17	2	11	1		50	12	4	10	579	114	693	721
	2.(f)	5	1	40	3	32			105	10	15	21	1642	232	1874	1876
3	3.(a)	1		9	2	9			214	7		1	128	243	371	372
	3.(b)	1	5	7	7	3			76	4	2		194	105	299	300
	3.(c)	8	2	7	1	6	2	1	17	12	11	5	278	72	350	353
	3.(e)	4		19	1	10	1	1	35	4	4	4	255	83	338	340
	3.(f)			4		2		1	4		1	2	38	14	52	55
	3.(g)	1		9	1	17		2	255	6	7	5	503	303	806	808
4	4.(a)			32	2	19	2	1	89	11	12	11	1305	179	1484	1493
	4.(b)	1		5		6			22	8	1	2	356	45	401	406
	4.(c)	2		1	1	3		2	9	5			36	23	59	61
	4.(d)					1			5				54	6	60	60
	4.(e)	2		10		13	2		19	4	3	3	284	58	342	344
	4.(f)			4	1	1			5				42	11	53	54
5	5.(a)	1	1	20	21	17	1	3	44	1	5	2	1492	116	1608	1620
	5.(b)			3		1			1		1		424	6	430	434
	5.(c)	2		2		1	1		11	1	1		487	21	508	508
	5.(d)	8	1	6	9	13		7	454	44	10	20	1093	572	1665	1674
	5.(e)		1	4	1	8	2		37	2	1	1	86	57	143	146
	5.(f)		1	18	4	24	3	5	71	17	5	4	563	152	715	722
	5.(g)			3					11	3			44	17	61	61
6	6.(a)	1		1	2	1			4	1	1		120	11	131	141
	6.(b)	4		17	1	9		2	43	10	4	6	497	96	593	595
	6.(c)								8				42	8	50	50
7	7.(a)	27	58	231	8	354	11	50	540	195	54	20	3531	1548	5079	5080
	7.(b)												93	4	97	355
8	8.(a)		2	7	2	10			60	5	4	5	328	95	423	427
	8.(b)	1		16		20		3	83	8	8	4	714	143	857	872
	8.(c)			2		5	1	2	44		1	2	348	57	405	409
9	9.(a)	2		8	1	1			4	4		1	156	21	177	177
	9.(b)										2		12	2	14	14
	9.(c)			9	5	3		4	38	9	9	5	701	82	783	783
	9.(d)								3	1	1	1	26	6	32	32
	9.(e)	1							8	4			76	14	90	90
Total		**107**	**76**	**617**	**88**	**647**	**36**	**97**	**2720**	**458**	**203**	**153**	**18702**	**5213**	**23915**	**24313**

Legend

< 20

< 50

APPENDIX IV – E-PRTR 2007 Number of releases to air per pollutant and Country

Pollutant	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom	Iceland	Norway
1,1,1-trichloroethane					1							1			10		1
1,1,2,2-tetrachloroethane					1										4		
1,2,3,4,5,6-hexachloro-cyclohexane (HCH)											1						
1,2-dichloroethane (DCE)	1	4			8	4			1		2	1		1	3		1
Ammonia (NH_3)	6	105	154	94	789	413	9	59	396		58	185	992	81	453	1	6
Anthracene		2							1				1	1	3		
Arsenic and compounds (as As)		13	4	7	48	37	6	2	8	3	3	14	43	5	28		4
Benzene	1	16	2	3	44	57	5		15		17	9	35	6	39		
Cadmium and compounds (as Cd)		15		3	76	20	5	1	15	1	5	22	76	3	15		3
Carbon dioxide (CO_2)	29	60	25	64	234	345	38	11	123	5	80	32	192	87	250	3	28
Carbon monoxide (CO)	10	22	4	12	47	92	19	6	38	4	24	16	86	14	89		2
Chlorides (as total Cl)*																	2
Chlorine and inorganic compounds (as HCl)		25	9	25	50	82	5	1	18		3	14	64	10	43		2
Chlorofluorocarbons (CFCs)		4			4	14	1	6	1		28		1	2	235		
Chromium and compounds (as Cr)		15		3	47	25	6	2	12		4	9	41	4	26		2
Copper and compounds (as Cu)		6		8	33	20	5	2	10		3	8	33	2	28		3
Di-(2-ethyl hexyl) phthalate (DEHP)		7				1							3	1	1		
Dichloromethane (DCM)		20		4	55	3	3	3	8		8	2	6		21		
Ethylene oxide					2						1		1		3		
Fluorides (as total F)*																	10
Fluorine and inorganic compounds (as HF)		18	16	10	27	35	11		6	1	11	9	122	6	36	2	2
Halons		2												1	5		
Hexabromobiphenyl													1		1		
Hexachlorobenzene (HCB)		3		1													
Hydrochlorofluorocarbons(HCFCs)	1	26	11		78	24	4	8	17		102	10	16	2	334		1
Hydrofluorocarbons (HFCs)		17		1	49	20		5	14		12		16	17	36		
Hydrogen cyanide (HCN)	1	11	2		5	10							11		8		
Lead and compounds (as Pb)		15		2	47	24	3	1	24		7	10	43	2	28		5
Mercury and compounds (as Hg)	6	19	10	11	67	103	14	1	9	3	13	12	64	5	44		5
Methane (CH_4)	20	21	21	43	169	203	11	67	100	2	42	42	167	15	367	1	3

Pollutant	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom	Iceland	Norway
Mirex									1								
Naphthalene		9		3	5	8			2	3	2	2	12	1	26		
Nickel and compounds (as Ni)		29	5	18	87	61	9	3	31		8	47	116	25	43		2
Nitrogen oxides (NO_x/NO_2)	23	105	50	103	285	409	41	24	186	7	76	63	342	67	326	1	26
Nitrous oxide (N_2O)	4	17	10	23	91	123	7	6	21		21	16	56	40	109		3
Non-methane volatile organic compounds (NMVOC)	6	73	7	27	220	95	9	1	58	3	32	26	115	36	148		12
Particulate matter (PM_{10})	3	16	9	35	23	69	35	9	19	1	11	31	152	22	68	3	22
PCDD + PCDF (dioxins + furans)		14		5	22	27	1	4	13	2	4	4	30	11	5		
Pentachlorophenol (PCP)															1		
Perfluorocarbons (PFCs)		2			5	5	1	1	2		2		4	1	9	1	
Phenols (as total C)*																	5
Polychlorinated biphenyls (PCBs)		11	1			2	1		7	3			2		16		
Polycyclic aromatic hydrocarbons (PAHs)	1	15	1	2	22	8	1		3	1	1	2	23	3	4	3	
Sulphur hexafluoride (SF_6)		1			4	6		1	6					1	6		
Sulphur oxides (SO_x/SO_2)	5	63	23	63	175	198	35	10	57	4	28	44	169	30	98	4	24
Tetrachloroethylene (PER)		2			14	1						2	2		5		
Tetrachloromethane (TCM)		4			3	2					3	1			2		
Total nitrogen*																	1
Total organic carbon (TOC) (as total C or COD/3)*																	9
Trichlorobenzenes (TCBs) (all isomers)		1			1							1			5		
Trichloroethylene		3		1	21						1	1	2	2	24		
Trichloromethane		2			13	1					1	5	3		10		
Vinyl chloride		2			10	9					3		4	1	6		2
Zinc and compounds (as Zn)	1	23	2	10	97	30	8	2	34	2	12	17	76	20	41		8
Air Total	**118**	**838**	**366**	**581**	**2979**	**2586**	**293**	**236**	**1256**	**45**	**629**	**658**	**3122**	**525**	**3062**	**19**	**194**

Pollutant	Bulgaria	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
1,1,1-trichloroethane													12	0	12	13
1,1,2,2-tetrachloroethane													5	0	5	5
1,2,3,4,5,6-hexachloro-cyclohexane (HCH)													1	0	1	1
1,2-dichloroethane (DCE)									2		1		25	3	28	29
Ammonia (NH_3)	33	58	233	7	355	4	53		104	194	38	22	3794	1101	4895	4902
Anthracene													8	0	8	8
Arsenic and compounds (as As)		4	24	4	1			2	19	2	8	2	221	66	287	291
Benzene	1		2		4	1	1		17	1	4	2	249	33	282	282
Cadmium and compounds (as Cd)	2	3	26	3	1		1	2	19	8	3	1	257	69	326	329
Carbon dioxide (CO_2)	30	5	72	9	31	2	4	2	134	62	24	6	1575	381	1956	1987
Carbon monoxide (CO)	9		16	3	8		5		65	16	16	7	483	145	628	630
Chlorides (as total Cl)*														0		2
Chlorine and inorganic compounds (as HCl)			38	3	8				76	2	5	4	349	136	485	487
Chlorofluorocarbons (CFCs)			1						1				296	2	298	298
Chromium and compounds (as Cr)	3	4	5	3					16	4	1	1	194	37	231	233
Copper and compounds (as Cu)		3	5	2	2				25	2	2	1	158	42	200	203
Di-(2-ethyl hexyl) phthalate (DEHP)			1		1	1			10				13	13	26	26
Dichloromethane (DCM)			4		3	2			4		1	1	133	15	148	148
Ethylene oxide									2		1		7	3	10	10
Fluorides (as total F)*														0		10
Fluorine and inorganic compounds (as HF)			19		1		1		16	2	3	4	308	46	354	358
Halons													8	0	8	8
Hexabromobiphenyl													2	0	2	2
Hexachlorobenzene (HCB)													4	0	4	4
Hydrochlorofluorocarbons(HCFCs)			3					1	41			1	633	46	679	680
Hydrofluorocarbons (HFCs)						1			6			1	187	8	195	195
Hydrogen cyanide (HCN)			3						9		1		48	13	61	61
Lead and compounds (as Pb)	5	2	20	5	1				21	5	2	2	206	63	269	274
Mercury and compounds (as Hg)		5	43	2	5				25	8	9	2	381	99	480	485
Methane (CH_4)	11	11	3	5			8	2	96	76	4	21	1290	237	1527	1531
Mirex													1	0	1	1

Pollutant	Bulgaria	Cyprus	Czech Republic	Estonia	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
Naphthalene			2						3		1	2	73	8	81	81
Nickel and compounds (as Ni)	2	4	14	3	2			2	21	5	2	1	482	56	538	540
Nitrogen oxides (NO_x/NO_2)	35	6	92	11	32	7	10	2	189	69	35	10	2107	498	2605	2632
Nitrous oxide (N_2O)	1	3	2		1	1	1		25	38	1	3	544	76	620	623
Non-methane volatile organic compounds (NMVOC)		2	15	5	1		3		31	18	9	8	856	92	948	960
Particulate matter (PM_{10})	8	5	26	8	2	7	2	3	144	36		3	503	244	747	772
PCDD + PCDF (dioxins + furans)	1	1	14	1	4				30	3	1	2	142	57	199	199
Pentachlorophenol (PCP)													1	0	1	1
Perfluorocarbons (PFCs)									1	1		1	32	3	35	36
Phenols (as total C)*														0		5
Polychlorinated biphenyls (PCBs)													43	0	43	43
Polycyclic aromatic hydrocarbons (PAHs)			8						35	2			87	45	132	135
Sulphur hexafluoride (SF_6)													25	0	25	25
Sulphur oxides (SO_x/SO_2)	19	5	77	9	12	3	8	2	223	38	20	6	1002	422	1424	1452
Tetrachloroethylene (PER)			4						4				26	8	34	34
Tetrachloromethane (TCM)			2										15	2	17	17
Total nitrogen*														0		1
Total organic carbon (TOC) (as total C or COD/3)*														0		9
Trichlorobenzenes (TCBs) (all isomers)													8	0	8	8
Trichloroethylene			1								1		55	2	57	57
Trichloromethane					1	1							35	2	37	37
Vinyl chloride			1		1				1	1	1		35	5	40	42
Zinc and compounds (as Zn)	1	4	8	4	2		1	2	44	7	3	3	375	79	454	462
Air Total	**161**	**125**	**784**	**87**	**479**	**30**	**98**	**20**	**1459**	**600**	**197**	**117**	**17294**	**4157**	**21451**	**21664**

Legend

< 3

< 6

Note: *Liechtenstein did not report any release reports to air and is thus not included in the table.*

**…no threshold for air included in Annex II of the E-PRTR Regulation for these pollutants*

APPENDIX V – E-PRTR 2007 Number of releases to water per pollutant and per country

Country	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom	Iceland	Norway
1,1,1-trichloroethane*																	1
1,2,3,4,5,6-hexachloro-cyclohexane (HCH)					3	1			2				1		2		
1,2-dichloroethane (DCE)		2			7	6			6		2	1	6		20		
Alachlor		1						1					1				
Aldrin									4				1				
Ammonia (NH_3)*																	1
Anthracene		1						1	1				2	1	22		
Arsenic and compounds (as As)	2	30	5	28	41	49	2	7	51	1	50	7	26	36	173		15
Asbestos															90		
Atrazine		1						4	2				3		3		
Benzene		1			3	1			2					1	67		
Benzo(g,h,i)perylene		2		1		1			1				1	1	8		
Brominated diphenylethers (PBDE)		1						5	1								
Cadmium and compounds (as Cd)	1	11		14	26	39	1	5	40		8	7	13	24	52		9
Chlorfenvinphos													1		1		
Chlorides (as total Cl)		28		11	30	100		4	21		38	12	40	8	84		1
Chlorine and inorganic compounds (as HCl)*																	2
Chloro-alkanes, C10-C13								4	2		1	1	2				
Chlorpyrifos		1							1				1				
Chromium and compounds (as Cr)	3	15	3	12	39	48	4	4	46		18	9	12	25	83		11
Copper and compounds (as Cu)	9	12	7	28	93	140	3	6	43	1	45	59	21	36	211		19
Cyanides (as total CN)	1	7		3	11	15		4	12		32	1	13	3	46		3
DDT								1	1				1				
Di-(2-ethyl hexyl) phthalate (DEHP)	1		5	8	13	11		5			7	1	9	2	15		6
Dichloromethane (DCM)		3		1	12	7		3	4		1	1	3		41		
Dieldrin								4	1				1				
Diuron	1				5	5		3				3	4		45		
Endosulphan						1			3				1		1		
Endrin									1				1				
Ethyl benzene		1			2										42		
Fluoranthene		2			5	2		1	2		1		4	2	11		
Fluorides (as total F)	3	24		8	32	41	1	6	25	1	40	5	27	9	127	1	5
Halogenated organic compounds (as AOX)	4	14		18	40	47	1				14	5	20	25	111		
Heptachlor													1				

Country	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom	Iceland	Norway
Hexabromobiphenyl															1		
Hexachlorobenzene (HCB)				1	1				4				2				
Hexachlorobutadiene (HCBD)					2				1				1				
Isodrin								3	4				1				
Isoproturon					2	1		1			3		2				
Lead and compounds (as Pb)	2	19	4	16	65	86	1	5	54	1	33	8	21	25	123		13
Lindane									1				3				
Mercury and compounds (as Hg)	2	13	5	10	29	78	3	5	49		8	4	30	18	48		5
Naphthalene					2			2				2	2	1	61		
Nickel and compounds (as Ni)	5	55	6	39	128	174	6	6	92	1	61	16	23	50	190		15
Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)	1		1	6	3	8		3	10			1	5	1	121		4
Octylphenols and Octylphenol ethoxylates		1		3		3			1			3	5		117		
Organotin compounds (as total Sn)						4			5								
PCDD + PCDF (dioxins + furans) (as Teq)		1		1	1	1		1			8		1		3		
Pentachlorobenzene									5				1				
Pentachlorophenol (PCP)		1				1		2	2			3	2		13		
Phenols (as total C)	3	11	1	9	53	7	4	6	49		6	4	28	9	101		4
Polychlorinated biphenyls (PCBs)					4			3	3			1			2		1
Polycyclic aromatic hydrocarbons (PAHs)		4			2	4		4	10		1		11	3	24		
Simazine					1			4	1				3		2		
Sulphur oxides (SO_x/SO_2)*																	3
Tetrachloroethylene (PER)		2			6	3		2	4				4		5		
Tetrachloromethane (TCM)		2		1	4	5		2	3			1	1		12		
Toluene		1			4	2			1				1		66		
Total nitrogen	6	20	14	38	106	176	7	6	49	1	62	19	52	33	218	3	274
Total organic carbon (TOC) (as total C or COD/3)	13	42	29	37	211	214	10	5	65	1	28	26	70	47	261	1	261
Total phosphorus	5	24	12	22	112	93	9	6	40	1	63	27	57	22	224	2	277
Tributyltin and compounds													2				
Trichlorobenzenes (TCBs) (all isomers)		1			2	3		1	3				1		1		
Trichloroethylene		2			5	3		1	4		1		2	2	2		
Trichloromethane	1	5		1	13	4		4	3		1		18	1	48		
Trifluralin									1				1		1		
Triphenyltin and compounds													1				
Vinyl chloride		2			5				1				1		1		1
Xylenes		1			2	1			1						59		
Zinc and compounds (as Zn)	8	47	5	47	161	215	5	9	71	3	72	52	50	51	221		21
Water Total	**71**	**411**	**97**	**363**	**1286**	**1600**	**57**	**149**	**809**	**11**	**604**	**279**	**618**	**436**	**3180**	**7**	**952**

Country	Bulgaria	Cyprus	Czech Republic	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
1,1,1-trichloroethane*													0		0
1,2,3,4,5,6-hexachloro-cyclohexane (HCH)								3				9	3	12	9
1,2-dichloroethane (DCE)			3	1				1	3	1		50	9	59	50
Alachlor												3	0	3	3
Aldrin								1				5	1	6	5
Ammonia (NH_3)*													0		0
Anthracene										1		28	1	29	28
Arsenic and compounds (as As)	3		10		1	1		31	1	2	3	508	52	560	508
Asbestos												90	0	90	90
Atrazine			1					1		1	1	13	4	17	13
Benzene								1				75	1	76	75
Benzo(g,h,i)perylene								1				15	1	16	15
Brominated diphenylethers (PBDE)												7	0	7	7
Cadmium and compounds (as Cd)	1		9	1	1	1		50	14	5	1	241	83	324	241
Chlorfenvinphos												2	0	2	2
Chlorides (as total Cl)			9	1		1		58	8	4	2	376	83	459	376
Chlorine and inorganic compounds (as HCl)*													0		0
Chloro-alkanes, C10-C13			1						1			10	2	12	10
Chlorpyrifos												3	0	3	3
Chromium and compounds (as Cr)	5		5	4	2	4		41	16	2	4	321	83	404	321
Copper and compounds (as Cu)	5	1	8	3	2	5	3	60	11	2	3	714	103	817	714
Cyanides (as total CN)			8	1				3	5	1		148	18	166	148
DDT												3	0	3	3
Di-(2-ethyl hexyl) phthalate (DEHP)			2						1	3	2	77	8	85	77
Dichloromethane (DCM)			4						2			76	6	82	76
Dieldrin								1				6	1	7	6
Diuron								1				66	1	67	66
Endosulphan												6	0	6	6
Endrin								1				2	1	3	2
Ethyl benzene												45	0	45	45
Fluoranthene												30	0	30	30
Fluorides (as total F)	1		10	2		1		17	1	3	3	349	38	387	349
Halogenated organic compounds (as AOX)			9	2				4		6	1	299	22	321	299
Heptachlor												1	0	1	1

Country	Bulgaria	Cyprus	Czech Republic	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
Hexabromobiphenyl												1	0	1	1
Hexachlorobenzene (HCB)								3				8	3	11	8
Hexachlorobutadiene (HCBD)								2				4	2	6	4
Isodrin								1				8	1	9	8
Isoproturon												9	0	9	9
Lead and compounds (as Pb)	3		5	4	2	1	1	61	22	1	3	463	103	566	463
Lindane								1	1			4	2	6	4
Mercury and compounds (as Hg)			17	6	1	2		44	6	7	3	302	86	388	302
Naphthalene												70	0	70	70
Nickel and compounds (as Ni)	5		11	5	1	5		80	16	4	4	852	131	983	852
Nonylphenol and Nonylphenol etho-xylates (NP/NPEs)										1	4	160	5	165	160
Octylphenols and Octylphenol ethoxylates											2	133	2	135	133
Organotin compounds (as total Sn)								1		1		9	2	11	9
PCDD + PCDF (dioxins + furans) (as Teq)								1				17	1	18	17
Pentachlorobenzene												6	0	6	6
Pentachlorophenol (PCP)								1		1		24	2	26	24
Phenols (as total C)	1	1	7	4	1			50	18	6	1	291	89	380	291
Polychlorinated biphenyls (PCBs)										1	1	13	2	15	13
Polycyclic aromatic hydrocarbons (PAHs)			1					2	1	4	2	63	10	73	63
Simazine												11	0	11	11
Sulphur oxides (SO_x/SO_2)*													0		0
Tetrachloroethylene (PER)			1					3	2	2		26	8	34	26
Tetrachloromethane (TCM)								5	3			31	8	39	31
Toluene								1				75	1	76	75
Total nitrogen	3		17	22	3	7	5	68	21	12	5	807	163	970	807
Total organic carbon (TOC) (as total C or COD/3)	7		16	29	3	1	4	45	17	12	7	1059	141	1200	1059
Total phosphorus	2		8	25	3	6	4	47	21	9	4	717	129	846	717
Tributyltin and compounds								1				2	1	3	2
Trichlorobenzenes (TCBs) (all isomers)			1					2				12	3	15	12
Trichloroethylene			1					1	2	2		22	6	28	22
Trichloromethane			1					3	4	1		99	9	108	99
Trifluralin												3	0	3	3
Triphenyltin and compounds								1				1	1	2	1
Vinyl chloride			1	1								10	2	12	10

Country	Bulgaria	Cyprus	Czech Republic	Hungary	Latvia	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
Xylenes								1				64	1	65	64
Zinc and compounds (as Zn)	5		16	4	4	5	2	95	23	6	7	1017	167	1184	1017
Water Total	**41**	**2**	**182**	**115**	**24**	**40**	**19**	**795**	**220**	**101**	**63**	**9971**	**1602**	**11573**	**12532**

Legend *Liechtenstein and Estonia did not report any release reports to water and is thus not included in the table.*

**…no threshold for water included in Annex II of the E-PRTR Regulation for these pollutants*

APPENDIX VI – E-PRTR 2007 Number of transfers in water per pollutant and per country

Pollutant	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom
1,2,3,4,5,6-hexachlorocyclohexane (HCH)						1			1		2				
1,2-dichloroethane (DCE)	1				2	4			2		1		1		2
Aldrin									1						
Anthracene		2							1		1				1
Arsenic and compounds (as As)	2	6		2	5	21		1	8		7	3	17	1	13
Benzene	1			1	2	3			2		3				7
Benzo(g,h,i)perylene									1						
Brominated diphenylethers (PBDE)						1							1		1
Cadmium and compounds (as Cd)		2		1	4	6		1	6			4	16		9
Chlorides (as total Cl)		1	3		6	28			4		9	1	5	2	5
Chloro-alkanes, C10-C13													3		
Chromium and compounds (as Cr)	1	4		1	6	17	1		14		3	9	19	1	15
Copper and compounds (as Cu)	1		3	3	10	43		1	7	1	9	7	20		32
Cyanides (as total CN)		1		1	3	15					1	3	5		8
DDT									1						
Di-(2-ethyl hexyl) phthalate (DEHP)			2		2							1	2		1
Dichloromethane (DCM)	1				9	6		4			1		4		4
Dieldrin															
Diuron					1										
Endosulphan									1						
Endrin															
Ethyl benzene	1				1	2			1		1				
Ethylene oxide						2					1				1
Fluoranthene						1			1		3		2		
Fluorides (as total F)	1	1		1	7	15		1	6		3	1	3		12
Halogenated organic compounds (as AOX)	2	1			9	29					1		5		2
Hexachlorobenzene (HCB)									1						
Hexachlorobutadiene (HCBD)									1						
Isodrin									1						
Lead and compounds (as Pb)	1	3	1	1	10	22		1	10		3	5	13		19
Lindane						1									
Mercury and compounds (as Hg)			1	1	10	12			4		3		11		11
Naphthalene					1	1							2		3

Pollutant	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxembourg	Netherlands	Portugal	Spain	Sweden	United Kingdom
Nickel and compounds (as Ni)	2	8	2	1	25	62		1	21		13	11	59	7	46
Nonylphenol and Nonylphenol ethoxylates (NP/NPEs)				1		1			3		1	1	1		7
Octylphenols and Octylphenol ethoxylates				1		1									2
Organotin compounds (as total Sn)				1					2				2		
PCDD + PCDF (dioxins + furans) (as Teq)	1				2	2						1			1
Pentachlorobenzene									1						
Pentachlorophenol (PCP)									2						3
Phenols (as total C)	2	6	1	4	22	40		2	17		9	14	38	3	25
Polychlorinated biphenyls (PCBs)					1				3						
Polycyclic aromatic hydrocarbons (PAHs)		3				4			1			8	5	1	2
Tetrachloroethylene (PER)					3										
Tetrachloromethane (TCM)					2	2			2						1
Toluene	2			1	4	12		1	2		3	1	1		9
Total nitrogen	3	3	13	11	23	71	1	2	18		15	6	19	3	24
Total organic carbon (TOC) (as total C or COD/3)	9	27	47	19	165	313	3	2	44		33	24	68	15	175
Total phosphorus	2	2	17	14	55	82		2	11		31	3	32	8	24
Tributyltin and compounds						1									
Trichlorobenzenes (TCBs) (all isomers)		1			1			1	1						1
Trichloroethylene											1		1		
Trichloromethane	1	1			3	2					1		1		4
Vinyl chloride						8			1		1	1	1		1
Xylenes	2			1	2	5			1		5				7
Zinc and compounds (as Zn)	1	5	1	3	21	56		1	12		13	8	42	5	43
Water Transfer Total	**37**	**77**	**91**	**69**	**417**	**892**	**5**	**21**	**216**	**1**	**178**	**112**	**399**	**46**	**521**

Pollutant	Bulgaria	Cyprus	Czech Republic	Estonia	Hungary	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
1,2,3,4,5,6-hexachlorocyclohexane (HCH)												4	0	4	0
1,2-dichloroethane (DCE)			2					2	1			13	5	18	5
Aldrin								1				1	1	2	1
Anthracene												5	0	5	0
Arsenic and compounds (as As)			2	1				7				86	10	96	10
Benzene	1		2					2				19	5	24	5
Benzo(g,h,i)perylene												1	0	1	0
Brominated diphenylethers (PBDE)												3	0	3	0
Cadmium and compounds (as Cd)	1		1	1				9	1			49	13	62	13
Chlorides (as total Cl)			3					20	1			64	24	88	24
Chloro-alkanes, C10-C13												3	0	3	0
Chromium and compounds (as Cr)	1		3	1				11		3	1	91	20	111	20
Copper and compounds (as Cu)	2		1	2				18	1		1	137	25	162	25
Cyanides (as total CN)			4		2			5				37	11	48	11
DDT												1	0	1	0
Di-(2-ethyl hexyl) phthalate (DEHP)								1				8	1	9	1
Dichloromethane (DCM)			4		1			1				29	6	35	6
Dieldrin								1					1	1	1
Diuron												1	0	1	0
Endosulphan												1	0	1	0
Endrin								1					1	1	1
Ethyl benzene			1					1				6	2	8	2
Ethylene oxide												4	0	4	0
Fluoranthene								2				7	2	9	2
Fluorides (as total F)			2					2	1			51	5	56	5
Halogenated organic compounds (as AOX)			3		1			4		1	1	49	10	59	10
Hexachlorobenzene (HCB)			1					1				1	2	3	2
Hexachlorobutadiene (HCBD)												1	0	1	0
Isodrin								1				1	1	2	1
Lead and compounds (as Pb)			4	1				18	1	1	1	89	26	115	26
Lindane												1	0	1	0
Mercury and compounds (as Hg)			4					11		2		53	17	70	17
Naphthalene			2					2				7	4	11	4
Nickel and compounds (as Ni)		2	3		1			28	2		2	258	38	296	38
Nonylphenol and Nonylphenol ethoxylates								2				15	2	17	2

Pollutant	Bulgaria	Cyprus	Czech Republic	Estonia	Hungary	Lithuania	Malta	Poland	Romania	Slovakia	Slovenia	EU 15	EU 12	EU 27	All countries
(NP/NPEs)															
Octylphenols and Octylphenol ethoxylates								1				4	1	5	1
Organotin compounds (as total Sn)												5	0	5	0
PCDD + PCDF (dioxins + furans) (as Teq)												7	0	7	0
Pentachlorobenzene												1	0	1	0
Pentachlorophenol (PCP)												5	0	5	0
Phenols (as total C)			9		1			28	2		1	183	41	224	41
Polychlorinated biphenyls (PCBs)												4	0	4	0
Polycyclic aromatic hydrocarbons (PAHs)			3					4				24	7	31	7
Tetrachloroethylene (PER)			2									3	2	5	2
Tetrachloromethane (TCM)			1					2				7	3	10	3
Toluene			1		1			2		1	1	36	6	42	6
Total nitrogen	1	1	9	4	1			15	2	1	4	212	38	250	38
Total organic carbon (TOC) (as total C or COD/3)		1	6		19		1	33	9	9	8	944	86	1030	86
Total phosphorus	1		8	3	5	2		26	3	1	4	283	53	336	53
Tributyltin and compounds												1	0	1	0
Trichlorobenzenes (TCBs) (all isomers)								1				5	1	6	1
Trichloroethylene								3				2	3	5	3
Trichloromethane			1					4				13	5	18	5
Vinyl chloride								1				13	1	14	1
Xylenes			1					2				23	3	26	3
Zinc and compounds (as Zn)	2		7	1	2			30	4	3	2	211	51	262	51
Water Transfer Total	**9**	**4**	**90**	**14**	**34**	**2**	**1**	**303**	**28**	**22**	**26**	**3082**	**533**	**3615**	**3615**

Legend

< 3

< 6

Note: *Liechtenstein did not report any transfer reports in water and is thus not included in the table.*

APPENDIX VII – Comparison tables on country level

In the following tables a colour scale has been used to give an overview of the conflicts between the E-PRTR data and the EUROSTAT data. Iceland and Liechtenstein did not report Eurostat data and are not included in the Tables. Yellow will be used if the E-PRTR data is 100-125% of the EUROSTAT data, orange for 125-200% and finally pink if the E-PRTR data is more than double the size of the EUROSTAT data.

Legend:

100-125% 125-200% >200%

	A = 01, 02 Agriculture, hunting and forestry											
	Hazardous waste					Non-hazardous waste			All waste			
Country	∑ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat
Austria	14,768	0	0	0	0	498,084	0	0	512,852	0	0
Belgium	5,458	15	0	15	0	354,335	0	0	359,793	15	0
Bulgaria	0	0	91	91	>	632,853	0	0	632,853	91	0
Cyprus	1,005	0	0	0	0	370,639	0	0	371,644	0	0
Czech Republic	5,287	5,440	0	5,440	103	309,878	38,560	12	315,165	44,000	14
Denmark	798	0	0	0	0	25,396	0	0	26,194	0	0
Estland	6,375	20	0	20	0	111,465	12,996	12	117,840	13,016	11
Finland	16	0	0	0	0	2,038,046	11,619	1	2,038,062	11,619	1
France	394,300	1,340	0	1,340	0	807,840	0	0	1,202,140	1,340	0
Germany	1,150	0	0	0	0	1,507,079	110,530	7	1,508,229	110,530	7
Greece	0	4	0	4	>	4,707,450	0	0	4,707,450	4	0
Hungary	8,248	130	0	130	2	1,988,823	12,190	1	1,997,071	12,320	1
Ireland	0	0	0	0	0	0	0	0	0	0	0
Italy	10,100	107	0	107	1	547,552	36,801	7	557,652	36,909	7
Lithuania	2,232	3	0	3	0	1,933,296	2,166	0	1,935,528	2,169	0
Luxembourg	109	0	0	0	0	11,215	0	0	11,324	0	0
Latvia	1,068	594	0	594	56	95,058	0	0	96,126	594	1
Malta	0	0	0	0	0	7,481	0	0	7,481	0	0
Netherlands	3,727	0	0	0	0	2,006,962	0	0	2,010,689	0	0
Norway	496	0	0	0	0	134,028	0	0	134,524	0	0
Poland	19,317	10,494	0	10,494	54	113,417,180	133,182	0	113,436,497	143,676	0
Portugal	19,281	165	0	165	1	175,772	5,580	3	195,053	5,745	3
Romania	5,272	396	0	396	8	10,169,071	950,806	9	10,174,343	951,202	9
Slovakia	25,947	2,202	16	2,218	9	715,497	209,135	29	741,444	211,353	29
Slovenia	406	0	0	0	0	213,770	48,000	22	214,176	48,000	22
Spain	21,249	1,128	0	1,128	5	15,098,372	215,174	1	15,119,621	216,302	1
Sweden	17,456	0	0	0	0	3,286,220	0	0	3,303,676	0	0
United Kingdom	293,946	1,212	0	1,212	0	205,679	812,993	395	499,625	814,205	163

	B = 03 Fishing										
	Hazardous waste					Non-hazardous waste			All waste		
Country	∑ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat
Austria	0	0	0	0	0	20	0	0	20	0	0
Belgium	158	0	0	0	0	1,874	0	0	2,032	0	0
Bulgaria	0	0	0	0	0	111	0	0	111	0	0
Cyprus	5,926	0	0	0	0	846	0	0	6,772	0	0
Czech Republic	12	0	0	0	0	410	0	0	422	0	0
Denmark	23	0	0	0	0	1,336	0	0	1,359	0	0
Estland	49	0	0	0	0	944	0	0	993	0	0
Finland	0	0	0	0	0	346	0	0	346	0	0
France	0	0	0	0	0	19,800	0	0	19,800	0	0
Germany	0	0	0	0	0	7,043	0	0	7,043	0	0
Greece	0	0	0	0	0	3,844	0	0	3,844	0	0
Hungary	86	0	0	0	0	376	0	0	462	0	0
Ireland	0	0	0	0	0	0	0	0	0	0	0
Italy	121	0	0	0	0	709	0	0	830	0	0
Lithuania	6	0	0	0	0	4,238	0	0	4,244	0	0
Luxembourg	0	0	0	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	3,053	0	0	0	0	451,688	0	0	454,741	0	0
Norway	840	0	0	0	0	27,216	4,830	18	28,056	4,830	17
Poland	0	0	0	0	0	0	0	0	0	0	0
Portugal	133	0	0	0	0	14,198	0	0	14,331	0	0
Romania	0	0	0	0	0	0	0	0	0	0	0
Slovakia	1	0	0	0	0	518	0	0	519	0	0
Slovenia	5	0	0	0	0	155	0	0	160	0	0
Spain	5,187	0	0	0	0	27,599	0	0	32,786	0	0
Sweden	1,767	0	0	0	0	8,871	0	0	10,638	0	0
United Kingdom	623	0	0	0	0	166,238	0	0	166,861	0	0

	C = 05, 06, 07, 08, 09 Mining and quarrying										
	Hazardous waste					Non-hazardous waste			All waste		
Country	∑ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat
Austria	13,713	0	0	0	0	1,028,803	16,900	2	1,042,516	16,900	2
Belgium	14,746	70	0	70	0	144,311	0	0	159,057	70	0
Bulgaria	11,284	5	0	5	0	225,327,159	21,600	0	225,338,443	21,605	0
Cyprus	179	56	0	56	31	59,959	0	0	60,138	56	0
Czech Republic	24,119	10,441	0	10,441	43	447,391	151,306	34	471,510	161,747	34
Denmark	53	96	0	96	181	2,009	0	0	2,062	96	5
Estland	574	110	0	110	19	5,960,398	966,399	16	5,960,972	966,508	16
Finland	878,595	216	0	216	0	20,622,301	3,464,400	17	21,500,896	3,464,616	16
France	122,350	788	733	1,522	1	918,050	2,110	0	1,040,400	3,632	0
Germany	65,288	29,985	0	29,985	46	47,156,912	354,107	1	47,222,200	384,092	1
Greece	17	152	0	152	897	14,887,741	0	0	14,887,758	152	0
Hungary	12,273	6,819	0	6,819	56	14,231	2,440	17	26,504	9,259	35
Ireland	9,929	312	1,133	1,445	15	4,782,614	0	0	4,792,543	1,445	0
Italy	28,390	9,725	0	9,725	34	976,871	120,236	12	1,005,261	129,960	13
Lithuania	45	0	0	0	0	5,470	0	0	5,515	0	0
Luxembourg	138	0	0	0	0	56,349	0	0	56,487	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	15,764	552	0	552	4	197,601	3,690	2	213,365	4,242	2
Norway	63,836	5,309	0	5,309	8	72,445	2,970	4	136,281	8,279	6
Poland	1,653	53,724	0	53,724	3,250	38,669,602	52,570,011	136	38,671,255	52,623,735	136
Portugal	1,513,368	177	2	179	0	2,049,792	181,039	9	3,563,160	181,218	5
Romania	496,649	309	0	309	0	198,641,717	494,090	0	199,138,366	494,399	0
Slovakia	41,115	13	0	13	0	290,751	0	0	331,866	13	0
Slovenia	63	152	0	152	241	376,868	4,140	1	376,931	4,292	1
Spain	5,289	1,491	0	1,491	28	26,009,340	753,160	3	26,014,629	754,651	3
Sweden	4,744	3,017	0	3,017	64	62,079,549	13,760	0	62,084,293	16,777	0
United Kingdom	13,104	48,268	94	48,362	369	86,766,053	292,014	0	86,779,157	340,376	0

	DA = 10, 11, 12 Manufacture of food products; beverages and tobacco											
	Hazardous waste					Non-hazardous waste			All waste			
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	1,544	12	0	12	1	724,998	80,100	11	726,542	80,112	11
Belgium	21,396	4,544	0	4,544	21	3,694,828	1,715,119	46	3,716,224	1,719,662	46
Bulgaria	141	2,943	0	2,943	2,087	507,692	11,000	2	507,832	13,943	3
Cyprus	6,742	0	0	0	0	252,642	1,071,000	424	259,384	1,071,000	413
Czech Republic	7,235	2,112	0	2,112	29	631,233	60,154	10	638,468	62,267	10
Denmark	123,008	1,198	6,560	7,758	6	177,414	554,662	313	300,422	562,420	187
Estland	116	0	0	0	0	277,906	6,160	2	278,022	6,160	2
Finland	6,295	5,592	0	5,592	89	844,245	329,883	39	850,540	335,476	39
France	98,660	12,177	1,000	13,177	13	1,973,740	1,805,985	92	2,072,400	1,819,162	88
Germany	309,837	16,830	0	16,830	5	3,225,165	2,110,968	65	3,535,002	2,127,798	60
Greece	361	76	0	76	21	431,203	30,270	7	431,564	30,345	7
Hungary	12,958	4,136	0	4,136	32	2,304,858	291,682	13	2,317,816	295,818	13
Ireland	2,482	7,069	34	7,104	286	1,737,955	1,495,843	86	1,740,437	1,502,946	86
Italy	41,574	11,084	93	11,177	27	11,469,122	253,883	2	11,510,696	265,060	2
Lithuania	139	143	0	143	103	367,038	10,466	3	367,177	10,609	3
Luxembourg	137	0	0	0	0	8,677	0	0	8,814	0	0
Latvia	89	103	0	103	116	187,466	23,635	13	187,555	23,738	13
Malta	0	0	0	0	0	310	0	0	310	0	0
Netherlands	2,811	69,835	4,137	73,972	2,632	7,679,280	492,071	6	7,682,091	566,043	7
Norway	897	77	0	77	9	781,439	24,884	3	782,337	24,961	3
Poland	14,265	189,565	0	189,565	1,329	8,171,888	5,637,116	69	8,186,153	5,826,681	71
Portugal	33,125	392,513	0	392,513	1,185	1,002,715	764,477	76	1,035,840	1,156,990	112
Romania	2,090	442	0	442	21	816,351	152,129	19	818,441	152,571	19
Slovakia	12,730	4,267	1,390	5,657	44	595,376	124,384	21	608,105	130,041	21
Slovenia	163	21	0	21	13	90,477	11,500	13	90,640	11,521	13
Spain	11,773	63,534	0	63,534	540	4,279,472	1,291,453	30	4,291,245	1,354,987	32
Sweden	2,112	4,145	0	4,145	196	986,714	108,340	11	988,826	112,485	11
United Kingdom	35,535	31,087	16	31,102	88	7,823,140	3,419,252	44	7,858,675	3,450,354	44

	DB_DC = 13, 14, 15 Manufacture of textiles and textile products, leather and leather products										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	755	0	0	0	0	19,905	0	0	20,660	0	0
Belgium	2,623	887	0	887	34	561,542	9,000	2	564,165	9,886	2
Bulgaria	70	0	0	0	0	21,143	0	0	21,213	0	0
Cyprus	361	0	0	0	0	1,005	0	0	1,366	0	0
Czech Republic	4,867	125	0	125	3	74,799	8,636	12	79,666	8,761	11
Denmark	98	475	0	475	485	18,346	0	0	18,444	475	3
Estland	236	41	0	41	17	17,759	2,970	17	17,995	3,011	17
Finland	264	47	0	47	18	14,208	0	0	14,472	47	0
France	15,020	2,968	376	3,344	22	602,430	18,516	3	617,450	21,860	4
Germany	3,863	1,062	0	1,062	27	171,279	8,690	5	175,142	9,752	6
Greece	1,187	6	0	6	0	26,880	0	0	28,067	6	0
Hungary	904	1,193	0	1,193	132	42,606	0	0	43,510	1,193	3
Ireland	1,343	0	0	0	0	10,547	0	0	11,890	0	0
Italy	53,458	5,457	0	5,457	10	1,572,835	22,569	1	1,626,293	28,025	2
Lithuania	324	0	0	0	0	10,266	0	0	10,590	0	0
Luxembourg	243	0	0	0	0	3,499	0	0	3,742	0	0
Latvia	48	0	0	0	0	9,054	0	0	9,102	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	5,062	5,694	127	5,821	115	73,977	0	0	79,039	5,821	7
Norway	429	0	0	0	0	7,932	0	0	8,361	0	0
Poland	586	0	0	0	0	96,822	0	0	97,408	0	0
Portugal	15,074	960	0	960	6	1,920,613	0	0	1,935,687	960	0
Romania	73	120	60	180	246	104,050	2,020	2	104,123	2,200	2
Slovakia	694	40	0	40	6	22,737	4,740	21	23,431	4,780	20
Slovenia	11,599	9,577	0	9,577	83	16,445	0	0	28,044	9,577	34
Spain	3,789	1,921	0	1,921	51	128,817	28,676	22	132,606	30,597	23
Sweden	232	24	0	24	10	31,250	0	0	31,482	24	0
United Kingdom	2,945	927	0	927	31	427,321	83,138	19	430,266	84,065	20

	DD = 16 Manufacture of wood and wood products										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	3,641	0	0	0	0	1,764,795	19,410	1	1,768,436	19,410	1
Belgium	12,527	1,113	0	1,113	9	682,668	33,543	5	695,195	34,656	5
Bulgaria	1,640	0	0	0	0	87,309	2,630	3	88,949	2,630	3
Cyprus	149	0	0	0	0	19,121	0	0	19,270	0	0
Czech Republic	5,181	336	0	336	6	505,814	0	0	510,995	336	0
Denmark	2,173	82	0	82	4	24,895	0	0	27,068	82	0
Estland	4,540	3	0	3	0	1,362,747	0	0	1,367,287	3	0
Finland	90,249	2,050	0	2,050	2	7,141,764	407,718	6	7,232,013	409,768	6
France	15,150	3,953	0	3,953	26	4,714,660	420,730	9	4,729,810	424,683	9
Germany	44,853	36,163	0	36,163	81	2,188,265	140,800	6	2,233,118	176,963	8
Greece	19	0	0	0	0	7,202	0	0	7,221	0	0
Hungary	2,046	144	0	144	7	340,680	15,059	4	342,726	15,203	4
Ireland	420	61	0	61	15	245,819	0	0	246,239	61	0
Italy	10,904	883	1,122	2,005	18	1,533,619	134,031	9	1,544,523	136,036	9
Lithuania	45	56	0	56	123	118,274	6,701	6	118,319	6,757	6
Luxembourg	311	0	0	0	0	49,912	57,600	115	50,223	57,600	115
Latvia	1,895	28	0	28	1	130,781	2,018	2	132,676	2,046	2
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	1,275	243	0	243	19	260,281	0	0	261,556	243	0
Norway	123	0	0	0	0	377,618	0	0	377,741	0	0
Poland	5,544	446	0	446	8	1,894,429	229,433	12	1,899,973	229,879	12
Portugal	70,430	429	0	429	1	825,716	39,968	5	896,146	40,398	5
Romania	1,610	141	0	141	9	1,163,056	26,400	2	1,164,666	26,541	2
Slovakia	1,081	0	0	0	0	388,853	0	0	389,934	0	0
Slovenia	280	0	0	0	0	955,405	0	0	955,685	0	0
Spain	9,543	3,037	0	3,037	32	731,516	138,166	19	741,059	141,203	19
Sweden	4,790	0	0	0	0	17,851,207	0	0	17,855,997	0	0
United Kingdom	13,050	7,652	0	7,652	59	1,821,508	87,281	5	1,834,558	94,933	5

	DE = 17, 18 Manufacture of pulp, paper and paper products; publishing and printing										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	7,099	13	0	13	0	2,562,833	192,400	8	2,569,932	192,413	7
Belgium	14,148	4,017	42	4,059	29	781,684	462,076	59	795,832	466,135	59
Bulgaria	14	8	0	8	54	179,648	9,530	5	179,662	9,538	5
Cyprus	845	0	0	0	0	13,697	0	0	14,542	0	0
Czech Republic	5,144	618	0	618	12	359,163	115,753	32	364,307	116,371	32
Denmark	2,788	196	0	196	7	176,265	13,212	7	179,053	13,408	7
Estland	378	0	0	0	0	385,490	0	0	385,868	0	0
Finland	29,309	3,673	0	3,673	13	4,685,867	2,281,832	49	4,715,176	2,285,505	48
France	72,636	110,742	50	110,792	153	3,218,910	1,479,748	46	3,291,546	1,590,540	48
Germany	31,850	51,518	0	51,518	162	2,578,054	3,985,976	155	2,609,904	4,037,494	155
Greece	175	43	0	43	24	200,363	42,721	21	200,538	42,764	21
Hungary	2,999	434	0	434	14	202,159	45,237	22	205,157	45,671	22
Ireland	17,152	376	571	948	6	146,208	4,850	3	163,360	5,798	4
Italy	44,563	81,830	0	81,830	184	2,461,196	20,252,385	823	2,505,759	20,334,215	811
Lithuania	194	31	0	31	16	32,570	6,953	21	32,765	6,984	21
Luxembourg	1,191	0	0	0	0	23,399	0	0	24,590	0	0
Latvia	77	0	0	0	0	13,435	0	0	13,511	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	10,841	74,085	81	74,166	684	944,762	236,447	25	955,603	310,612	33
Norway	791	2,478	0	2,478	313	446,040	206,593	46	446,832	209,071	47
Poland	5,587	27,513	0	27,513	492	1,378,118	428,106	31	1,383,705	455,619	33
Portugal	66,582	1,089	0	1,089	2	1,057,347	401,618	38	1,123,929	402,706	36
Romania	94	74	0	74	78	171,067	97,118	57	171,160	97,192	57
Slovakia	1,479	419	0	419	28	676,183	321,271	48	677,662	321,689	47
Slovenia	537	16,073	4	16,077	2,994	203,796	51,137	25	204,333	67,214	33
Spain	23,292	5,568	0	5,568	24	1,968,332	1,275,807	65	1,991,624	1,281,375	64
Sweden	13,866	5,390	0	5,390	39	6,960,259	1,021,220	15	6,974,126	1,026,610	15
United Kingdom	72,818	201,710	120	201,830	277	3,624,003	2,287,066	63	3,696,821	2,488,896	67

	DF = 19 Manufacture of coke, refined petroleum products and nuclear fuel										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	2,804	0	0	0	0	195	8,880	4,554	2,999	8,880	296
Belgium	128,687	16,263	6,706	22,969	18	38,468	43,615	113	167,155	66,584	40
Bulgaria	60,943	3,640	0	3,640	6	11,646	0	0	72,589	3,640	5
Cyprus	0	0	0	0	0	0	0	0	0	0	0
Czech Republic	2,982	3,051	0	3,051	102	9,289	2,671	29	12,271	5,722	47
Denmark	5,956	3,867	0	3,867	65	10,461	2,590	25	16,417	6,457	39
Estland	1,009,881	459,700	0	459,700	46	1,432	2,600	182	1,011,313	462,300	46
Finland	28,318	11,877	0	11,877	42	10,641	13,910	131	38,959	25,787	66
France	89,440	114,138	12,125	126,262	141	60,460	77,418	128	149,900	203,680	136
Germany	112,649	134,377	0	134,377	119	43,828	53,133	121	156,477	187,510	120
Greece	3,767	1,450	117	1,567	42	11,283	12,992	115	15,050	14,559	97
Hungary	58,302	11,171	0	11,171	19	94,662	0	0	152,964	11,171	7
Ireland	0	0	87	88	>	0	2,305	>	0	2,393	>
Italy	465,328	36,931	1,580	38,511	8	354,341	136,948	39	819,669	175,459	21
Lithuania	12,204	193	0	193	2	11,707	5,810	50	23,911	6,003	25
Luxembourg	0	0	0	0	0	0	0	0	0	0	0
Latvia	0	0	0	0	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	25,262	87,083	4,836	91,919	364	434,874	58,085	13	460,136	150,004	33
Norway	2,384	11,227	0	11,227	471	6,896	2,025	29	9,280	13,252	143
Poland	33,038	12,028	4,568	16,596	50	51,314	28,204	55	84,352	44,800	53
Portugal	10,370	13,843	3,110	16,953	163	14,656	19,790	135	25,026	36,743	147
Romania	213,328	16,542	0	16,542	8	33,963	73,770	217	247,291	90,312	37
Slovakia	48,253	33,200	2,330	35,530	74	16,915	25,210	149	65,168	60,740	93
Slovenia	5	0	0	0	0	127	0	0	132	0	0
Spain	28,521	38,071	0	38,071	133	26,630	57,574	216	55,151	95,645	173
Sweden	24,565	8,650	1,292	9,942	40	9,151	10,110	110	33,716	20,052	59
United Kingdom	41,818	24,606	4,566	29,172	70	87,538	106,771	122	129,356	135,943	105

	DG_DH = 20, 21, 22 Manufacture of chemicals, rubber and plastic products										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	∑E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	∑E-PRTR	E-PRTR % of Eurostat
Austria	60,118	4,485,843	1,370,849	5,856,692	9,742	217,069	14,260	7	277,187	5,870,952	2,118
Belgium	693,181	182,028	71,251	253,280	37	2,394,399	1,259,009	53	3,087,580	1,512,289	49
Bulgaria	8,374	85	0	85	1	812,389	32,310	4	820,763	32,395	4
Cyprus	2,048	0	0	0	0	7,741	0	0	9,789	0	0
Czech Republic	114,435	60,382	6	60,388	53	222,184	105,591	48	336,619	165,979	49
Denmark	27,575	31,321	0	31,321	114	51,172	151,070	295	78,747	182,391	232
Estland	6,685	6,721	0	6,721	101	33,684	2,195	7	40,369	8,916	22
Finland	286,161	50,343	0	50,343	18	2,261,491	552,606	24	2,547,652	602,949	24
France	1,301,740	785,683	52,174	837,857	64	1,384,340	392,456	28	2,686,080	1,230,312	46
Germany	1,604,856	1,007,208	0	1,007,208	63	3,256,903	1,467,557	45	4,861,759	2,474,764	51
Greece	2,576	79	23	102	4	339,752	20,800	6	342,328	20,902	6
Hungary	68,680	62,005	527	62,532	91	84,267	53,120	63	152,947	115,652	76
Ireland	170,045	41,250	60,324	101,574	60	198,064	39,383	20	368,109	140,958	38
Italy	1,395,526	508,674	13,123	521,796	37	3,811,412	1,161,648	30	5,206,938	1,683,444	32
Lithuania	176	115	0	115	66	2,213,152	13,060	1	2,213,328	13,175	1
Luxembourg	4,568	0	0	0	0	27,623	0	0	32,191	0	0
Latvia	1,066	304	0	304	28	4,144	0	0	5,210	304	6
Malta	0	4	642	646	>	174	0	0	174	646	371
Netherlands	322,750	611,542	44,644	656,186	203	1,210,368	301,997	25	1,533,118	958,183	62
Norway	2,259	394,607	0	394,607	17,468	160,094	7,288	5	162,353	401,895	248
Poland	217,754	66,597	32	66,629	31	5,979,223	1,216,716	20	6,196,977	1,283,346	21
Portugal	119,963	8,323	799	9,121	8	226,276	81,018	36	346,239	90,139	26
Romania	47,257	131,648	0	131,648	279	710,547	77,290	11	757,804	208,938	28
Slovakia	20,288	8,410	0	8,410	41	123,878	57,376	46	144,166	65,786	46
Slovenia	25,565	90,672	8,111	98,782	386	315,798	258,775	82	341,363	357,557	105
Spain	506,475	363,552	5,565	369,116	73	2,324,430	1,643,229	71	2,830,905	2,012,345	71
Sweden	78,130	32,058	231	32,289	41	223,752	172,080	77	301,882	204,369	68
United Kingdom	988,806	1,026,568	7,145	1,033,713	105	3,076,392	1,223,675	40	4,065,198	2,257,389	56

	DI = 23 Manufacture of other non-metallic mineral products										
	Hazardous waste					Non-hazardous waste			All waste		
Country	∑ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑ E-PRTR	E-PRTR % of Eurostat
Austria	20,238	203	0	203	1	798,836	0	0	819,075	203	0
Belgium	15,557	3,877	228	4,105	26	2,023,062	134,906	7	2,038,620	139,011	7
Bulgaria	367	86	0	86	23	947,038	71,290	8	947,404	71,376	8
Cyprus	328	20	0	20	6	81,854	0	0	82,182	20	0
Czech Republic	24,007	5,558	0	5,558	23	561,164	101,565	18	585,171	107,123	18
Denmark	892	1,021	0	1,021	114	49,756	61,796	124	50,648	62,817	124
Estland	25,915	91	0	91	0	535,558	0	0	561,473	91	0
Finland	764	1,176	0	1,176	154	487,118	49,275	10	487,883	50,450	10
France	61,530	34,507	1,794	36,301	59	1,179,080	144,600	12	1,240,610	180,901	15
Germany	119,488	115,792	0	115,792	97	937,469	167,903	18	1,056,957	283,694	27
Greece	608	390	50	440	72	362,621	0	0	363,229	440	0
Hungary	11,031	5,334	0	5,334	48	461,531	43,839	9	472,562	49,173	10
Ireland	21,156	310	4,598	4,908	23	84,216	0	0	105,372	4,908	5
Italy	41,630	13,457	0	13,457	32	3,102,300	593,348	19	3,143,930	606,805	19
Lithuania	788	16	0	16	2	81,644	40,613	50	82,431	40,629	49
Luxembourg	642	2,479	106	2,585	403	28,172	6,188	22	28,814	8,773	30
Latvia	62	0	0	0	0	67,607	8,555	13	67,669	8,555	13
Malta	0	0	0	0	0	0	0	0	0	0	0
Netherlands	4,779	6,961	2,150	9,111	191	851,386	50,711	6	856,165	59,822	7
Norway	231,493	23,654	0	23,654	10	217,434	42,904	20	448,926	66,558	15
Poland	3,981	4,579	2	4,581	115	1,369,585	303,137	22	1,373,566	307,717	22
Portugal	20,585	25,872	3	25,876	126	3,417,777	96,361	3	3,438,363	122,236	4
Romania	3,128	618	0	618	20	1,198,102	173,015	14	1,201,230	173,633	14
Slovakia	6,082	1,638	0	1,638	27	122,574	71,915	59	128,656	73,553	57
Slovenia	889	436	22	458	52	153,371	30,880	20	154,260	31,338	20
Spain	80,176	82,869	77	82,946	103	4,115,428	346,912	8	4,195,604	429,858	10
Sweden	4,419	852	3,303	4,155	94	236,338	20,500	9	240,757	24,655	10
United Kingdom	220,210	55,380	1,630	57,010	26	2,228,530	363,051	16	2,448,741	420,061	17

	DJ = 24 Manufacture of basic metals and fabricated metal products										
	Hazardous waste					Non-hazardous waste			All waste		
Country	∑ Eurostat	Hazardous waste inside country	Hazardous waste outside country	∑E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑E-PRTR	E-PRTR % of Eurostat	∑ Eurostat	∑E-PRTR	E-PRTR % of Eurostat
Austria	222,394	4,380	54,900	59,280	27	4,099,666	18,810	0	4,322,060	78,090	2
Belgium	647,561	387,388	102,591	489,979	76	2,500,797	2,184,790	87	3,148,358	2,674,769	85
Bulgaria	675,261	33,120	91	33,211	5	822,832	456,600	55	1,498,093	489,811	33
Cyprus	247	15	0	15	6	7,230	0	0	7,477	15	0
Czech Republic	308,372	99,949	0	99,949	32	1,770,602	851,880	48	2,078,974	951,829	46
Denmark	103,323	1,020	0	1,020	1	449,602	57,201	13	552,925	58,221	11
Estland	1,181	0	0	0	0	68,251	0	0	69,432	0	0
Finland	359,815	942,989	0	942,989	262	1,496,068	646,425	43	1,855,883	1,589,413	86
France	1,013,430	390,577	109,064	499,641	49	3,504,110	1,786,678	51	4,517,540	2,286,319	51
Germany	2,137,957	1,325,387	0	1,325,387	62	11,938,382	7,446,376	62	14,076,339	8,771,763	62
Greece	67,865	6,721	345	7,066	10	3,737,457	2,601,120	70	3,805,322	2,608,186	69
Hungary	125,025	39,117	0	39,117	31	1,278,756	251,317	20	1,403,781	290,434	21
Ireland	19,302	14,438	5	14,443	75	1,242,469	0	0	1,261,771	14,443	1
Italy	1,019,204	789,218	24,149	813,367	80	10,919,839	5,280,776	48	11,939,043	6,094,143	51
Lithuania	290	0	0	0	0	16,407	0	0	16,697	0	0
Luxembourg	52,374	62,125	3,513	65,638	125	389,370	973,066	250	441,744	1,038,703	235
Latvia	29,837	4,550	4,840	9,390	31	68,856	6,297	9	98,693	15,687	16
Malta	0	0	0	0	0	1,800	0	0	1,800	0	0
Netherlands	194,433	16,206	71,134	87,340	45	2,832,565	1,280,247	45	3,026,998	1,367,587	45
Norway	1,646	233,079	0	233,079	14,160	826,141	297,007	36	827,787	530,085	64
Poland	1,340,521	543,217	23	543,240	41	38,794,767	4,869,106	13	40,135,288	5,412,346	13
Portugal	128,473	48,282	31,404	79,686	62	1,710,942	280,929	16	1,839,415	360,615	20
Romania	165,908	18,102	0	18,102	11	3,458,306	2,824,713	82	3,624,214	2,842,816	78
Slovakia	88,991	11,312	1,890	13,202	15	2,975,166	1,628,657	55	3,064,157	1,641,858	54
Slovenia	23,562	2,509	6,846	9,355	40	318,607	130,961	41	342,169	140,316	41
Spain	996,869	432,363	24,020	456,383	46	5,462,602	1,720,446	31	6,459,471	2,176,829	34
Sweden	293,942	69,137	8,210	77,347	26	2,632,312	201,030	8	2,926,254	278,377	10
United Kingdom	361,929	296,042	61,741	357,783	99	3,396,541	1,468,487	43	3,758,470	1,826,270	49

	E = 35, 36 Electricity, gas and water supply										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	61,261	10,479	0	10,479	17	1,955,835	180,320	9	2,017,096	190,799	9
Belgium	16,680	14,461	26,108	40,570	243	1,268,717	338,931	27	1,285,397	379,500	30
Bulgaria	1,744	4,090	0	4,090	235	6,667,832	6,725,000	101	6,669,576	6,729,090	101
Cyprus	851	564	0	564	66	2,019	0	0	2,870	564	20
Czech Republic	33,645	35,300	0	35,300	105	2,477,089	1,653,819	67	2,510,734	1,689,119	67
Denmark	66,917	3,827	15,623	19,450	29	1,394,891	349,921	25	1,461,809	369,371	25
Estland	5,400,225	66,848	0	66,848	1	307,935	66,718	22	5,708,160	133,566	2
Finland	8,183	3,158	0	3,158	39	1,627,721	1,430,760	88	1,635,904	1,433,918	88
France	83,360	54,576	5,731	60,307	72	950,320	575,411	61	1,033,680	635,717	62
Germany	435,836	458,818	0	458,818	105	8,032,461	13,877,345	173	8,468,297	14,336,163	169
Greece	27,996	5,928	109	6,037	22	12,957,848	0	0	12,985,844	6,037	0
Hungary	10,737	22,119	0	22,119	206	3,970,372	433,901	11	3,981,109	456,019	11
Ireland	13,426	793	1,208	2,001	15	333,341	220,364	66	346,767	222,365	64
Italy	146,571	40,723	5,250	45,973	31	2,858,887	2,208,242	77	3,005,458	2,254,215	75
Lithuania	1,663	624	0	624	38	32,360	52,050	161	34,023	52,674	155
Luxembourg	408	4	0	4	1	995	0	0	1,403	4	0
Latvia	395	5	0	5	1	25,826	0	0	26,221	5	0
Malta	0	458	0	458	>	0	0	0	0	458	>
Netherlands	4,745	2,989	634	3,622	76	1,367,220	856,057	63	1,371,965	859,679	63
Norway	32,665	38,060	0	38,060	117	13,505	14,687	109	46,170	52,747	114
Poland	184,645	203,235	0	203,235	110	22,219,711	10,868,551	49	22,404,356	11,071,786	49
Portugal	18,114	2,815	428	3,243	18	443,837	103,371	23	461,951	106,615	23
Romania	1,420	1,350	0	1,350	95	102,615,574	4,568,467	4	102,616,993	4,569,817	4
Slovakia	26,984	10,977	0	10,977	41	1,550,199	818,963	53	1,577,183	829,940	53
Slovenia	772	71	0	71	9	497,798	275,183	55	498,570	275,254	55
Spain	61,767	8,687	0	8,687	14	7,167,702	3,740,067	52	7,229,469	3,748,754	52
Sweden	190,959	73,863	23,654	97,517	51	1,127,500	681,430	60	1,318,459	778,947	59
United Kingdom	381,262	155,236	0	155,236	41	6,491,527	8,492,955	131	6,872,789	8,648,190	126

	DN37, O90 = 37, 38, 39 Waste management activities										
	Hazardous waste					Non-hazardous waste			All waste		
Country	Σ Eurostat	Hazardous waste inside country	Hazardous waste outside country	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat	Σ Eurostat	Σ E-PRTR	E-PRTR % of Eurostat
Austria	114,194	50,297	8,296	58,593	51	128,948	3,901,500	3,026	243,142	3,960,093	1,629
Belgium	865,805	653,764	113,221	766,985	89	13,574,306	5,800,523	43	14,440,111	6,567,508	45
Bulgaria	885	8	0	8	1	85,760	51,260	60	86,645	51,268	59
Cyprus	333	0	27	27	8	37,808	10,830	29	38,141	10,857	28
Czech Republic	397,229	39,614	41	39,655	10	1,754,071	115,150	7	2,151,300	154,806	7
Denmark	35,738	177,334	81,469	258,803	724	2,108,965	1,843,422	87	2,144,703	2,102,225	98
Estland	5,404	16,666	827	17,493	324	265,169	530,269	200	270,573	547,762	202
Finland	308,498	281,560	0	281,560	91	2,089,241	1,578,845	76	2,397,739	1,860,405	78
France	1,055,230	905,684	61,005	967,222	92	8,671,990	2,314,525	27	9,727,220	3,281,213	34
Germany	4,499,038	5,300,214	0	5,300,532	118	23,670,910	25,296,636	107	28,169,948	30,596,850	109
Greece	0	26	1,807	1,833	>	972,283	21,977	2	972,283	23,810	2
Hungary	39,809	45,367	4,928	50,294	126	1,163,105	350,049	30	1,202,914	400,343	33
Ireland	0	10,884	176,550	187,434	>	533,763	2,679,534	502	533,763	2,866,968	537
Italy	2,290,911	14,972,687	191,892	15,164,579	662	17,367,419	44,328,901	255	19,658,330	59,493,479	303
Lithuania	7,975	4,879	2,238	7,117	89	353,919	40,188	11	361,894	47,305	13
Luxembourg	16,525	31,022	3,950	34,972	212	1,683,936	34,536	2	1,700,461	69,508	4
Latvia	281	0	6,500	6,500	2,313	52,691	6,943	13	52,972	13,443	25
Malta	0	0	0	0	0	36,559	0	0	36,559	0	0
Netherlands	300,264	617,132	156,293	788,107	262	2,467,346	6,544,422	265	2,767,610	7,317,847	264
Norway	48,414	3,243	0	3,243	7	324,766	0	0	373,180	3,243	1
Poland	202,551	141,525	6,739	148,264	73	5,226,402	2,014,297	39	5,428,953	2,162,561	40
Portugal	27,288	78,694	47,513	126,207	462	1,126,843	9,405,171	835	1,154,131	9,531,378	826
Romania	13,231	7,957	0	7,957	60	368,383	89,360	24	381,614	97,317	26
Slovakia	53,473	19,011	0	19,011	36	300,022	100,988	34	353,495	119,999	34
Slovenia	2,849	11,475	5,313	16,788	589	44,999	11,270	25	47,848	28,058	59
Spain	474,909	447,825	1,767	450,261	95	2,416,124	1,603,362	66	2,891,033	2,052,954	71
Sweden	191,238	90,446	48,708	139,154	73	2,855,727	384,510	13	3,046,965	523,664	17
United Kingdom	570,721	2,874,359	4,504	2,878,863	504	29,155,335	11,058,636	38	29,726,056	13,937,498	47