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9th Technical assessment on UWWTD implementation

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1 Executive summary

The Urban Waste Water Treatment Directive¹ (UWWTD) is one of the core elements of EU water policy. Adopted in 1991 its objective is to protect the environment from adverse effects of discharges of urban waste water from settlement areas and biodegradable industrial waste water from the agro-food sector.

Principally, but not exclusively, the UWWTD requires that all European agglomerations with a size of more than 2,000 population equivalents (p.e.)² are equipped with collecting and treatment systems for their waste waters. The UWWTD provides for biological waste water treatment ('secondary treatment') to significantly reduce the biodegradable pollution in waste water. In the so-called sensitive areas (i.e. those areas suffering from eutrophication or used for other purposes such as e.g. bathing or drinking water abstraction) and their related catchments, more stringent treatment is required to eliminate nutrients (mainly nitrogen and/or phosphorus) before the waste water is discharged.

The present report reflects the status of implementation of the UWWTD at 31 December 2014, based on data reported by EU Member States in 2016. For EU Member States for which the deadlines expired in 2005 (hereinafter referred to as the EU-15 EU Member States³), the provision of waste water collection and treatment systems should have been completed for all agglomerations within the scope of the UWWTD. For those EU Member States, which acceded to the European Union in 2004, 2007 and 2013 (hereinafter referred to as EU-13 EU Member States⁴), some of the transitional periods that were granted on the basis of the size of agglomerations and the nature of the discharge area are still in force.

This document presents the technical assessment of information provided by EU Member States on the implementation and its compliance with provisions required by the UWWTD. The results of the assessments carried out in different periods have been compared. Conclusions on the progress in the implementation of the UWWTD in EU Member States are drawn over the past years. The results of this Reporting are also visualised through the 28 European Commission national Urban waste water websites and the European Urban waste water website in order to improve transparency and give opportunities to all stakeholders to use the Reporting information: <http://uwwtd.oieau.fr/>.

1 Council Directive 91/271/EEC of 21 May 1991 concerning urban waste water treatment, OJ L 135, 30.5.1991.

2 The term "population equivalent" is used in the UWWTD in order to measure the size of agglomerations. It is calculated considering that the average five-day biochemical oxygen demand (BOD₅) released per person is 60 g oxygen/day.

3 EU-15 refers to EU Member States being in the EU before the 2004 enlargement: Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxemburg, Portugal, Spain, Sweden, the Netherlands and United Kingdom.

4 EU-13 refers to EU Member States who acceded to the EU in 2004, 2007 and 2013 enlargements: Bulgaria, Czech Republic, Croatia, Cyprus, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia and Romania.

1.1 Implementation reports and UWWTD data request 2015

Every two years the European Commission elaborates implementation reports on the situation of waste water treatment and the progress of implementing the UWWTD in the European Union. So far, eight Implementation Reports have been published since 1998¹.

Since 2007 the reporting under Article 15 of the UWWTD follows a new standardised approach, which was jointly developed by the European Commission, the European Environment Agency and EU Member States, and which was set-up in line with reporting principles under the Water Information System for Europe (WISE).

For the 9th Reporting, a new standardised reporting template for the reporting under Article 17 was prepared, and the reporting template for the reporting under Article 15 was updated.

The Commission requested EU Member States² to provide data on waste water collection and treatment under Article 15(4) of the UWWTD, and under Article 17, based on an updated electronic questionnaire and XML formats, until end of June 2016. All EU Member States reported data for the reference year 2014. In total, 17 EU Member States made their first data submission before the official deadline to report for the data request 2015 (request launched in December 2015). Five EU Member States (AT, BG, HR, CZ and RO) uploaded their first data sets shortly after the official deadline, but before 8 July 2016. Six countries provided their first data sets more than a month after the deadline (DK, DE, EL, HU, MT and UK).

For most of the EU Member States a number of amendments and technical corrections of the data sets were required in order to fit the agreed formats. Several re-submission and correction rounds took place, and most datasets were finalised before October 2016. From October 2016 to January 2017 quality checked data reported by EU Member States were assessed for compliance with the requirements of Articles 3, 4 and 5 of the UWWTD.

In November-December 2016 draft compliance assessment results were sent to EU Member States for comments together with access to draft versions of the national urban waste water websites. The websites include interactive map viewers and graphs for Member States to have a complete view and easier access to the results of their reporting. In the framework of the commenting process new/corrected data were provided by EU Member States in December 2016 to February 2017 and were consequently taken into account. Nineteen EU Member States required changes to the data reported.

¹ Implementation Reports are available at:
http://ec.europa.eu/environment/water/waterurbanwaste/implementation/implementationreports_en.htm.

² The letter was sent out to EU Member States in December 2015 with the request to provide data for articles 15 and 17 within six months via the Reportnet system of the European Environment Agency.

EU-MS	date of data submission to CDR		final data submission (after compliance assessment)	EU-MS	date of data submission to CDR		final data submission (after compliance assessment)
	first	final			first	final	
Austria	07/07/2016	06/12/2016	03/02/2017	Italy	30/06/2016	09/10/2016	30/01/2017
Belgium	27/06/2016	19/09/2016	19/01/2017	Latvia	29/06/2016	01/12/2016	27/12/2016
Bulgaria	08/07/2016	19/09/2016		Lithuania	08/06/2016	01/07/2016	10/02/2017
Croatia	07/07/2016	04/08/2016	21/12/2016	Luxembourg	28/06/2016	13/09/2016	
Cyprus	28/06/2016	30/06/2016	21/10/2016	Malta	05/08/2016	19/09/2016	
Czech Republic	01/07/2016	16/11/2016	30/11/2016	Netherlands	28/06/2016	29/06/2016	
Denmark	13/09/2016	21/09/2016	11/11/2016	Poland	29/06/2016	16/09/2016	30/01/2017
Estonia	30/05/2016	30/06/2016		Portugal	30/06/2016	19/09/2016	28/11/2016
Finland	30/06/2016	31/08/2016		Romania	08/07/2016	05/09/2016	09/02/2017
France	10/06/2016	20/09/2016	13/01/2017	Slovakia	22/06/2016	06/07/2016	27/12/2016
Germany	10/08/2016			Slovenia	23/06/2016	28/07/2016	06/10/2016
Greece	08/12/2016			Spain	30/06/2016	24/10/2016	07/02/2017
Hungary	25/07/2016	25/11/2016	30/01/2017	Sweden	29/06/2016	02/09/2016	08/12/2016
Ireland	28/06/2016	10/11/2016	07/12/2016	United Kingdom	16/09/2016	19/09/2016	13/01/2017

Table 1: Date of (first and final) data submissions for data request 2015 reported by EU-28.

Compared to the last Implementation Report, which covered 26 EU Member States, this Report covers all the 28 EU Member States. The number of amendments and data corrections which were requested by a number of EU Member States and in general the delays in the provision of information shows that further improvements of national reporting systems are required for some EU Member States. The “SIIF” platforms (Structured Information and Implementation Framework)³ allowed many data quality checks and significant improvements of the quality of data and were used with countries to correct and adjust the data provided. The effort necessary to go from a pilot phase with 6 countries to a production phase with 28 MS was a demanding exercise but allowed to have one platform per country with useful maps and graphs. The compliance assessment is now based on a set of clearly described algorithms which will be of great use in the future. In addition there is a European Union website that brings together the “SIIF” information from all the EU Member States and allows comparisons to be made between the different MSs at both national and regional levels (NUTS 2).

1.2 Obligations and deadlines

The UWWTD sets staged deadlines for the years 1998, 2000 and 2005 for all EU Member States of EU-15, depending on the size of the waste water discharge, expressed in population equivalent (p.e.), and the sensitivity of receiving areas:

³ <http://uwwtd.oieau.fr/>

- Agglomerations greater than 10,000 p.e. discharging into Sensitive Areas (SA) and Catchments of Sensitive Areas (CSA) were required to reach compliance by 31.12.1998.
- Larger agglomerations greater than 15,000 p.e. discharging into normal areas were required to reach compliance by 31.12.2000.
- All other agglomerations greater than 2,000 p.e. were required to reach compliance by 31.12.2005.

The deadlines apply to the implementation of a fully functioning waste water collecting and treatment system, namely waste water collecting systems (Article 3 of the UWWTD), secondary treatment (Article 4 of the UWWTD), and, for agglomerations beyond 10,000 p.e., more stringent treatment in sensitive areas and their catchment areas (Article 5 of the UWWTD). By the reference year for this report the deadlines for implementation of the obligations under the UWWTD (as highlighted above) completely expired in all EU Member States of EU-15. Some of these Member States still have pending deadlines mainly related to Article 5, due to the designation of new sensitive areas after 2007 (date of application is seven years after the date of designation). This is the case for France, Ireland, Italy, Spain and the United Kingdom. France also has pending deadlines for one of its overseas territories: Mayotte (2020 and 2027).

For EU-13 Member States transition periods were negotiated as part of the Accession Treaties, obliging these EU Member States to comply with the UWWTD by different dates. Certain interim deadlines have already expired and were taken into consideration for the reference year of this Report.

In summary, the EU Member States that are subject to a compliance check with the requirements of the UWWTD in this Report are:

- EU-15: Austria, Belgium, Denmark, Finland, France, Greece, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden.
- EU-13: Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia (for certain interim deadlines, *NOTA: countries who acceded the EU in 2004, 2007 or 2013, interim deadlines were defined, see annexe IV*).

The following interim deadlines are addressed in this report:

- CY: 31 December 2012
- BG: 31 December 2014
- RO: Compliance with Article 3 due for 69% of the total waste water load and compliance with Article 4 and 5 due for 61% of the total waste water load by 31 December 2013.

Due to still pending transitional periods, compliance was not assessed for any agglomeration in Croatia. The deadlines for Croatia are 31 December 2018, 31 December 2020 and 31 December 2023.

1.3 Average compliance rates

Compliance with the UWWTD is first assessed comparing the amount of pollution load that receives the treatment requested by the UWWTD (i.e. which is collected, which receives secondary treatment and which receives more advanced treatment) with the total amount of load, which is generated, and second with the amount that theoretically should receive such treatment (the so called “subjected load”).

The comparison of the compliance load with the total generated load is presented in Figure 1 (compliance % of the total generated load). The share of the load for which compliance is required (solid bars, also called “subjected load”) and the share of the load for which compliance was achieved (transparent bars) both in relation to the total generated load are presented.

Summarising the results, it can be concluded that the subjected load (with status “expired deadline”) as regards to collection (Article 3) represents 97.6% of the total generated load. The compliant load represents 92.4% of the generated load, which means that 5.2% of the total generated load is not compliant with the UWWTD.

Regarding secondary treatment (Article 4), the subjected load (with status “expired deadline”) represents 92.8% of the total generated load. Compliance was achieved for 82.3% of the generated load, which means that 10.5% of the generated load is not compliant with the UWWTD.

As regards the more stringent treatment (Article 5), the subjected load represents (with status “expired deadline”) 60.6% of the total generated load. Compliance was achieved for 51.2% of the generated load, which means that 9.4% of the generated load is not compliant with the UWWTD.

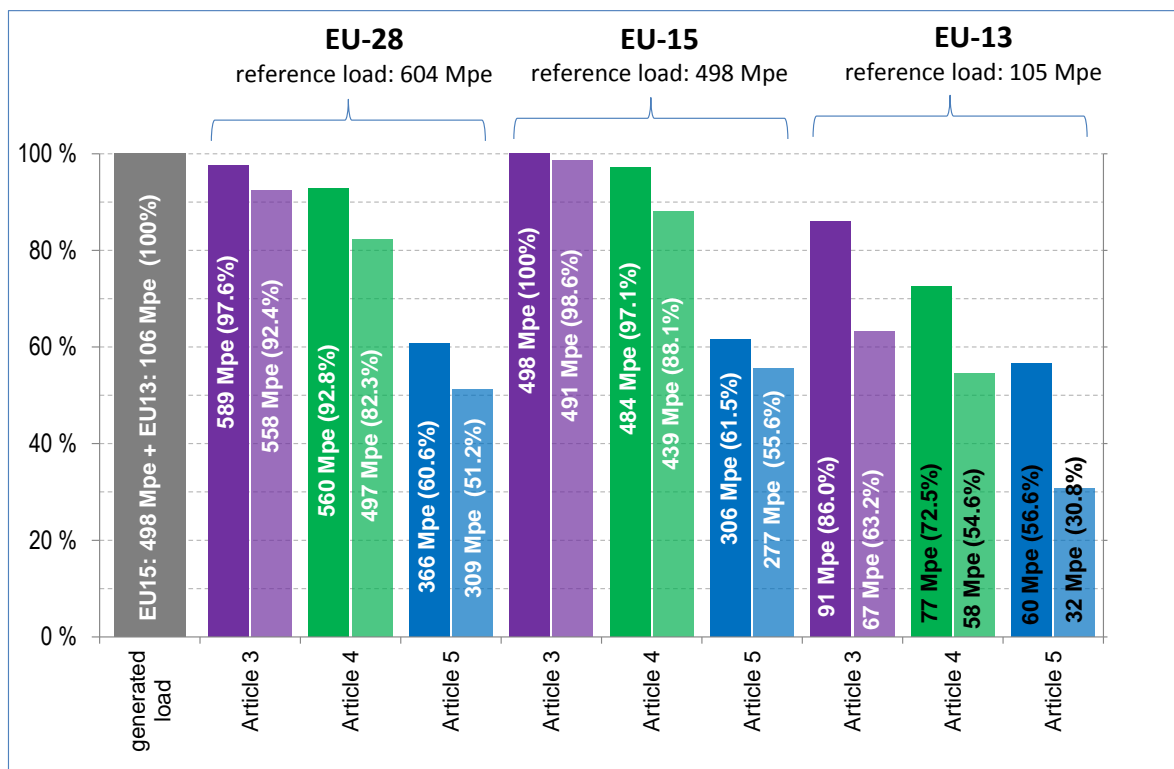


Figure 1: Average load rates per Article in relation to the total generated waste water load⁴.

The compliant load per Article compared to the subjected load is presented in Figure 2. This rate will be called the “compliance rate” in this report, as it represents the accomplishments of the UWWTD requirements. It is different from the rates shown in Figure 1, where the generated load is used as a reference.

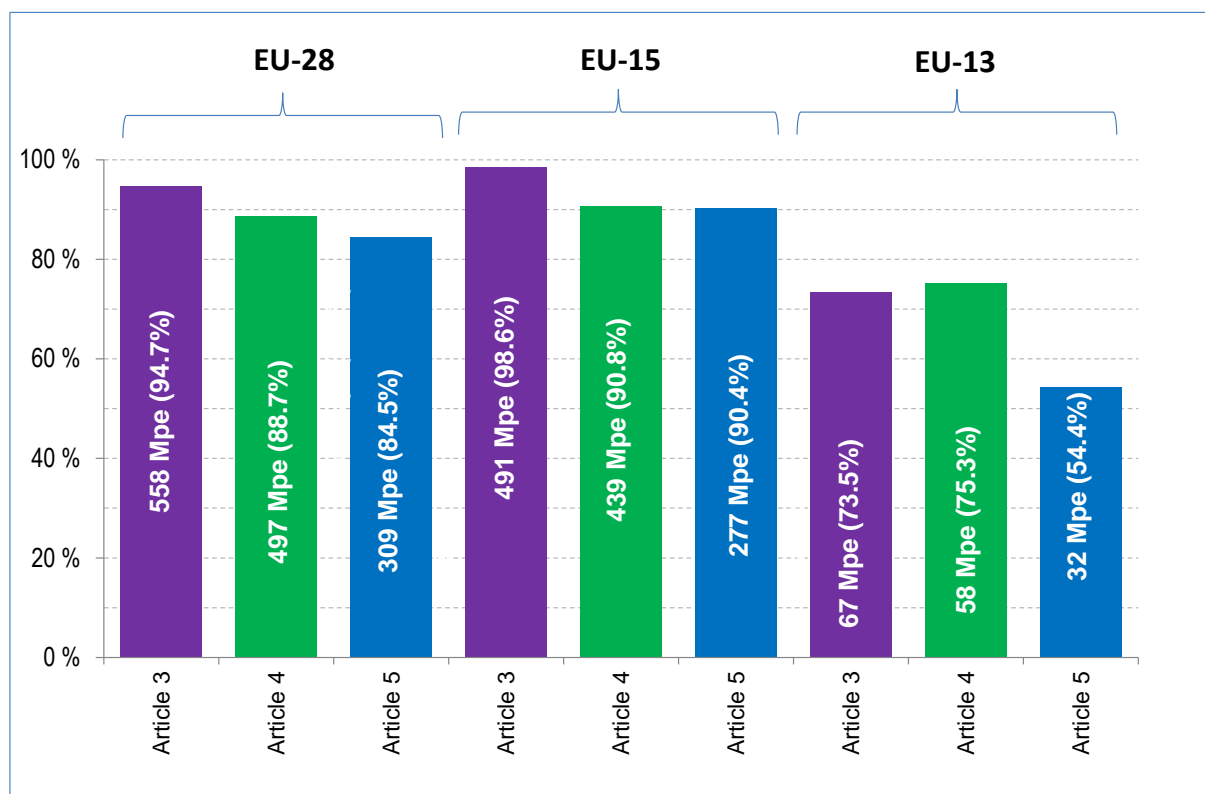


Figure 2: Average compliance rates with Article 3, Article 4 and Article 5 in relation to the total subjected waste water load.

1.4 Temporal evolution of implementation and compliance rates

The implementation of the UWWTD is more challenging than expected. However, taking into account the values of compliance rates published by the European Commission in the previous Implementation reports, a positive trend appears: compliance has increased over time. Abrupt changes in the trends are explained by the use of more accurate calculation methods and/or the inclusion of new EU Member States into the overall assessment.

Considering the requirements of collection (Article 3), most EU Member States achieved the maximum compliance rate of 100%, except BE, BG, CY, EE, ES, HR, IT, PL, PT, RO, and SI. The provision of secondary treatment (Article 4) shows that most EU Member States achieved very high compliance rates of more than 90% over the past years except BG, CY, ES, FR, IE, IT, PT, and SI. Finally the provision of more stringent treatment (Article 5) shows that 12 EU Member States achieved high compliance rates above 90%.

⁴ Solid bars: load that should be collected and/or treated. Transparent bars: load for which the collection or treatment provided complies with the provisions in the Directive)

2 Implementation in EU-28 Member States

2.1 Number of agglomerations, generated waste water load and big cities/big dischargers in EU-28 Member States

EU Member States reported 23,510 agglomerations, larger than 2,000 p.e. that generated 604 M p.e. of waste water load at the 31 December 2014 reference date. EU-15 Member States reported 17,638 agglomerations that generated 498 M p.e. waste water load and EU-13 Member States reported 5,872 agglomerations that generated 105 Mio. p.e. waste water load (Table 2).

	2,000 - 10,000 p.e.		10,001 - 100,000 p.e.		> 100,000 p.e.		Total	
	Number agglomerations	Generated load (p.e.)	Number agglomerations	Generated load (p.e.)	Number agglomerations	Generated load (p.e.)	Number agglomerations	Generated load (p.e.)
AT	370	1,762,081	233	7,572,690	30	11,074,100	633	20,408,871
BE	230	1,080,100	135	3,841,700	14	4,287,600	379	9,209,400
BG	241	913,129	94	2,697,680	13	4,474,806	348	8,085,615
HR	191	852,119	86	2,503,855	5	1,670,253	282	5,026,227
CY	46	202,300	9	392,700	2	400,000	57	995,000
CZ	466	1,970,990	131	3,269,380	8	2,460,640	605	7,701,010
DK	255	1,242,769	148	4,906,031	24	5,463,745	427	11,612,545
EE	35	164,461	18	527,149	4	962,936	57	1,654,546
FI	139	624,450	64	2,055,650	8	2,693,000	211	5,373,100
FR	2,183	9,757,181	886	26,771,853	103	35,291,227	3,172	71,820,261
DE	2,109	10,290,008	1,671	47,657,439	171	51,285,514	3,951	109,232,961
EL	336	1,508,174	109	3,011,866	10	7,270,546	455	11,790,586
HU	325	1,562,054	184	4,796,392	17	5,336,201	526	11,694,647
IE	104	429,787	63	1,573,305	7	3,252,673	174	5,255,765
IT	2,005	9,494,233	995	30,798,744	132	37,129,724	3,132	77,422,701
LV	52	231,317	22	657,598	1	660,420	75	1,549,335
LT	32	159,300	28	883,590	5	1,609,200	65	2,652,090
LU	35	152,827	11	236,930	1	216,458	47	606,215
MT	0	0	2	79,367	1	433,634	3	513,001
NL	80	472,087	193	7,007,970	50	10,745,718	323	18,225,775
PL	951	4,500,183	500	14,164,306	71	19,872,061	1,522	38,536,550
PT	298	1,391,300	118	3,916,610	28	6,727,750	444	12,035,660
RO	1,595	6,247,982	194	5,252,552	29	9,424,247	1,818	20,924,781
SK	277	1,093,832	72	1,911,259	7	1,651,200	356	4,656,291
SI	132	523,921	24	502,032	2	436,270	158	1,462,223
ES	1,281	6,141,230	660	19,513,278	122	36,205,520	2,063	61,860,028
SE	254	1,287,154	134	4,236,151	19	7,000,323	407	12,523,628
UK	985	4,568,779	690	21,869,861	145	44,443,386	1,820	70,882,026
EU 15	10,664	50,202,160	6,110	184,970,078	864	263,087,284	17,638	498,259,522
EU 13	4,343	18,421,588	1,364	37,637,860	165	49,391,868	5,872	105,451,316
EU 28	15,007	68,623,748	7,474	222,607,938	1,029	312,479,152	23,510	603,710,838

Table 2: Number and generated load of agglomerations $\geq 2,000$ p.e. for 28 EU Member States

Table 3 highlights the comparison of the total number of agglomerations and their generated load reported for reference years 2011-2012 and 2014 (respectively Q-2013 and Q-2015) for those EU Member States for which data was available from both reporting periods (i.e. all EU Member States with the exception of Italy and Poland). In terms of the number of agglomerations, no major changes can be seen except for DE and ES, that record an important decrease of more than 100 agglomerations. The total generated waste water load significantly decreased in comparison to the previous reporting in DE, ES and ES. A significant increase in generated load was reported for AT, NL and UK.

Member State	Comparison total number of agglomerations Q2015 - Q2013	Comparison generated load of agglomerations Q2015 - Q2013	Member State	Comparison total number of agglomerations Q2015 - Q2013	Comparison generated load of agglomerations Q2015 - Q2013
AT	↓ -3	↑ 1,006,177	LT	↓ -2	↓ -85,810
BE	↓ -1	↑ 30,600	LU	→ 0	↓ -51,782
BG	↓ -16	↓ -139,944	MT	→ 0	↑ 10,797
HR	↑ 1	↓ -41,410	NL	→ 0	↑ 607,288
CY	→ 0	↑ 110,000	PL*	--	--
CZ	↑ 7	↑ 110,406	PT	↑ 31	↑ 382,047
DK	↓ -2	↑ 4,600	RO	↓ -34	↓ -484,394
EE	↓ -2	↑ 11,780	SK	→ 0	↓ -323,335
FI	↓ -5	↑ 133,400	SI	→ 0	→ 0
FR	↑ 25	↑ 276,569	ES	↓ -145	↓ -6,412,328
DE	↓ -117	↓ -3,645,461	SE	↑ 40	↓ -139,367
EL	↓ -37	↓ -510,267	UK	↑ 9	↑ 1,550,988
HU	↑ 28	↑ 29,460			
IE	↑ 4	↑ 91,749	EU 15**	↓ -201	↓ -6,675,787
IT*	--	--	EU 13**	↓ -22	↓ -1,001,985
LV	↓ -4	↓ -199,535	EU 28**	↓ -223	↓ -7,677,772

Table 3: Comparison of total number and generated load of agglomerations $\geq 2,000$ p.e. of EU-28, for which data was available from Q-2013 and Q-20155.

Figure 3 and Figure 4 illustrate the frequency of agglomeration sizes and generated load in EU-28 (Figure 3), broken down into EU-15 and EU-13 (Figure 4). It can be seen that the larger agglomerations with more than 100,000 p.e., despite their low absolute number (4.4% of all agglomerations with more than 2,000 p.e.), generate the highest waste water loads across the European Union (51.8% of the total load).

⁵ *Due to the poor quality of data reported by Italy and Poland in 2013, the trend can not be represented. **Due to the poor quality of data reported by Italy and Poland in 2013, there were excluded from the aggregation.

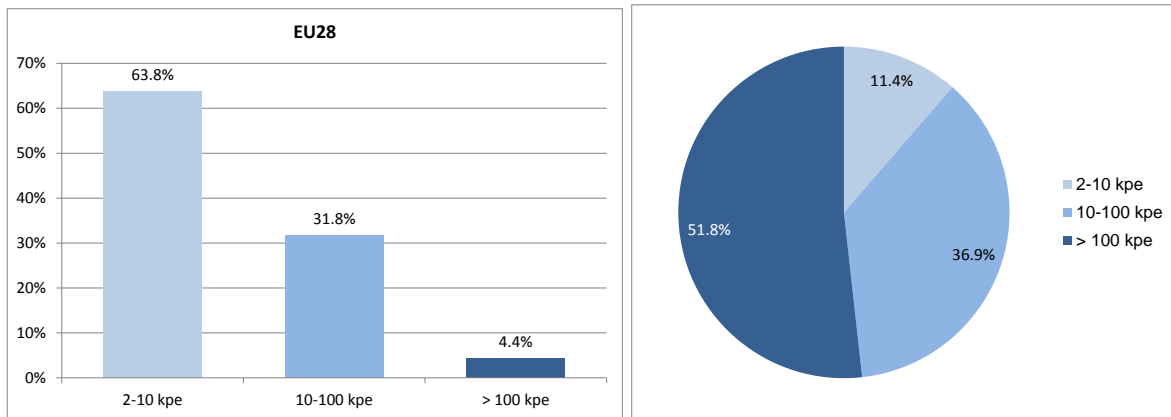


Figure 3: Frequency of agglomeration sizes (left) and generated load (right) of agglomeration sizes in EU-28 (2,000 to 10,000 p.e.; 10,001 to 100,000 p.e.; > 100,000 p.e.).

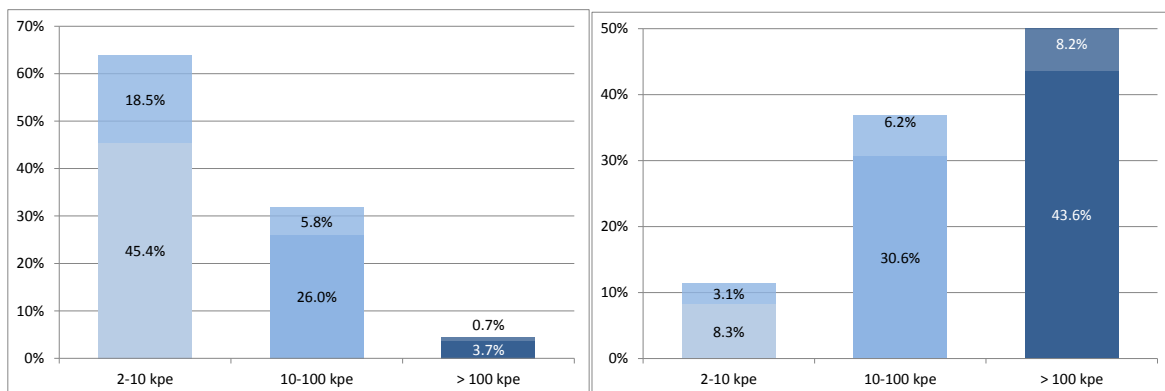


Figure 4: Frequency (left) and generated load (right) of agglomeration sizes in EU-15 (dark shading) and EU-13 (light shading) for 2,000 to 10,000 p.e.; 10,001 to 100,000 p.e.; > 100,000 p.e..

2.2 Temporal evolution of waste water load destination

While section 2.1 presents a comparison of the total number of agglomerations and their generated waste water load reported for those EU Member States for which data was available from both reporting periods (all EU Member States with the exception of Italy and Poland), Figure 5 and Figure 6 show the temporal evolution of the destination of the generated waste water load.

As for EU-15 EU Member States, it can be seen that most of the generated waste water load is collected in collecting systems. Greece, Ireland and Italy show a small share of waste water load addressed through Individual and Appropriate Systems (IAS).

The situation is different in EU-13 EU Member States as a considerable share of waste water load is neither collected or addressed through an individual appropriate system (e.g. in BG, CY, RO and SI). Other EU-13 EU Member States (CZ, EE, HU, LV, LT, SK and SI) show a relevant share of waste water load addressed through individual appropriate systems (IAS).

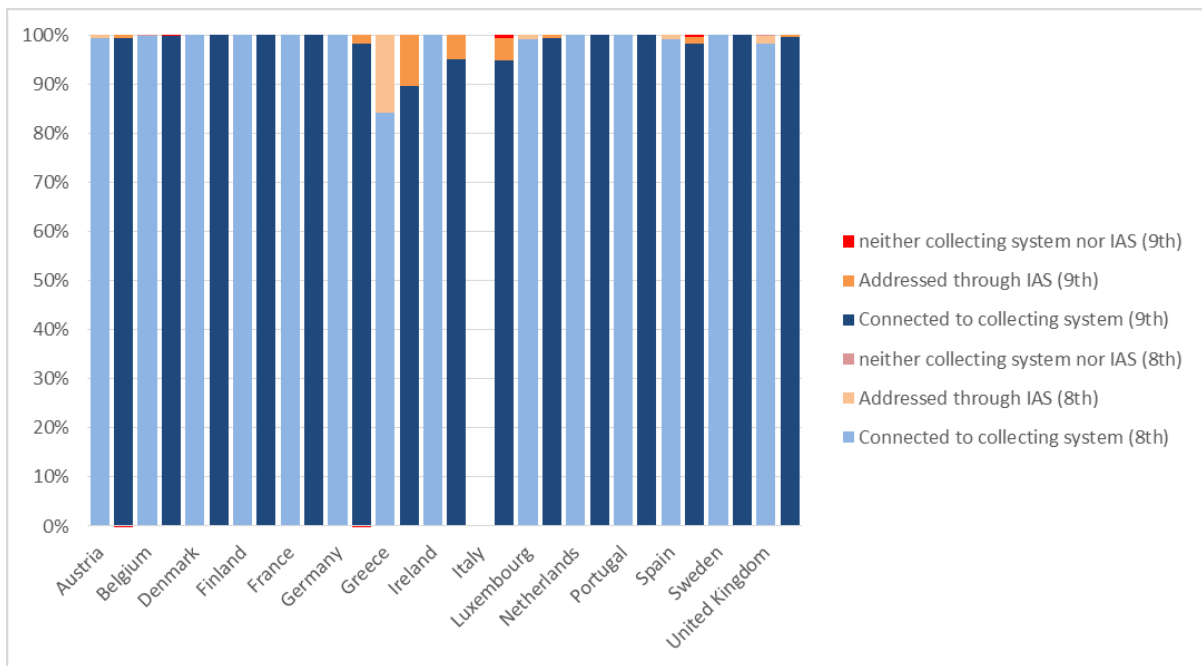


Figure 5: Evolution of the load destination (collected, IAS, not collected and not addressed through IAS) for EU-15 in a comparison of data available from Q-2013 (light shading) and Q-2016 (dark shading)

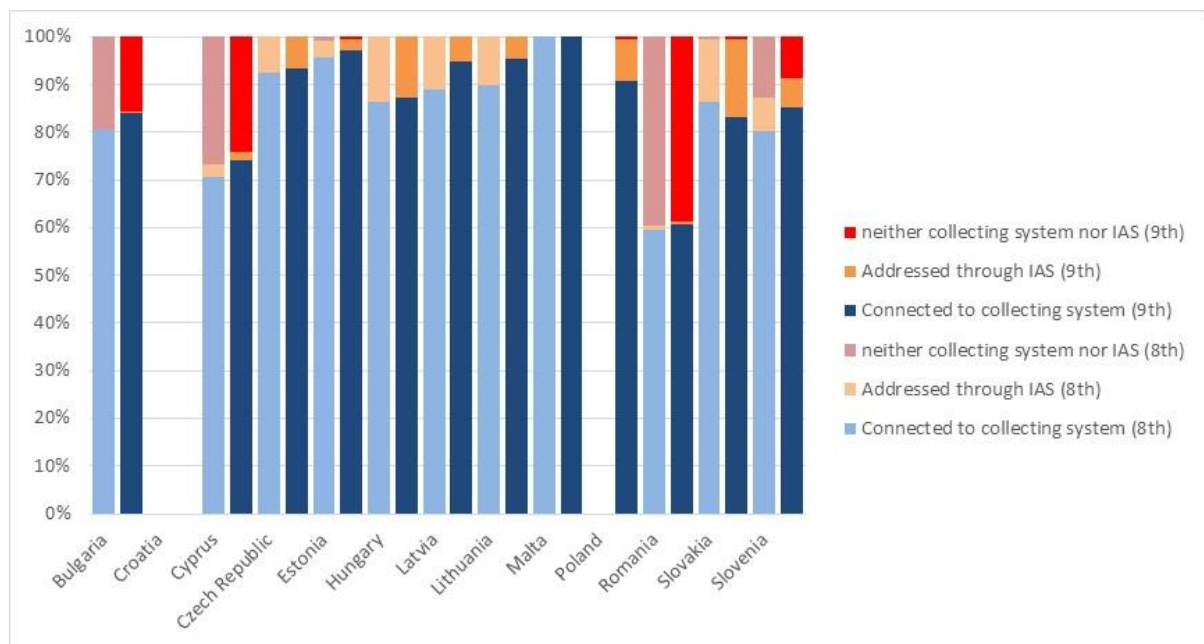


Figure 6: Evolution of the load destination (collected, IAS, not collected and not addressed through IAS) for EU-13 in a comparison of data available from Q-2013 (light shading) and Q-2016 (dark shading)

2.3 Sensitive Areas and Catchment of Sensitive Areas in EU-28 Member States

As requested in Article 5(1) of the UWWTD, EU Member States have to identify sensitive areas according to the criteria laid down in Annex II of the UWWTD and to review this identification at least every four years according to Article 5(6). However, according to

Article 5(8), EU Member States do not have to identify sensitive areas if more stringent treatment will be applied over the whole territory.

Concerning the requirement of more stringent treatment, the UWWTD provides the option of individually targeting each agglomeration with a load of more than 10,000 p.e. according to Article 5(2,3) or achieving a general removal rate for nitrogen and phosphorus of 75% of the load entering all urban waste water treatment plants, according to Article 5(4), when this result is reached.

At the reference date 31 December 2014, twelve EU Member States decided to apply Article 5(8) of the UWWTD and apply more stringent treatment over the whole territory: AT, CZ, DE, DK, EE, FI, LT, LU, LV, NL, PL and RO.

- Nine EU Member States (CZ, DK, EE, FI, LV, LT, LU, PL and RO) apply Article 5(8) and Article 5(2,3). All of these Member States apply Article 5(8) with sensitivity for N and P with the exception of FI, which applies the UWWTD with sensitivity for P only. For some regions sensitivity for N only is applied, if this is necessary due to the local situation.
- AT, DE, NL apply Article 5(8) and Article 5(4).
- BE, SK and SE apply Article 5(2,3) and have identified all their water bodies as sensitive areas.

The remaining thirteen EU Member States decided to apply Article 5(2,3) of the UWWTD and identified certain water bodies in their territory as Sensitive Areas (SA) and/or Catchment of Sensitive Areas (CSA): BG, CY, EL, ES, FR, HR, HU, IE, IT, MT, PT, SI and UK.

Summarising the situation of the EU-28 Member States, 15 EU Member States apply Article 5 of the UWWTD to their entire territory or have designated all their water bodies as Sensitive Areas, whereas 13 EU Member States have identified certain water bodies in their territory as Sensitive Areas, for which more stringent treatment requirements need to be implemented.

With the accession of the new EU Member States in 2004 and 2007 the Baltic Sea, the North-west shelf of the Black Sea, the Danube Delta and the Northern Adriatic were identified as Sensitive Areas Catchment of Sensitive Areas due to eutrophication, thus requiring EU Member States lying in the relevant catchments, to apply more stringent treatments or measures to remove nitrogen and phosphorous:

- For the Baltic Sea, out of those EU Member States being part of the catchment (DK, EE, FI, DE, LV, LT, PL and SE), all EU-15 Member States as well as LT and EE, PL (for 1069 agglomerations representing 86% of total biodegradable load), and LV (for agglomerations with between 10,000 and 100,000 p.e.) have to be compliant with Article 5 by the end of the reference year 2014.
- For those EU Member States lying in the Black Sea catchment, RO and BG, the relevant deadlines for applying Article 5 are as follows: RO has to be compliant for 61% of the total load, while BG needs to be fully compliant by the end of the reference year 2014.
- For the Danube catchment, all relevant EU-15 EU Member States (DE, AT) as well as CZ and BG have to be compliant with Article 5 by the end of the reference year 2014. All remaining EU-13 Member States that are part of the Danube catchment have interim compliance deadlines in place for Article 5, until the end of the reference year 2015 (SI, HU, SK, BG and RO) and until the end of the reference year 2023 (HR).

- For the catchment of the Northern Adriatic Sea the deadline to apply more stringent treatment in IT has expired, while in some areas in SI Article 5 compliance is required for agglomerations greater than 15,000 p.e., while in some areas Article compliance is required for agglomerations greater than 10,000 p.e. by the end of the reference year 2015.

Figure 9 and Table 4 provide an overview of:

- The designation of Sensitive Areas and Catchment Sensitive Areas;
- The respective application of Article 5(1) and 5(2,3), Article 5(8) and 5(2,3) or Article 5(8) and 5(4);
- The number (and percentage of the national territory) of SAs and CSAs identified; and,
- The changes in the % of national territory identified as Sensitive Area or Catchment of Sensitive Area compared to Q-2013.

By the 2014 reference year for this report and based on GIS data reported by EU Member States, it can be seen that:

- 40.7% of the territory of EU-28 is designated as Sensitive Areas and/or Catchment of Sensitive Areas according to Article 5(1) and 5(2,3); compared to the 8th Report this is an increase of 3.4% for the EU-28 territory.
- 35.3% of the territory of EU-28 needs to carry out more stringent waste water treatment as EU Member States apply more stringent treatment in the whole territory according to Article 5(8); compared to the last Report this is a minor decrease of 2.0%.
- In total, 76.0 % of EU-28 territory carries out more stringent treatment according to Article 5 of the UWWTD (an increase of 1.4 % for the EU-28 territory compared to the last Report).

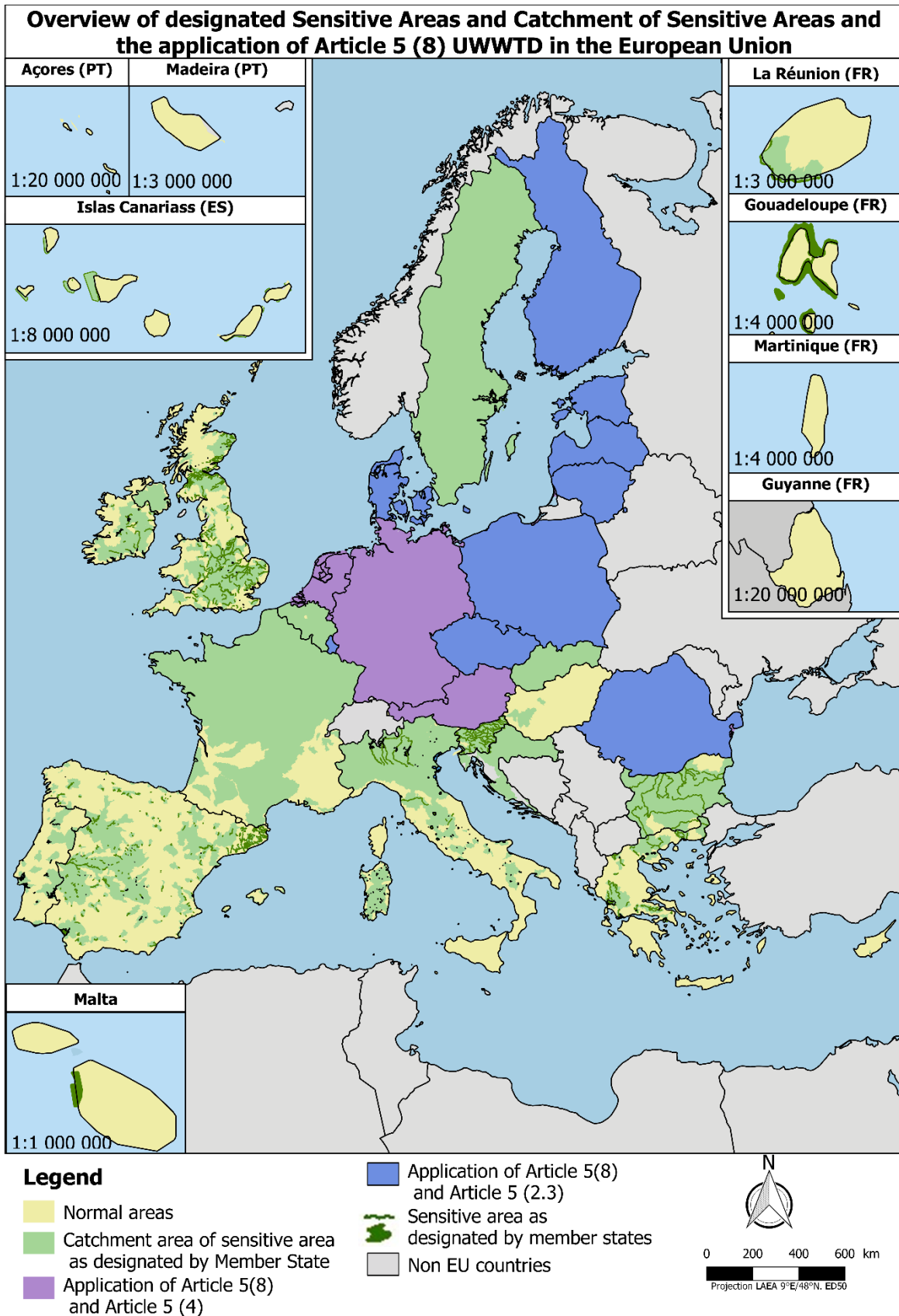


Figure 7: Overview of Sensitive Areas and Catchment of Sensitive Areas and the application of Article 5(8) of the UWWTD in EU-28 as reported by EU Member States

Member State	UWWTD Articles applied	Number of Sensitive Areas and Catchment of Sensitive Areas identified	% of national territory identified as sensitive area or catchment of sensitive area	Changes since the 8 th Implementation Report
AT	Art. 5(8) + Art. 5(4)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
BE	Art. 5(1) + Art. 5(2,3) + Art. 5(4)	Application of Art. 5(1) + Art. 5(2,3) for Flanders and Wallonia, Art. 5(2,3) + Art. 5(4) for the Senne, sensitivity N and P for all	99.5	--
BG	Art. 5(1) + Art. 5(2,3)	14 SA + 14 CSA	87.6	8 th report: 13 SA + 15 CSA
CY	Art. 5(1) + Art. 5(2,3)	2 SA + 2 CSA	0.9	8 th Report: same number of SA + CSA, covering 2.6% of the national territory
CZ	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
DK	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
EE	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
EL	Art. 5(1) + Art. 5(2,3)	46 SA + 42 CSA	23.7	--
ES	Art. 5(1) + Art. 5(2,3)	453 SA + 455 CSA	33.9	8 th Report: 427 SA + 429 CSA, covering 34.9% of the national territory
FI	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity P (and for some subregions, if this is necessary due to the local situation, sensitivity for N) - no identification of sensitive areas		--
FR	Art. 5(1) + Art. 5(2,3) + Art. 5(4)	107 SA + 90 CSA	79.4	8th Report: 108 SA, covering 66.7% of the national territory
DE	Art. 5(8) + Art. 5(4)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
HR	Art. 5(1) + Art. 5(2,3)	81 SA + 55 CSA	81.2	--
HU	Art. 5(1) + Art. 5(2,3)	3 SA	7.1	--
IE	Art. 5(1) + Art. 5(2,3)	42 SA + 19 CSA	48.3	8th Report: 59 SA + 56 CSA, covering 49.3% of the national territory
IT	Art. 5(1) + Art. 5(2,3) + Art. 5(4)	213 SA + 174 CSA	56.1	8th Report: No complete dataset reported
LV	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
LT	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
LU	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--

Member State	UWWTD Articles applied	Number of Sensitive Areas and Catchment of Sensitive Areas identified	% of national territory identified as sensitive area or catchment of sensitive area	Changes since the 8 th Implementation Report
MT	Art. 5(1) + Art. 5(2,3)	8 SA	only coastal area identified as SA	--
NL	Art. 5(8) + Art. 5(4)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
PL	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
PT	Art. 5(1) + Art. 5(2,3)	25 SA + 25 CSA + 3 LSA	28.3	--
RO	Art. 5(8) + Art. 5(2,3)	Application of Art. 5(8), sensitivity N and P - no identification of sensitive areas		--
SK	Art. 5(1) + Art. 5(2,3) - entire territory	Application of Art. 5(1) + Art. 5(2,3) for entire territory, sensitivity N and P	100	--
SI	Art. 5(1) + Art. 5(2,3)	148 SA + 147 CSA	93.8	8th Report: 146 SA + 146 CSA, covering 96.7% of the national territory
SE	Art. 5(1) + Art. 5(2,3) - entire territory	Application of Art. 5(1) + Art. 5(2,3) for entire territory, sensitivity N and P for Southern Coast, sensitivity P for Northern Coast and inland waters	100	--
UK	Art. 5(1) + Art. 5(2,3)	396 SA + 233 CSA	44.2	8th Report: 589 SA + 232 CSA, covering 46.5% of the national territory

Table 4: Overview of Sensitive Areas and Catchment of Sensitive Areas in EU-28 Member States

3 Assessment of compliance with the requirements of the UWWTD in EU-28 Member States

3.1 Relevant obligations

Compliance is assessed by comparing the amount of waste water load that receives the treatment requested by the UWWTD (i.e. which is collected, which receives secondary treatment and which receives more stringent treatment) with the amount that, theoretically, should receive such treatment (the so called “subjected load”).

As a general criterion, it has been considered that all EU-15 EU Member States have to comply with all provisions in the UWWTD by the date of reference for this reporting exercise (i.e. 31 December 2014). For EU-13 EU Member States, certain transitional deadlines are in force and were considered to define the load that should be subject to collection or treatment (subjected load).

In the EU Member States subject to full compliance with the requirements of the UWWTD for this reporting period (i.e. EU-15 EU Member States as well as BG, CY, CZ, EE, LT and MT), all agglomerations with a size of more than 2,000 p.e. are considered to be obliged to meet provisions in Articles 3 and 4 (except the agglomerations between 2,000 p.e. and 10,000 p.e. discharging into coastal waters and not subject to Article 4). Compliance with Article 5(2,3) is not requested for agglomerations smaller than 10,000 p.e., which discharge into Sensitive Areas and Catchment of Sensitive Areas, and for agglomerations discharging into “normal areas”. When applicable, compliance with Article 5(4) has been checked (as an alternative to Article 5(2,3), since the level of treatment is not requested at the agglomeration-level, instead a minimum reduction rate of 75% for total nitrogen and total phosphorus needs to be achieved for the entire load entering the UWWTPs of the respective area).

3.2 Assessment of compliance with the requirements of the UWWTD

The compliance rates for Articles 3, 4 and 5 of the UWWTD are presented for each EU Member State in Table 5 and Figures 10, 11 and 12.

As regards compliance with Article 3 (collecting systems) the European Union as a whole reaches 95% (EU-15 99% and EU-13 74%). 18 EU Member States show a compliance collection level of 100% of the waste water load, BE has a compliance rate of 98% and EE and ES for 97%. Four EU Member States have a low rate of compliance (CY 65%, BG 26%, RO 3%, and SI 61%).

As regards the requirements of Article 4 (secondary treatment) the European Union as a whole reaches a compliance rate of 89% (EU-15 91% and EU-13 75%). 17 EU Member States reach a level of compliance between 90% and 100%. Three EU Member States (CY, FR and ES) are having a compliance rate between 80% and 90%, IT, and PT show a compliance rate between 70% and 80%. Low compliance rates can be seen in IE (54%), BG (20%) and SI (17%) and RO (4%), MT shows no compliance with Article 4 due to the poor performance of all its treatment plants.

As regards provisions in Article 5 (more stringent treatment), the EU as a whole reaches 85% (EU-15 90% and EU-13 54%). Fourteen EU Member States reach levels of compliance between 90% and 100%. Twelve EU Member States are on the other hand still below 70% of compliance.

Member State	Article 3 compliance rate (%)	Article 4 compliance rate (%)	Article 5 compliance rate (%)
Austria	100	100	100
Belgium	98	97	91
Bulgaria	26	20	7
Croatia	transition period pending	transition period pending	transition period pending
Cyprus	65	86	85
Czech Republic	100	90	63
Denmark	100	100	95
Estonia	97	90	91
Finland	100	95	91
France	100	89	94
Germany	100	100	100
Greece	100	99	100
Hungary	100	95	92
Ireland	100	54	20
Italy	94	72	65
Latvia	100	100	96
Lithuania	100	100	98
Luxembourg	100	100	45
Malta	100	0	0
Netherlands	100	100	100
Poland	92	90	67
Portugal	100	77	66
Romania	3	4	1
Slovakia	100	98	57
Slovenia	61	17	50
Spain	97	84	67
Sweden	100	99	94
United Kingdom	100	99	93

Table 5: National compliance rates for Article 3, Article 4 and Article 5 of the UWWTD6

⁶ colors show ranges of compliance: red <70%, orange ≥70% - 85%, yellow ≥85% - 95%, green ≥95 - 97%, blue ≥97% - 100%, white means no data or transition period still pending

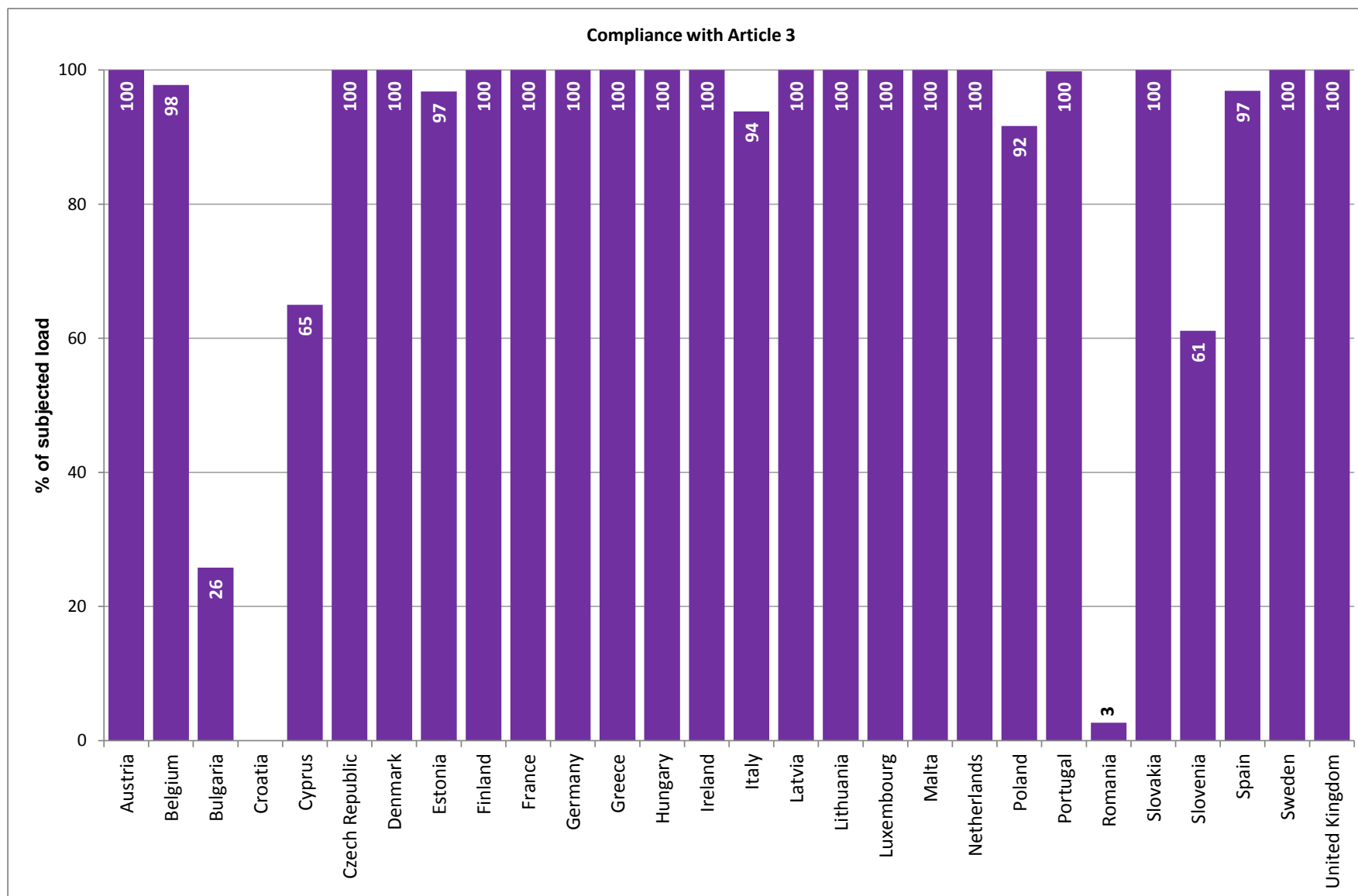


Figure 8: Assessment of compliance with Article 3 of the UWWTD for EU-28 Member States.

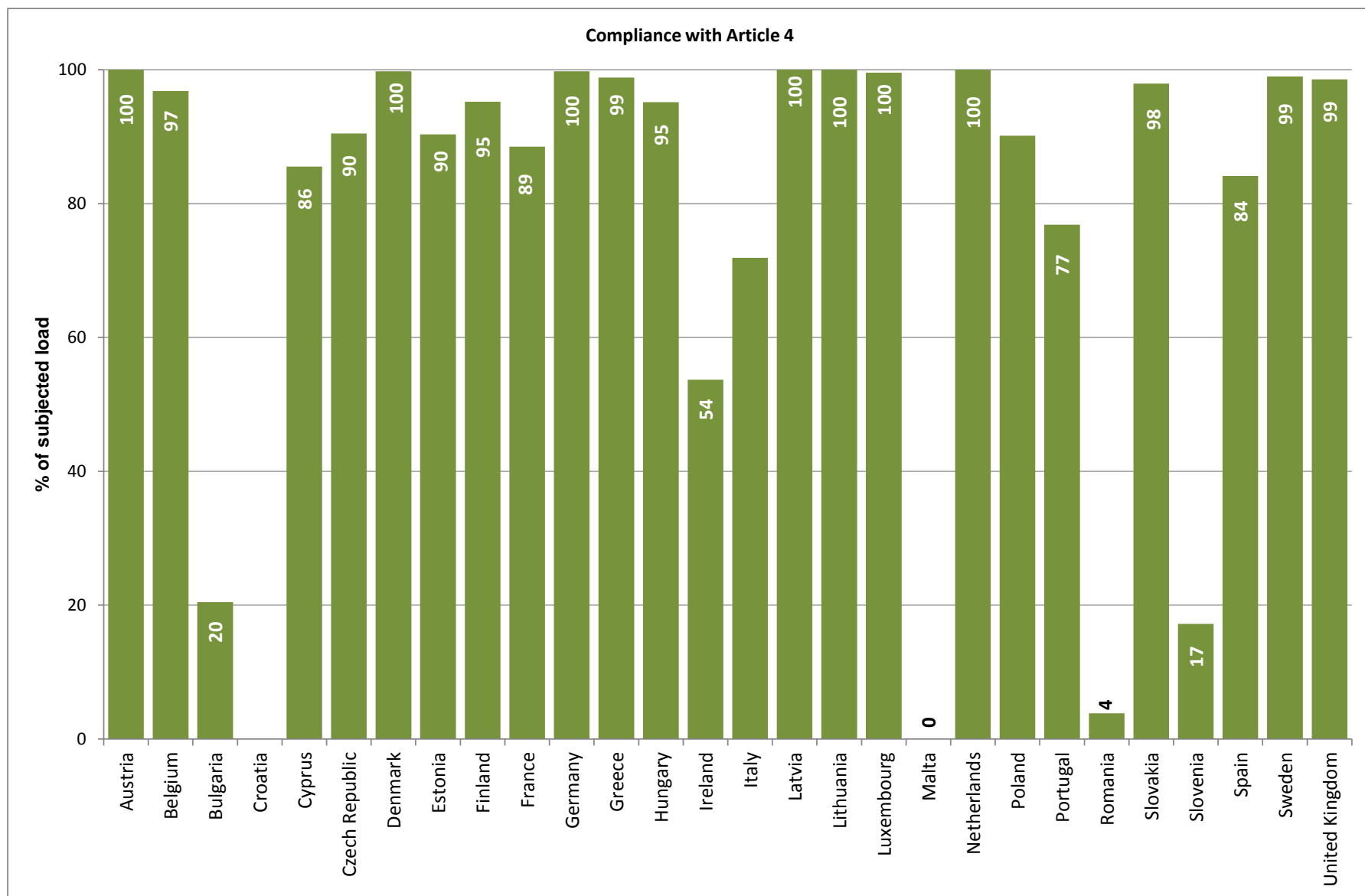


Figure 9: Assessment of compliance with Article 4 of the UWWTD for EU-28 Member States.

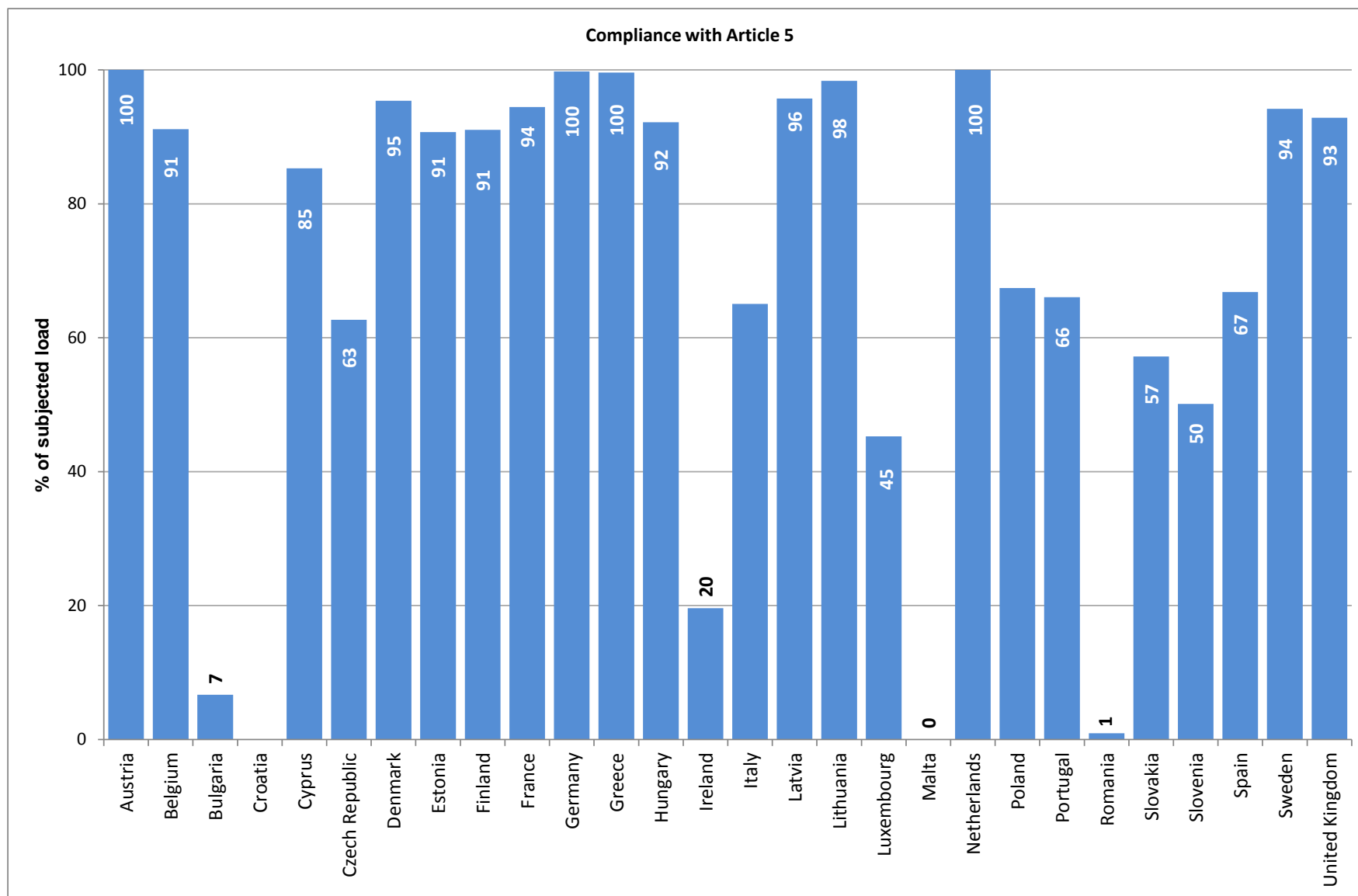


Figure 10: Assessment of compliance with Article 5 of the UWWTD for EU-28 Member States.

The maps in Figure 13, 14 and 15 show the degree of compliance (%) of the EU-28 Member States for collecting systems (Article 3), secondary treatment (Article 4) and more stringent treatment (Article 5) .

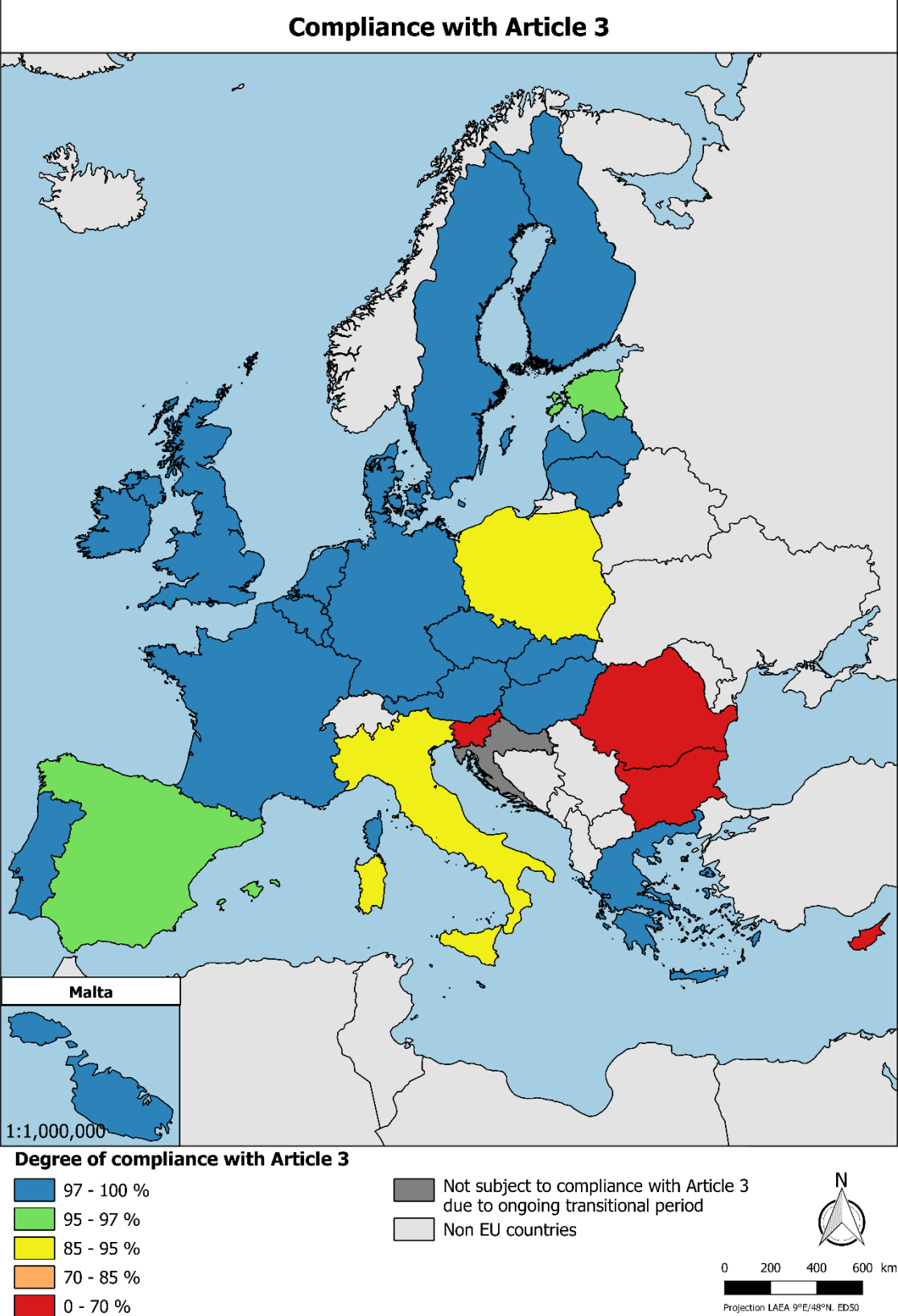


Figure 11: Map of the degree of compliance (%) with Article 3 of the UWWTD for the EU-28 Member States.

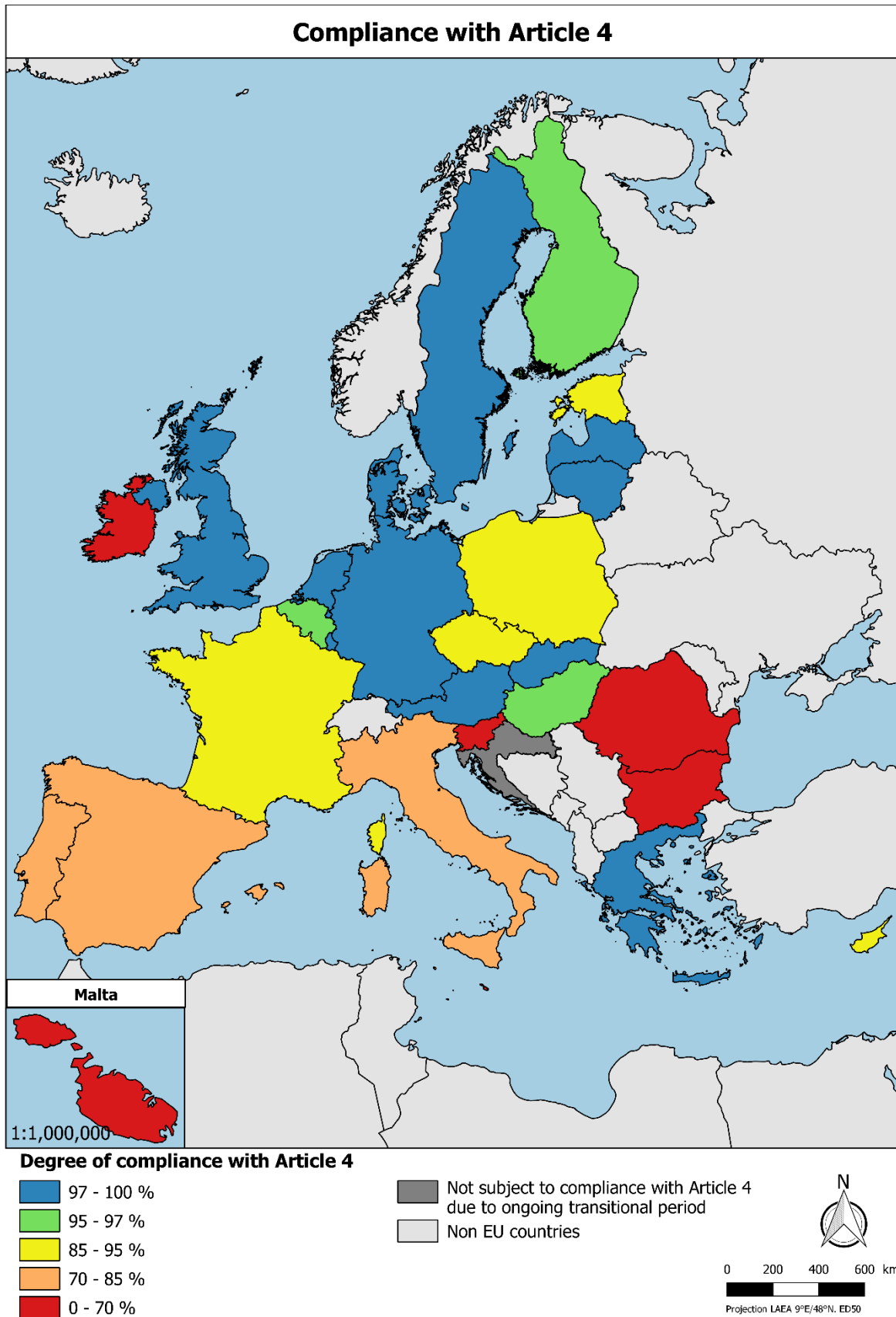


Figure 12: Map of the degree of compliance (%) with Article 4 of the UWWTD for the EU-28 Member States.

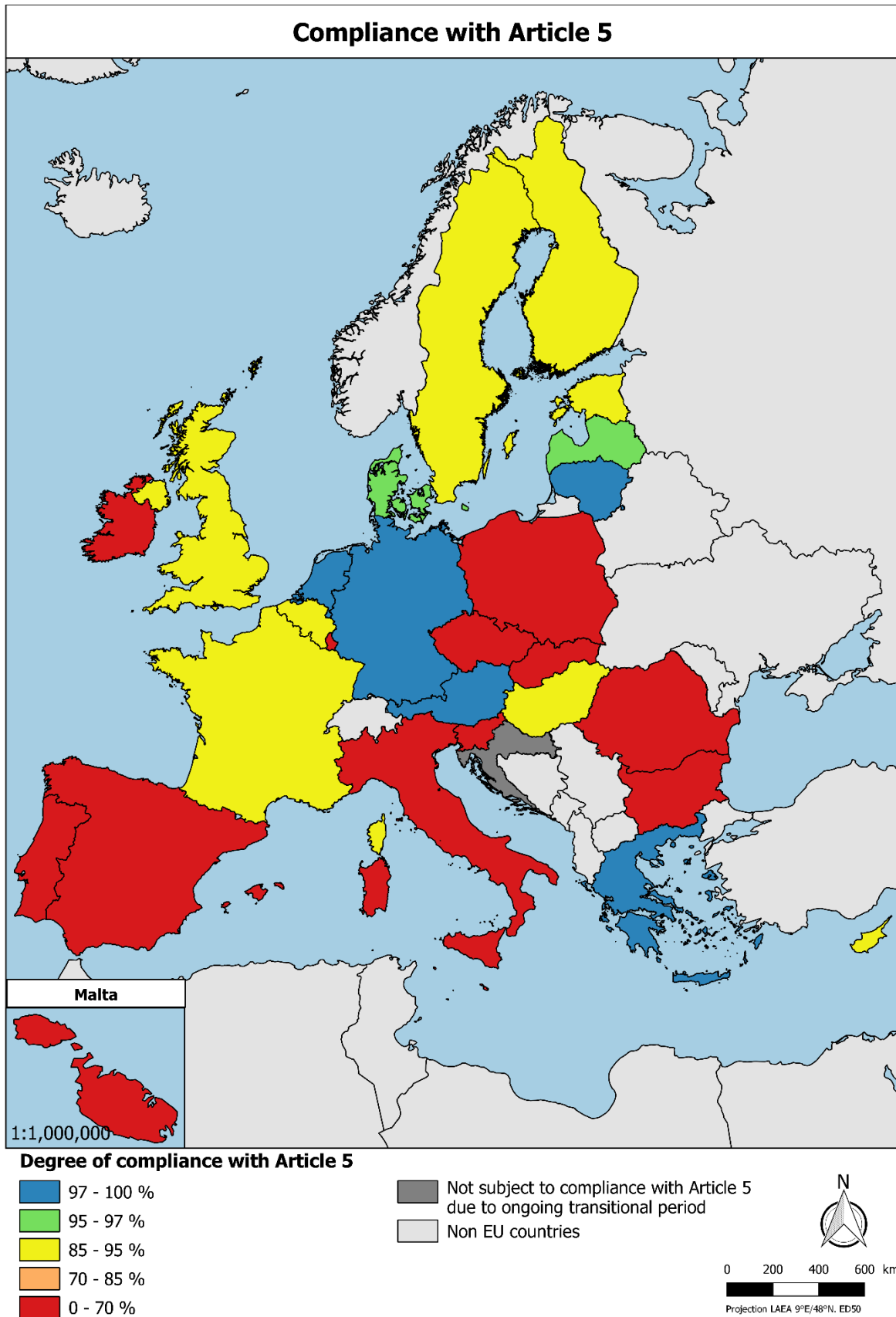


Figure 13: Map of the degree of compliance (%) with Article 5 of the UWWTD for the EU-28 Member States.

3.3 Assessment of compliance with the requirements of the UWWTD at the regional level

The assessment of compliance with the requirements of the UWWTD is also presented at the regional level (NUTS2 level). The additional presentation of compliance results, on the basis of NUTS2 level regions, provides a better correlation with data presented by Eurostat and information required for the application of several EU funds, such as the European Regional Development Fund. Furthermore citizens are often interested in getting information on the waste water situation at a level which is more local than the national level, i.e. in their respective regions.

For all EU Member States a table and maps for Article 3, 4 and 5 present the compliance results at the regional level (see Annex V for detailed EU Member States data). In Figure 16, 17 and 18, compliance with the requirements of the UWWTD are shown at the regional level for EU-28 Member States. As the compliance figures for Romania are based on the total generated waste water load of the entire territory, compliance at the regional level cannot be presented for Romania.

As can be seen in Figures 16 to 18, the size and number of NUTS2 regions per Member State varies across Europe: Six EU Member States reported their whole territory as one NUTS2 region (CY, EE, LT, LU, LV and MT). Based on the size of the territory, the number of regions ranges from two regions (IE, SI) to 13 regions in Greece, 19 regions in Spain, 26 regions in France, 38 regions in the United Kingdom and 42 regions in Germany. All other EU Member States have reported between 5 and 12 NUTS2 regions for the entire territory.

Apart from the EU Member States having 100% compliance rates for Article 3 (collection) of the UWWTD for the entire territory (AT, CZ, DK, FI, FR, DE, EL, HU, IE, LV, LT, LU, MT, NL, PT, SK, SE and UK), certain regions in BE, EE, IT and PL show compliance rates that range between 95% and 97%. Far lower compliance rates are reported for some regions in PL (between 60% and 80%), ES, IT and BG (between 40% and 60%), SL and BG (below 40%).

Seven EU Member States (AT, DK, DE, LV, LT, LU and NL) show 100% compliance rates for Article 4 (secondary treatment) of the UWWTD for all regions; many regions in BE, CY, CZ, EE, EL, ES, FI, FR, HU, IE, PL, PT, SE, SK and UK show compliance rates above 80%. Compliance rates less than 20% can be found in several regions in BG, ES, MT and SL.

AT, DE, EL, LT and NL have between 98% and 100% compliance rates for more stringent treatment (Article 5 of the UWWTD) over the whole territory. Certain regions in BE, CZ, DK, EE, ES, FR, HU, LT, SE and UK show compliance rates above 80%. Compliance rates less than 20% can be found in several regions in BE, BG, CZ, ES, IE, IT, MT, SK, SL and UK.

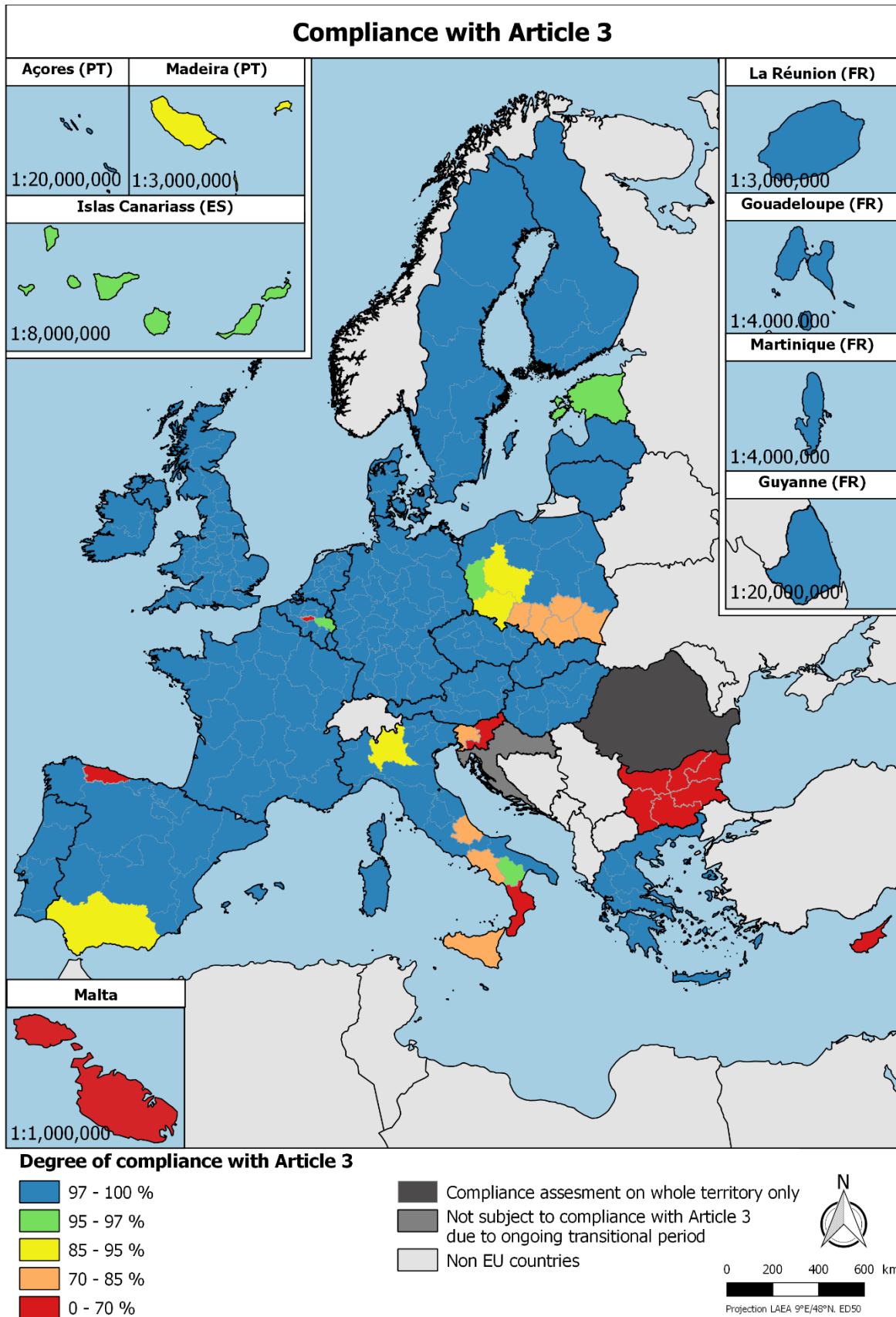


Figure 14: Compliance with the requirements of Article 3 of the UWWTD at the regional level in EU-28 Member States.

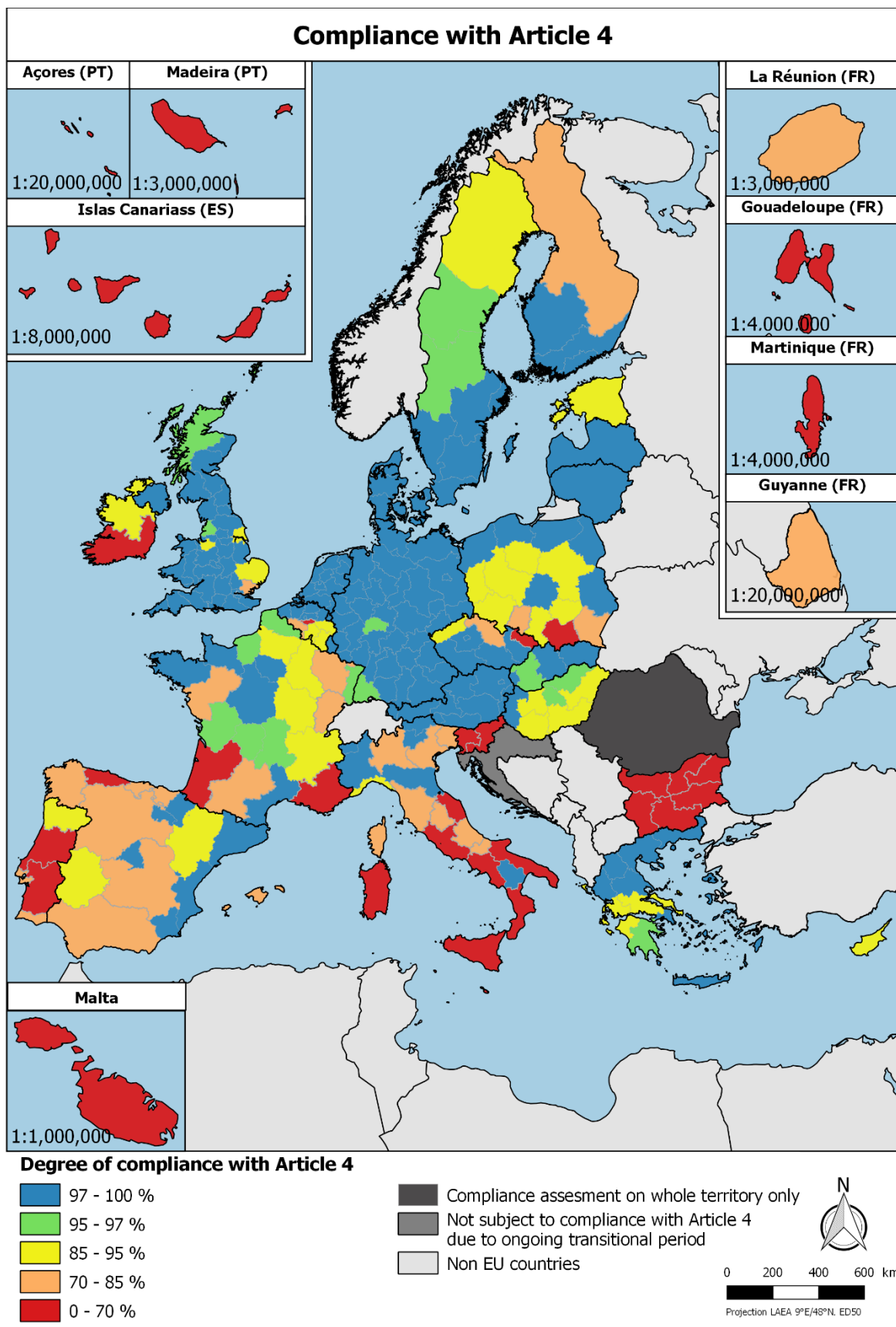


Figure 15: Compliance with the requirements of Article 4 of the UWWTD at the regional level in EU-28 Member States.

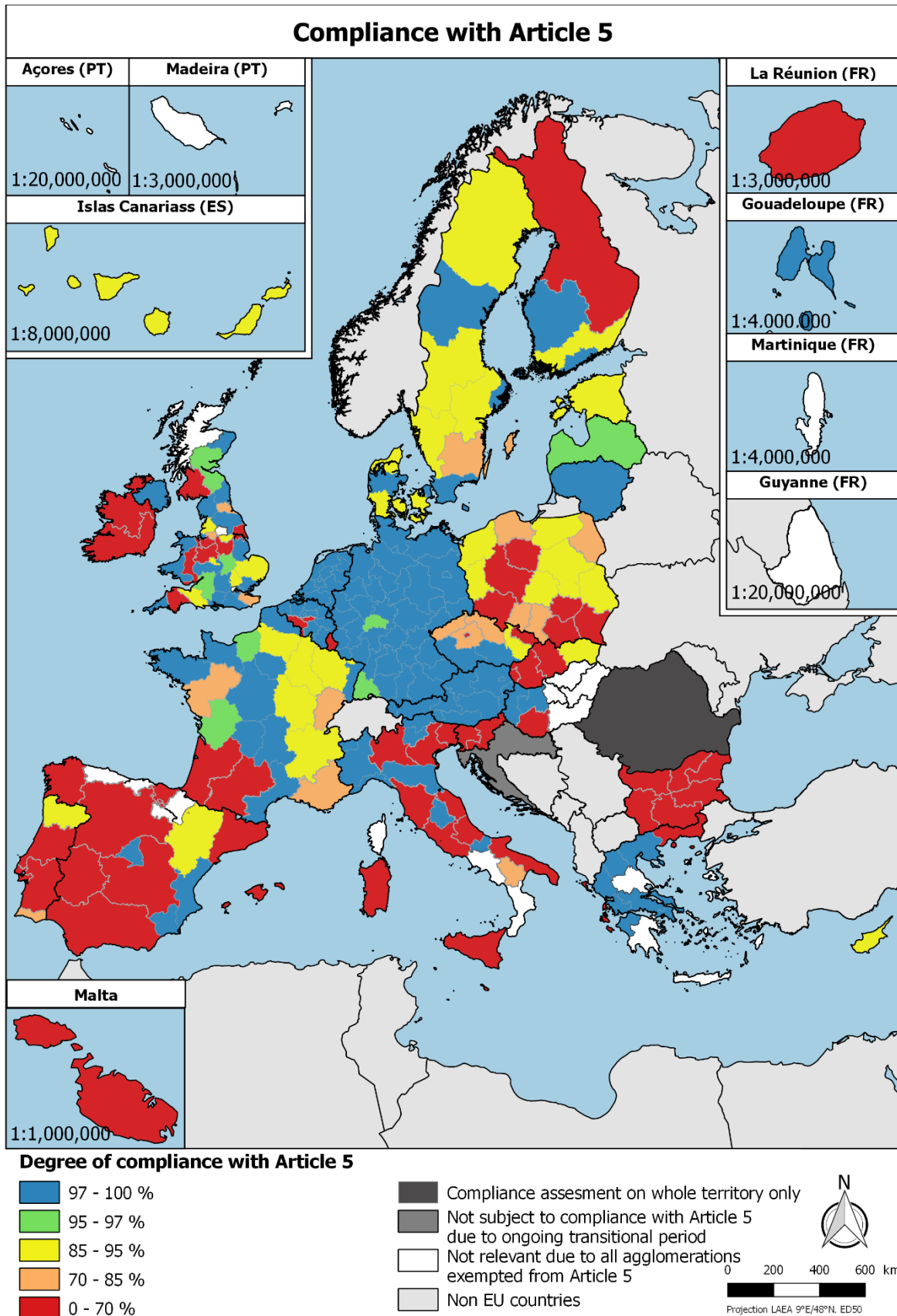


Figure 16: Compliance with the requirements of Article 5 of the UWWTD at the regional level in EU-28 Member States.

3.4 Status of urban waste water infrastructure and treatment in big cities/big dischargers

Although the term “big city” or “big discharger” is not provided in the UWWTD, it has been used since the 2nd Implementation Report in order to highlight waste water treatment in the biggest stressors to the aquatic environment. “Big cities” present “real” cities with more than 150,000 inhabitants, which may consist of one or several agglomerations (e.g. Madrid or London). On the other hand, the term “big discharger” represents all agglomerations with more than 150,000 p.e.

For the reference year of this Report, the EU-28 Member States reported 580 “big cities” with a total generated waste water load of 256 Mio. p.e.. There are no grounds in the UWWTD to assess the compliance of “big cities” as such. The best available waste water treatment in these cities is usually the parameter considered to assess their performance as regards the general obligations prescribed by the UWWTD. Over the last years the trend shows a general improvement, since the amounts of waste waters which are not treated or collected or which are treated through individual systems have decreased. In addition, increased quantities of waste water receive nutrient removal treatments or at least secondary treatment. Nearly one quarter of the entire pollution load originating from “big cities” furthermore receives other more stringent treatment (e.g. filtration, UV disinfection), in addition to secondary or nutrients-removal treatment.

The current situation is summarized in Figures 20 and 21 taking into account the different types of areas (i.e. Sensitive Areas that have to comply with Articles 5(2,3) or Article 5(4) and normal areas).

Up to 87.2% of the generated waste water load in “big cities” discharging into an area requiring the treatment specified by Article 5(2) of the UWWTD receives such treatment. However, a small share of waste water load (5.3%) receives secondary treatment only. Moreover, only 0.5% of the waste water load of “big cities” discharging into Article 5(2) areas is collected but discharged without any treatment. There is an important evolution for Sensitive Areas applying Article 5(2) in comparison with the previous report, as only 64.3% of the generated load is treated more stringently.

As regards “big cities” discharging into areas requiring the treatment specified by Article 5(4) of the UWWTD (i.e. a reduction of nitrogen and phosphorus by at least 75% of the total), the situation seems to be better: up to 99% of the total generated waste water load receives the required treatment.

Table 6 as well as Figure 20 and Figure 21 reflect the percentages of the generated load of “big cities” for which a specific treatment installation is in place. The different collection pathways and the best available treatment types are reflected in Table 6: more stringent treatment is presented as 3N, 3P and 3NP (representing the type of more stringent treatment primarily requested by the UWWTD).

Type of SA 5(4) or 5(2,3)	Number of big cities/big dischargers	Total generated load	Not collected / not treated in IAS		Treated in IAS		Best available treatment									
							Collected without treatment		Primary		Secondary		More stringent treatment (3N, 3P, 3NP)		Other more stringent treatment (e.g. UV, filtration)	
							Mpe	% of gen. load	Mpe	% of gen. load	Mpe	% of gen. load	Mpe	% of gen. load	Mpe	% of gen. load
Normal area / less sensitive area	170	76	0.4	0.6	1.8	2.4	0.5	0.7	0.5	0.7	35.9	47.0	20.7	27.1	31.6	41.3
Article 5(4) Sensitive Area	66	36	0.0	0.0	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	99.0	35.7	99.0
Article 5(2,3) Sensitive Area	343	144	1.4	1.0	1.1	0.8	0.7	0.5	0.4	0.3	7.6	5.3	125.3	87.2	35.9	25.0
Total:	580	256	2.0	0.8	3.4	1.3	1.2	0.5	0.9	0.4	43.5	17.0	180.0	70.4	101.5	39.7

Table 6: Number and size of big cities / big dischargers in different receiving areas in EU-28.

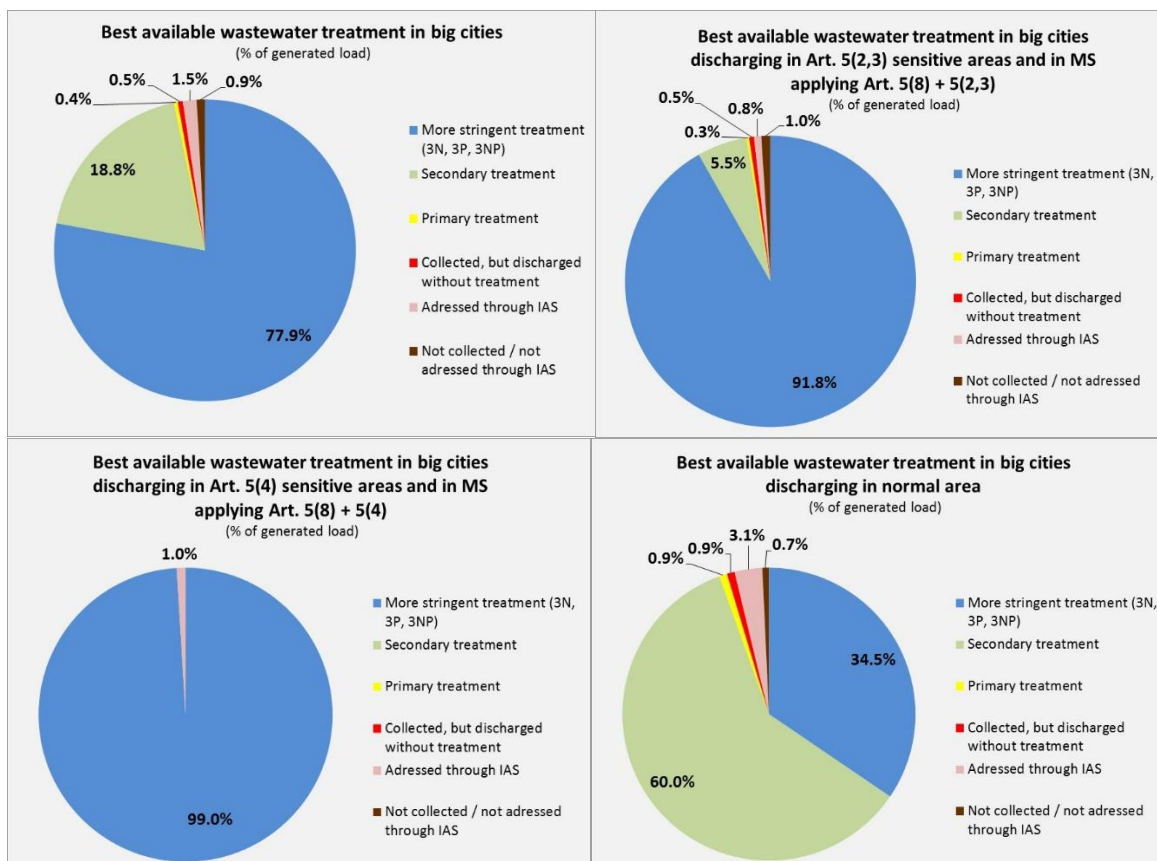


Figure 17: Best available waste water treatment in EU-28 big cities (in % of total generated load) discharging into different receiving areas (Article 5(2,3) areas, Article 5(4) areas and normal areas).

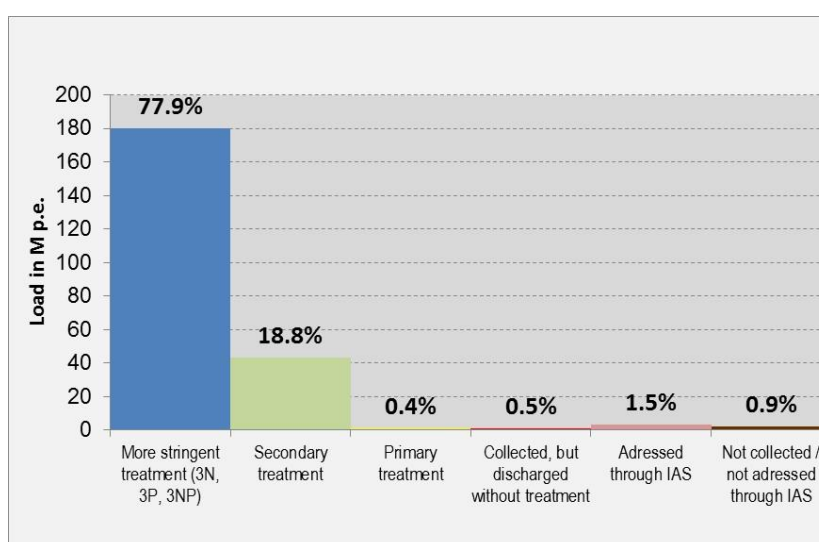


Figure 18: Best available waste water treatment of big cities / big dischargers in EU-28 (loads per treatment category in Mio. p.e.).

The trend of a decreasing fraction of waste water generated load of big cities/big discharger “not collected in collecting systems and not addressed through IAS”, “addressed through IAS” and “collected in collecting system and discharged without treatment” is also confirmed in this Report. At the same time more and more waste water receives nutrient removal (i.e. nitrogen- and/ or phosphorus removal) or at least secondary treatment.

Table 7 shows the compliance status of all the EU-28 Member States capitals. Taking into account the deadlines to implement the UWWTD, all EU capitals with the exception of Zagreb (Croatia) are fully compliant at the reference date of this Report. Out of these, eighteen capitals (Vienna, Brussels, Nicosia, Copenhagen, Tallin, Helsinki, Paris, Berlin, Athens, Budapest, Riga, Vilnius, Amsterdam, Warsaw, Lisbon, Madrid, Stockholm and London) are in compliance with requirements of collection (Article 3), secondary treatment (Article 4) and more stringent treatment (Article 5). Ten capitals (Sofia, Nicosia, Prague, Dublin, Rome, Luxembourg, La Valetta, Bucarest, Bratislava and Ljubljana) are considered as non compliant in the final assessment due to failing compliance with Article 3 (Sofia and Bucharest), Article 4 (Sofia, Dublin, Rome, La Valetta and Ljubljana) and/or Article 5 (Sofia, Prague, Dublin, Luxembourg and Bratislava). Sofia and Bucarest are non compliant with Article 3 (collection), as the generated waste water load is only partially collected. Due to the hierarchical approach (i.e. noncompliance with Article 3 implies non-compliance with Articles 4 and 5, if applicable), these two capitals are also non compliant with the requirements of Articles 4 and 5.

The reasons for non compliance with secondary treatment (Article 4) are failing monitoring results for secondary treatment in Dublin and La Valetta, only partly sufficient monitoring results for Ljubljana and generated waste water load partially collected in collecting systems without treatment in Rome.

In terms of not meeting the requirements of Article 5 (more stringent treatment), the reasons can be summarized as follows: failing monitoring results for more stringent treatment in Prague, more stringent treatment is only partially installed for the capitals Luxembourg and Bratislava, and only secondary treatment is reported for Dublin.

Compared to the last Report, Brussels, Nicosia, Warsaw and Riga are compliant with collection (Article 3), secondary treatment (Article 4) and more stringent treatment (Article 5) in this reporting period.

MEMBER STATE	CAPITAL CITY	Population (CAPITAL)	Collection	Secondary Treatment	More stringent Treatment for Art 5.2 and Art 5.4	FINAL Assessment
Austria	Vienna	4,000,000	C	C	C	C
Belgium	Brussels	1,460,000	C	C	C	C
Bulgaria	Sofia	2,037,000	NC	NC	NC	NC
Croatia	Zagreb	957,301	NR	NR	NR	NCO
Cyprus	Nicosia	235,000	C	C	NA	C
Czech Republic	Prague	1,143,070	C	C	NC	NC
Denmark	Copenhaguen	1,100,000	C	C	C	C
Estonia	Tallin	468,000	C	C	C	C
Finland	Helsinki	1,255,000	C	C	C	C
France	Paris	9,296,123	C	C	C	C
Germany	Berlin	4,080,042	C	C	C	C
Greece	Athens	5,200,000	C	C	C	C
Hungary	Budapest	2,351,944	C	C	NA	C
Ireland	Dublin	2,124,144	C	NC	NC	NC
Italy	Rome	2,768,000	C	NC	NA	NC
Latvia	Riga	660,420	C	C	C	C
Lithuania	Vilnius	706,200	C	C	C	C
Luxembourg	Luxembourg	216,458	C	C	NC	NC
Malta	La Valetta	433,634	C	NC	NA	NC

MEMBER STATE	CAPITAL CITY	Population (CAPITAL)	Collection	Secondary Treatment	More stringent Treatment for Art 5.2 and Art 5.4	FINAL Assessment
Netherlands	Amsterdam	1,014,705	C	C	C	C
Poland	Warsaw	2,515,168	C	C	C	C
Portugal	Lisbon	1,063,000	C	C	NA	C
Romania	Bucarest	2,159,995	NC	PD	PD	NC
Slovakia	Bratislava	485,000	C	C	NC	NC
Slovenia	Ljubljana	302,293	C	NC	NA	NC
Spain	Madrid	3,897,295	C	C	C	C
Sweden	Stockholm	2,751,900	C	C	C	C
United Kingdom	London	10,970,000	C	C	C	C

Table 7: Status of capital cities in EU-28 Member States regarding the UWWTD⁷

3.5 Comparison of implementation and compliance

3.5.1 General overview

The implementation of the UWWTD is obviously challenging. Comparing the compliance rates published by the European Commission in the Implementation reports starting with the year 1998, a positive pattern appears: compliance rates have generally increased over time, the slight decrease in comparison with the 8th Report is due to the inclusion in the 9th Report of IT and PL, previously not reported (see Table 8 and Figure 22) and the use of more accurate reporting by Member States⁸.

	2 nd Report	3 rd Report	4 th Report	5 th Report	6 th Report	7 th Report	8 th Report	9 th Report	
Reference year	1998	2000/2001	2001/2002	2005/2006	2007/2008	2009/2010	2011/2012	2014	
Compliance rate (%)	Collection	--	83	--	99	93	94	98	95
	Secondary treatment	--	69	79	86	78	82	92	89
	More stringent treatment	9	14	84	85	75	77	88	85

Table 8: Development of compliance rates over time.

⁷ C = compliance, NC = non compliance, NR = not relevant as the deadline is not expired yet, either for Article 3, 4 or 5, NA = not applicable as agglomeration is discharging into normal area, NCO = no compliance obligation. Compliance with Article 5.4 refers to the area of discharge of the agglomeration.

⁸ Due to difference in the situation of reporting for the different Implementation Reports, the following needs to be highlighted: Only advanced treatment obligations were relevant for the reference year of the report published in 2002 (2nd Report). For the 3rd Report data on collection were not published. Nine EU Member States (BG, CZ, ES, EL, IE, IT, MT, PL and UK) are missing in the presentation of the 5th Report. The 6th Report did not include a dataset for UK. The 8th report does not include data for IT and PL.

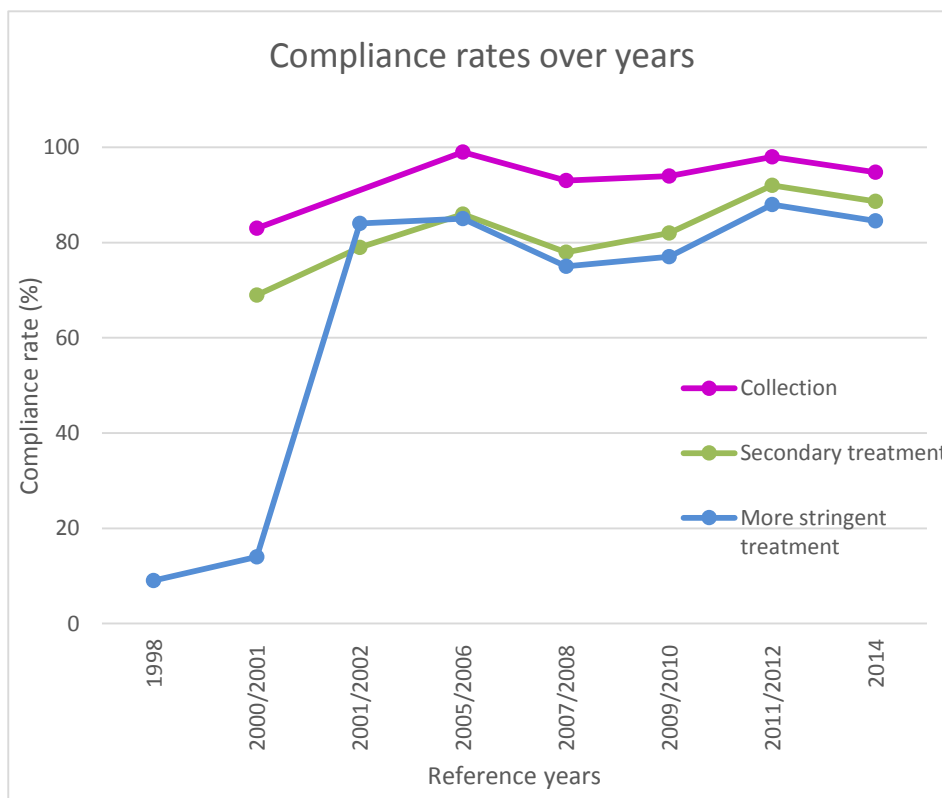


Figure 19: Development of compliance rates over time.

Plotting these values from Table 8 shows the positive trends. Downward segments are explained by the the incorporation of new EU Member States to the compliance assessment or, as indicated in the previous paragraph, the inclusion of IT and PL.

3.5.2 Progress in compliance

In order to assess the progress in compliance with the requirements of the UWWTD, the data reported for the 6th Implementation Report (reference years 2007/2008, Q-2009), 7th Implementation Report (reference years 2009/2010, Q-2011) are compared with data reported for this Report (reference years 2011/2012, Q-2013). Only the EU Member States that have been evaluated and assessed in the previous Reports are considered (UK was not included in the 6th Implementation Report, datasets for IT and PL are not included in the 8th Report).

Table 9 provides the progress in compliance with Articles 3, 4 and 5 in absolute figures and % of the subjected load. Increases in the compliance rates are highlighted in green, decreases in red and no changes in the compliance rates are presented in orange colour.

It can be highlighted that several EU Member States already achieve the maximum level of the compliance rate of 100% for Article 3, Article 4 and/or Article 5 over the past years and hence, so no compliance rates improvements are expected over the three past reporting periods. However, it is important to stress that the status of waste water treatment is not stagnating at a high level for these EU Member States, but in many cases there are improvements beyond the requirements of the UWWTD (e.g. further advanced waste water treatment, improved maintenance and technical equipment of UWWTPs, etc.). In order to highlight this particular situation of maximum compliance rates equal to 100%, the respective cells are coloured in yellow.

	Article 3				Article 4				Article 5			
	Subjected load	Subjected load	Compliance rate	Compliance rate	Subjected load	Subjected load	Compliance rate	Compliance rate	Subjected load	Subjected load	Compliance rate	Compliance rate
	Q2011 - Q2013 (p.e.)	Q2013 - Q2015 (p.e.)	Q2011 - Q2013 (%)	Q2013 - Q2015 (%)	Q2011 - Q2013 (p.e.)	Q2013 - Q2015 (p.e.)	Q2011 - Q2013 (%)	Q2013 - Q2015 (%)	Q2011 - Q2013 (p.e.)	Q2013 - Q2015 (p.e.)	Q2011 - Q2013 (%)	Q2013 - Q2015 (%)
Austria	↑ 135,320	↑ 141,177	→ 0	→ 0	↑ 119,313	↑ 20,270,894	→ 0	→ 0	↑ 119,313	↑ 18,520,071	→ 0	→ 0
Belgium	↓ -112,200	↓ -4,400	↑ 20	↓ 0	↓ -81,251	↑ 9,185,837	↑ 24	↓ 0	↓ -150,698	↑ 8,117,211	↑ 30	↑ 9
Bulgaria	↑ 1,994,543	↑ 821,554	↓ -4	↑ 14	↑ 1,747,748	↑ 6,780,496	↑ 5	↑ 9	↑ 1,743,984	↑ 6,250,420	↓ -1	↑ 6
Croatia	--	--	--	--	--	--	--	--	--	--	--	--
Cyprus	↑ 143,000	↑ 441,500	↑ 100	↓ -35	↑ 199,330	↑ 738,128	↑ 60	↑ 26	↑ 52,383	↑ 193,418	↑ 100	↓ -15
Czech Republic	↓ -2,229,388	↑ 110,406	→ 0	→ 0	↓ -2,179,878	↑ 7,179,605	↑ 6	↑ 3	↓ -2,261,381	↑ 5,471,877	↑ 34	↑ 9
Denmark	↑ 7,000	↑ 4,600	→ 0	→ 0	↓ -24,011	↑ 11,332,384	→ 0	↑ 0	→ 0	↑ 10,369,776	↑ 5	↓ -3
Estonia	↑ 93,506	↑ 11,780	↑ 65	↑ 2	↑ 113,954	↑ 1,580,586	↑ 66	↓ -7	↑ 26,572	↑ 1,466,171	↑ 68	↑ 1
Finland	↑ 32,500	↑ 133,400	→ 0	→ 0	↓ -8,989	↑ 5,323,900	↑ 3	↓ -4	↓ -54,052	↑ 4,748,650	↑ 36	↓ -9
France	↑ 1,114,373	↑ 276,569	↑ 4	→ 0	↑ 1,616,481	↑ 71,405,542	↑ 3	↑ 1	↑ 20,902,789	↑ 43,612,984	↑ 12	↓ -4
Germany	↓ -826,993	↓ -3,645,461	→ 0	→ 0	↓ -828,682	↑ 107,081,697	→ 0	↓ 0	↓ -843,034	↑ 97,240,859	→ 0	↓ 0
Greece	↓ -52,427	↓ -510,267	→ 0	→ 0	↓ -74,618	↑ 10,342,267	↓ -3	↑ 2	↓ -176,577	↑ 6,566,970	→ 0	↑ 0
Hungary	↑ 9,287,155	↓ -172,620	→ 0	→ 0	↑ 8,441,275	↑ 8,567,625	↓ -7	↑ 2	↑ 14,589	↑ 210,989	↑ 16	↑ 28
Ireland	↓ -59,137	↑ 91,749	→ 0	→ 0	↓ -3,157	↑ 4,992,977	↑ 51	↓ -37	↑ 272,370	↑ 3,468,245	↓ -1	↑ 19
Italy	--	--	--	--	--	--	--	--	--	--	--	--
Latvia	↑ 681,275	↓ -199,764	↑ 100	→ 0	↑ 591,374	↑ 1,273,728	↑ 99	↑ 1	↑ 591,374	↑ 1,273,728	→ 0	↑ 96
Lithuania	↑ 101,400	↓ -105,810	→ 0	→ 0	↑ 103,595	↑ 2,527,461	↑ 2	→ 0	↑ 74,895	↑ 2,398,107	↑ 12	↑ 2
Luxembourg	↓ -12,650	↓ -51,782	→ 0	→ 0	↓ -8,598	↑ 601,924	↑ 41	↑ 1	↓ -10,143	↑ 449,835	↑ 4	↑ 3
Malta	↓ -80,829	↑ 10,797	→ 0	→ 0	↓ -70,629	↑ 513,001	↓ -5	→ 0	↑ 4,079	↑ 51,450	→ 0	→ 0
Netherlands	↑ 1,065,284	↑ 607,288	→ 0	→ 0	↑ 1,055,774	↑ 18,196,367	→ 0	→ 0	↑ 1,065,284	↑ 17,753,688	→ 0	→ 0
Poland	--	--	--	--	--	--	--	--	--	--	--	--
Portugal	↑ 569,693	↑ 382,047	↑ 3	↑ 0	↑ 622,786	↑ 11,042,560	↑ 30	↓ 0	↑ 1,241,900	↑ 2,593,300	↑ 53	↓ -7
Romania	--	↑ 1,378,497	--	↓ -96	--	↑ 7,735,199	--	↓ -44	--	↑ 7,341,991	--	↓ -15
Slovakia	↑ 320,411	↓ -318,257	→ 0	→ 0	↑ 359,804	↑ 3,816,697	↑ 8	↑ 0	--	↑ 3,292,980	--	↑ 14
Slovenia	↑ 731,429	→ 0	↑ 25	↑ 4	↑ 643,424	↑ 805,521	↓ -8	↑ 3	↓ -8,541	↑ 132,052	↑ 11	↑ 16
Spain	↓ -1,318,256	↓ -6,412,328	↑ 2	↓ -3	↓ -1,104,558	↑ 60,055,487	→ 0	↓ -2	↑ 1,201,764	↑ 22,271,002	↓ -16	↑ 29
Sweden	↑ 4,774,266	↓ -139,367	→ 0	→ 0	↑ 4,751,813	↑ 12,225,508	↓ -1	↑ 2	↑ 4,708,197	↑ 11,236,474	↑ 2	↑ 5
UK	↑ 124,090	↑ 1,535,988	→ 0	→ 0	↑ 97,844	↑ 70,362,966	↑ 1	↑ 0	↓ -6,513,300	↑ 26,732,839	↑ 33	↓ -3

Table 9: Development of the load subject to compliance with and the compliance rates for Article 3, Article 4 and Article 5 from Q-2011 to Q-2013 and from Q-2013 to Q-2015.

⁹ green arrows highlight increases, red arrows show decreases and orange arrows indicate no changes

Figure 21, Figure 23 and Figure 25 present the progress in compliance rates with Article 3, Article 4 and Article 5 as a % of the subjected load. The generated waste water load subject to compliance with Article 3, Article 4 and Article 5 in absolute numbers including the indication of the % of compliance rate is highlighted in Figure 22, Figure 24 and Figure 26.

When looking at the compliance rates with Article 3 (collection) it can be noted that the maximum compliance rate of 100% is being consequently achieved in many EU Member States over the last reporting periods. As for compliance with Article 4 (secondary treatment) the high score of more than 95% of compliance over the past years, is achieved in AT, BE, DE, DK, EL, FI, HU, LV, LT, LU, NL, SK, SE and UK. The compliance rate for all other EU Member States significantly varies over the last reporting periods. Significantly improved compliance rates for Article 4 can be seen for CY, LU and PL and to lower extent for BG over the last years. Taking into account the hierarchical approach of the compliance assessment (i.e. non-compliance with Article 3 implies non-compliance with Article 4), this development is due to both, improved waste water treatment and improved compliance rates for Article 3.

As for compliance with Article 5, AT, DE, DK, EL, NL and LT provide more than 95% compliance rates for the last three reporting periods. BE, CZ, HU and PT show significantly improved compliance rates over the same period.

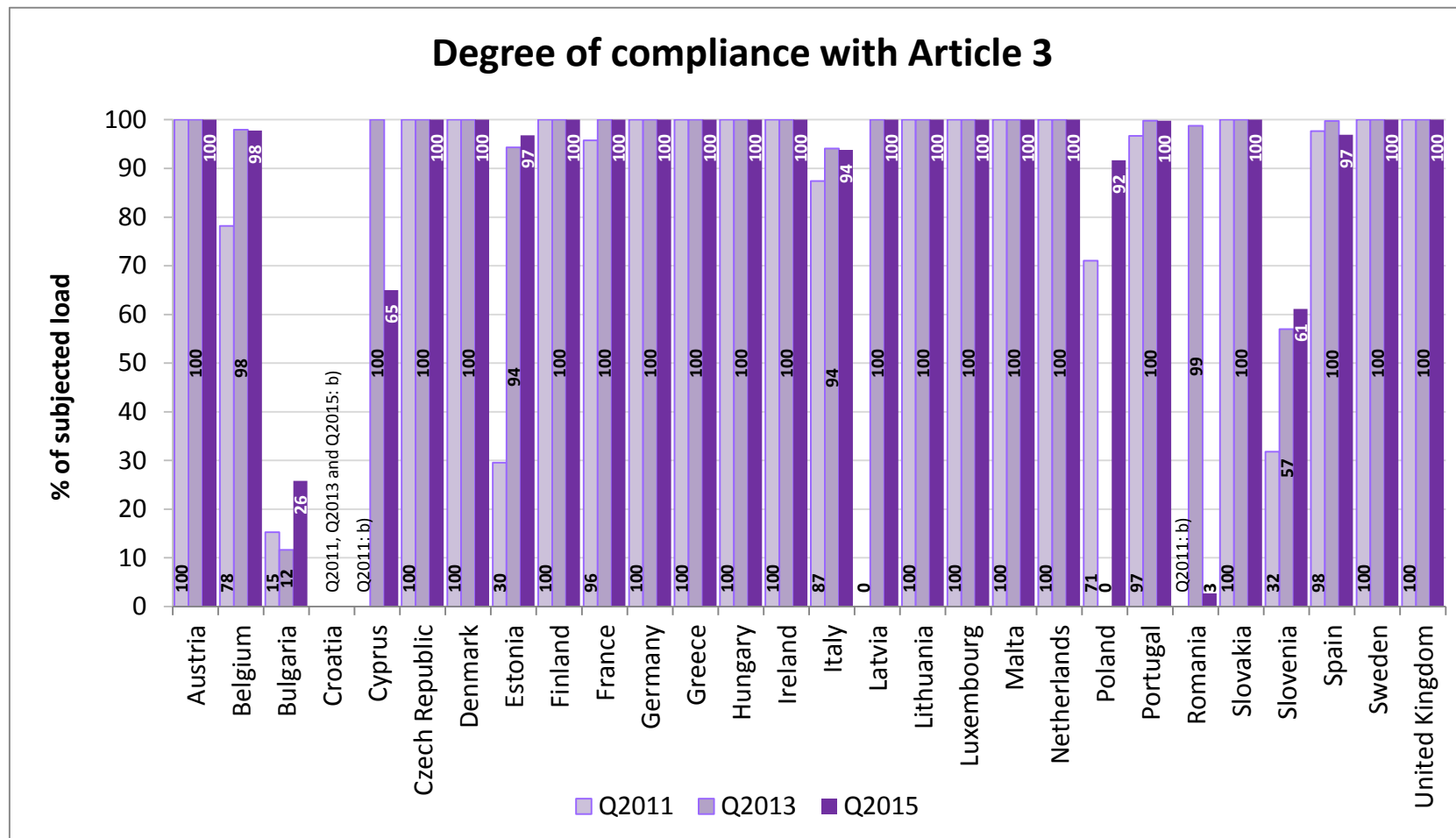


Figure 20: Progress in compliance rates for Article 3 UWWTD for the last three Implementation Reports in % of the subjected load¹⁰.

¹⁰ Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

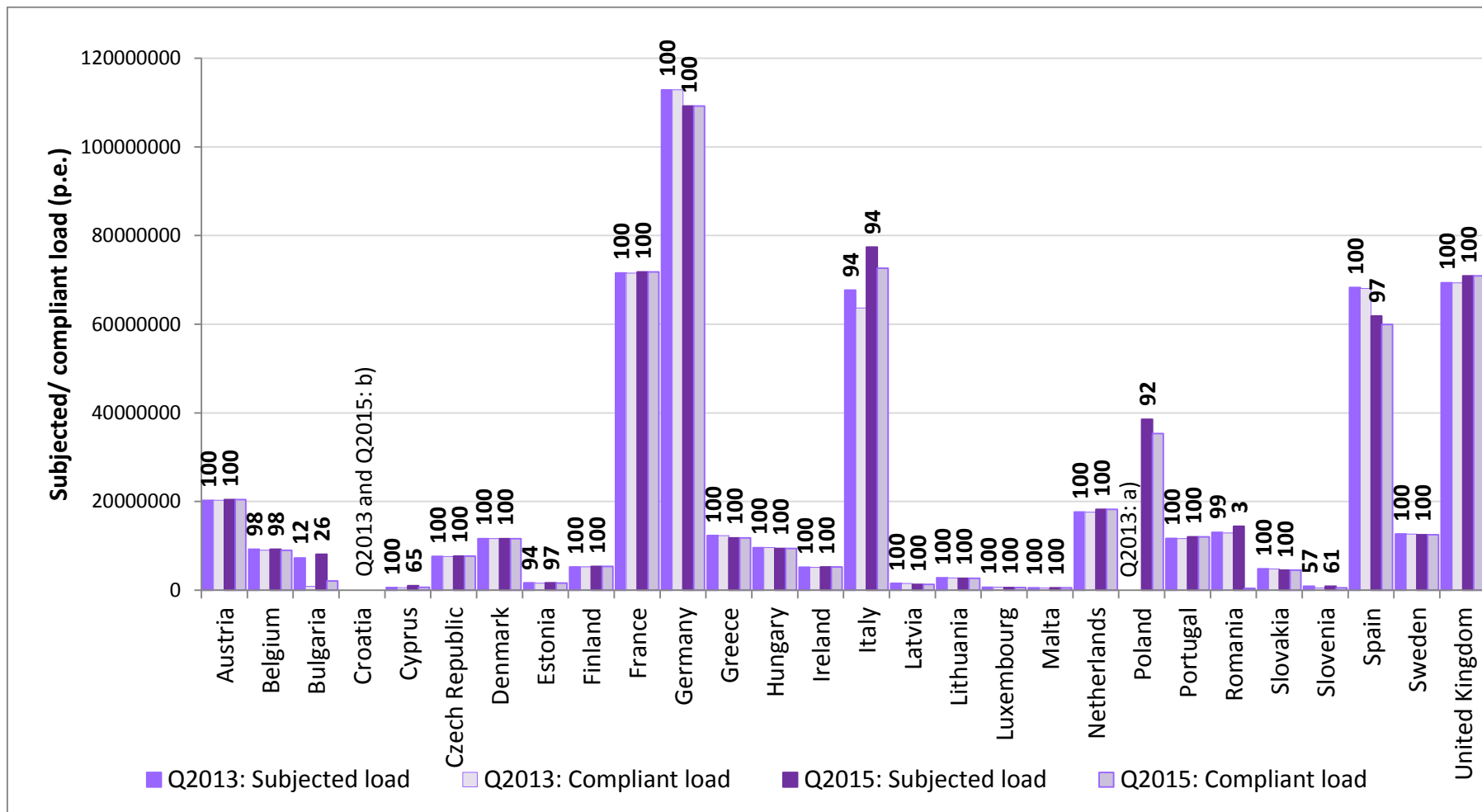


Figure 21: Load (p.e.) subject to compliance with Article 3 and compliant with Article 3 and compliance rates (%) as reported for the 8th and the 9th Implementation Reports¹¹.

¹¹ Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

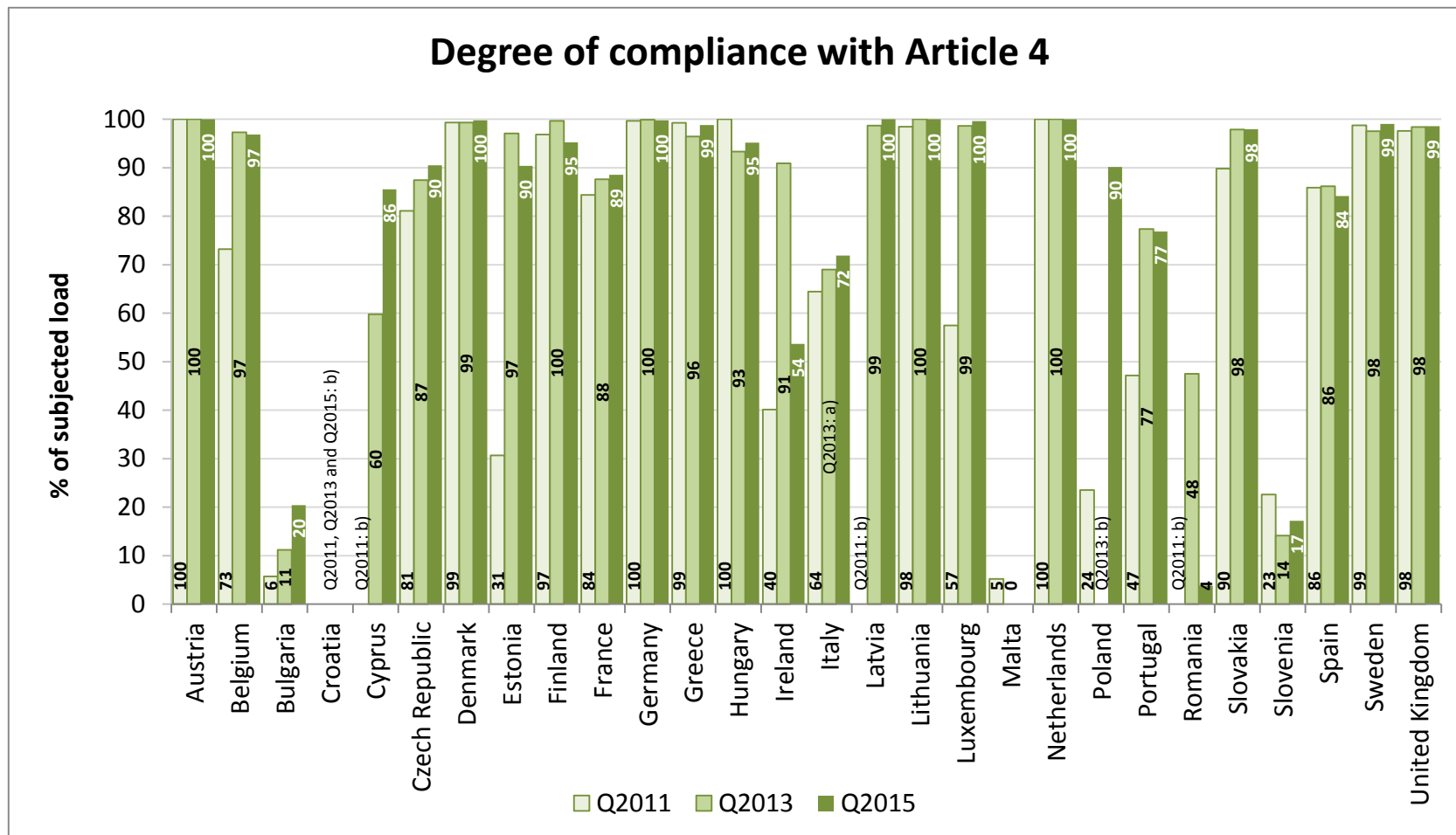


Figure 22: Progress in compliance rates for Article 4 UWWTD for the last three Implementation Reports in % of the subjected load¹².

¹² Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

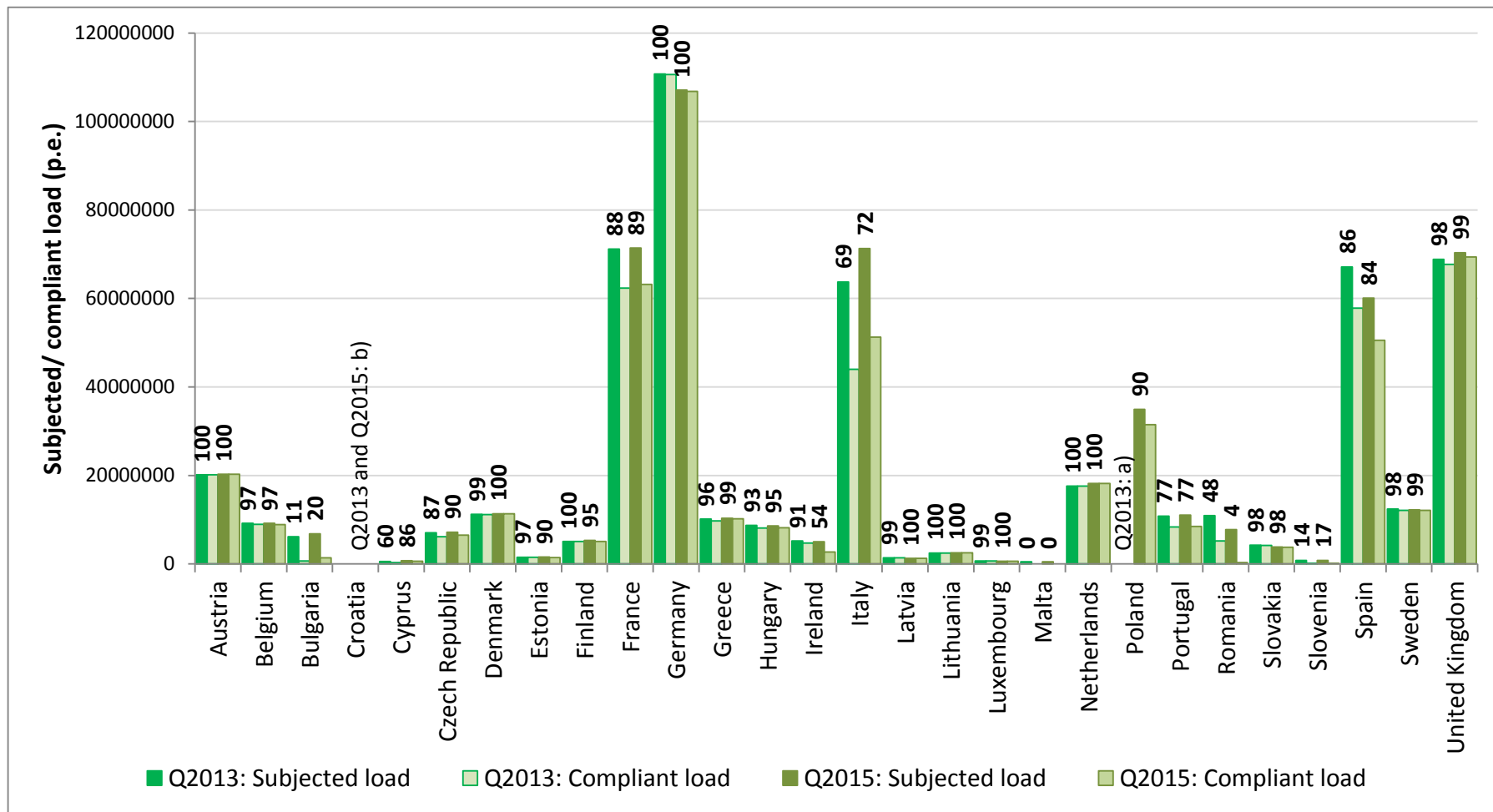
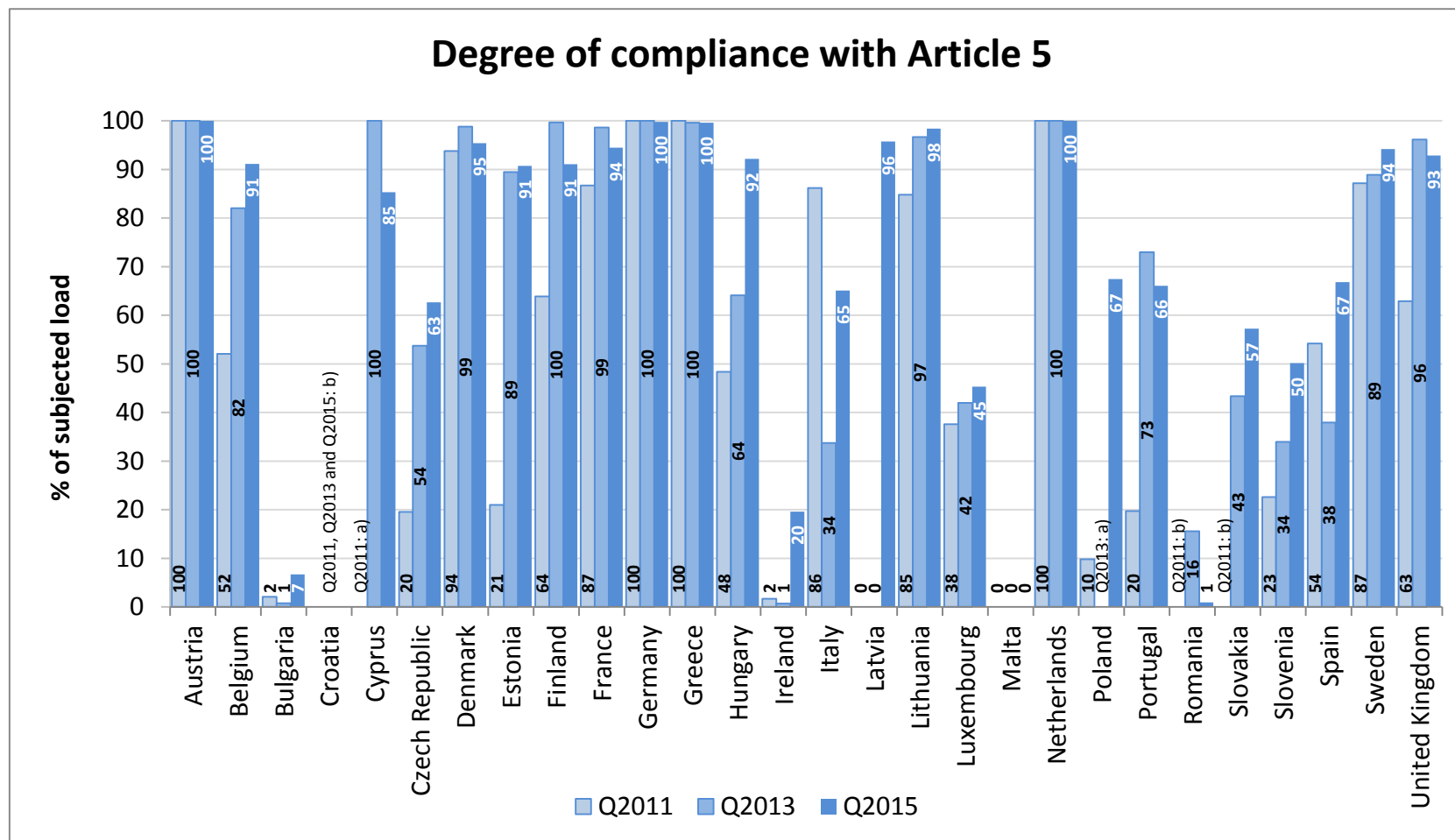
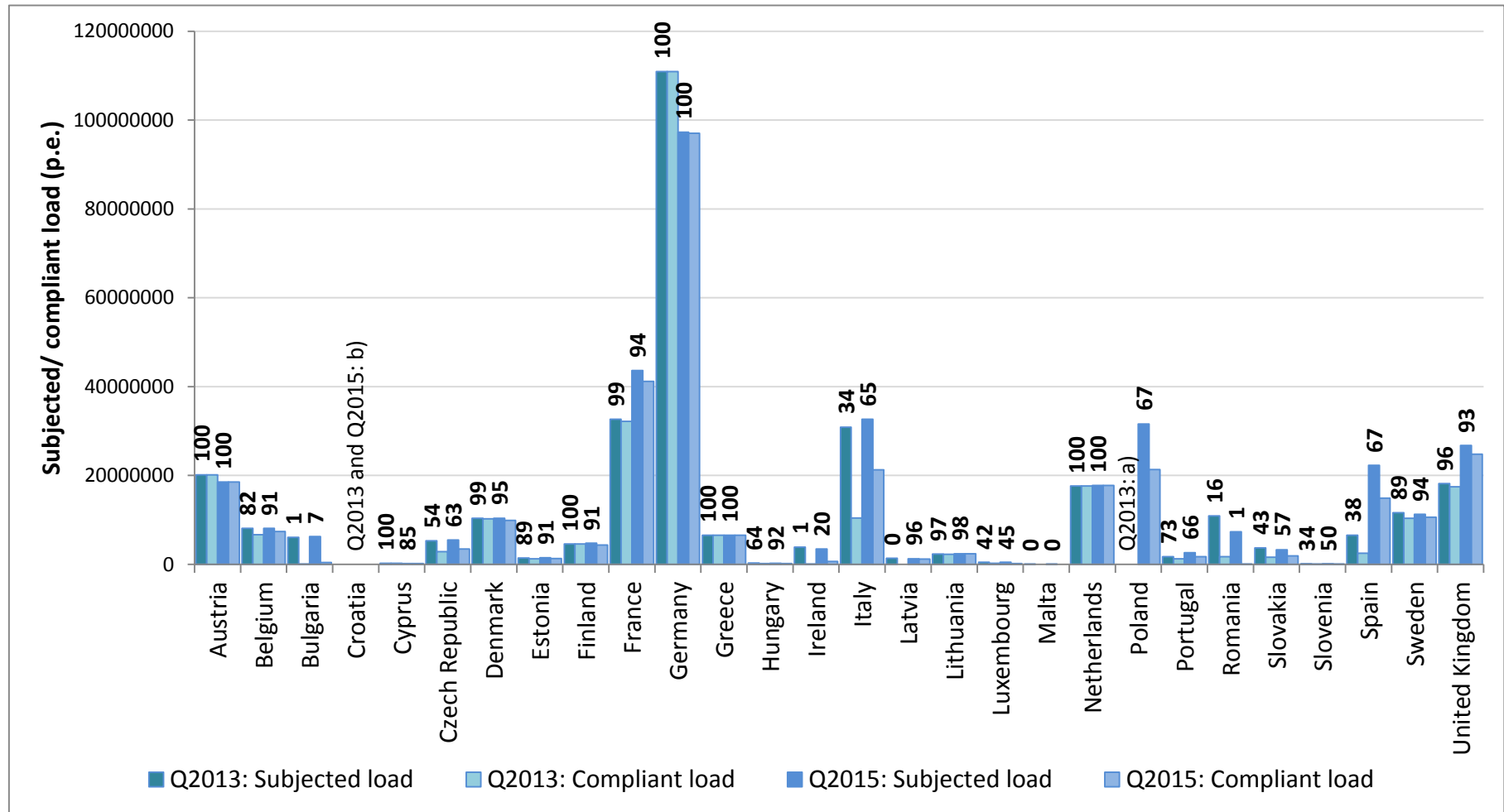


Figure 23: Load (p.e.) subject to compliance with Article 4 and compliant with Article 4 and compliance rates (%) as reported for the 8th and the 9th Implementation Reports¹³.



¹³ Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

Figure 24: Progress in compliance rates for Article 5 UWWTD for the last three Implementation Reports in % of the subjected load¹⁴.



¹⁴ Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

Figure 25: Load (p.e.) subject to compliance with Article 5 and compliant with Article 5 and compliance rates (%) as reported for the 8th and the 9th Implementation Reports¹⁵.

¹⁵ Legend: a) no complete dataset set reported on time and b) not subject to compliance with this Article

Figure 27 to Figure 29 show the changes regarding compliance rates with Article 3, Article 4 and Article 5 at the aggregation level of EU-15, EU-13 and EU-28 Member States, in % of the subjected and compliant load for the 6th Implementation Report (Q-2009), the 7th Implementation Report (Q-2011), the 8th Implementation Report (Q-2013) and the 9th Implementation Report (Q-2014). The bars show the load subject to compliance and the compliant loads in absolute p.e., and the %-values show the average compliance rates per EU-15, EU-13 and EU-28 Member States.

As can be seen, compliance rates for Article 3 and EU-28 Member States increased over the last four reporting years from 93% to 95%. A considerable increase can also be observed for Article 4, from 78% compliance rate in the 6th Implementation Report to 89% compliance rate for EU-28 Member States in this Report. As for Article 5, compliance rates for EU-28 Member States increased from 76% to 85% over the last years. The subjected load also significantly increased with more countries covered and an increasing number of agglomerations included.

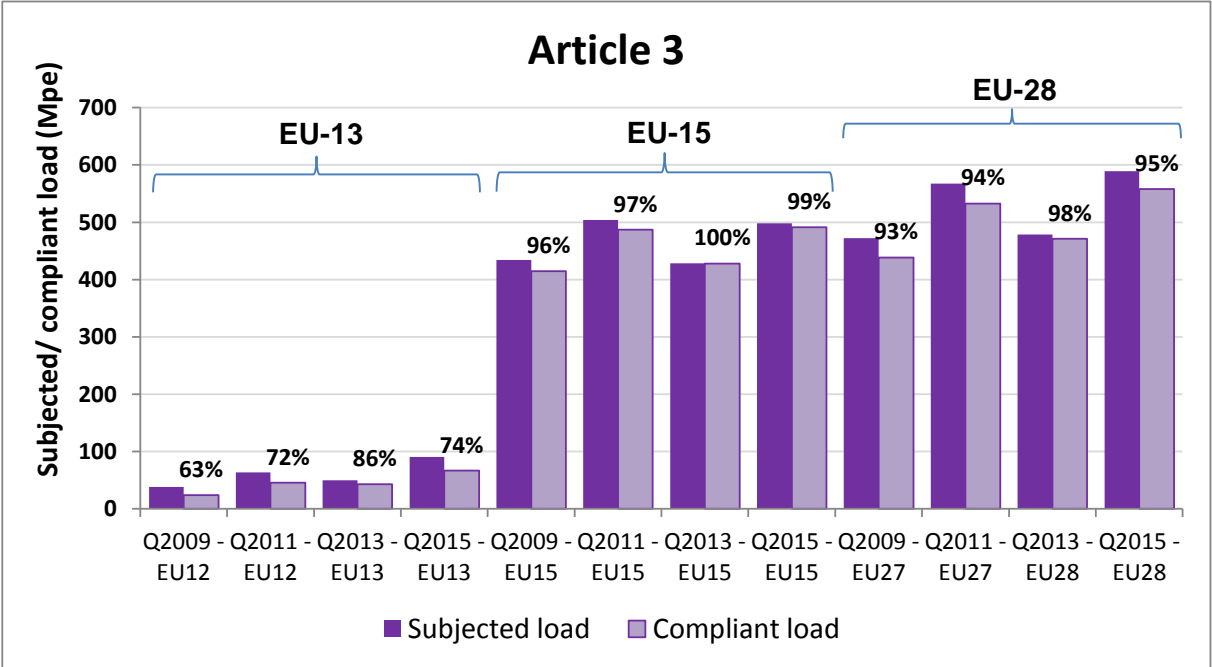


Figure 26: Changes of compliance with Article 3 on the level of EU-15, EU-13 and EU-28 in the 6th (Q2009), 7th (Q-2011), 8th (Q-2013) and 9th (Q-2015) Implementation Reports.

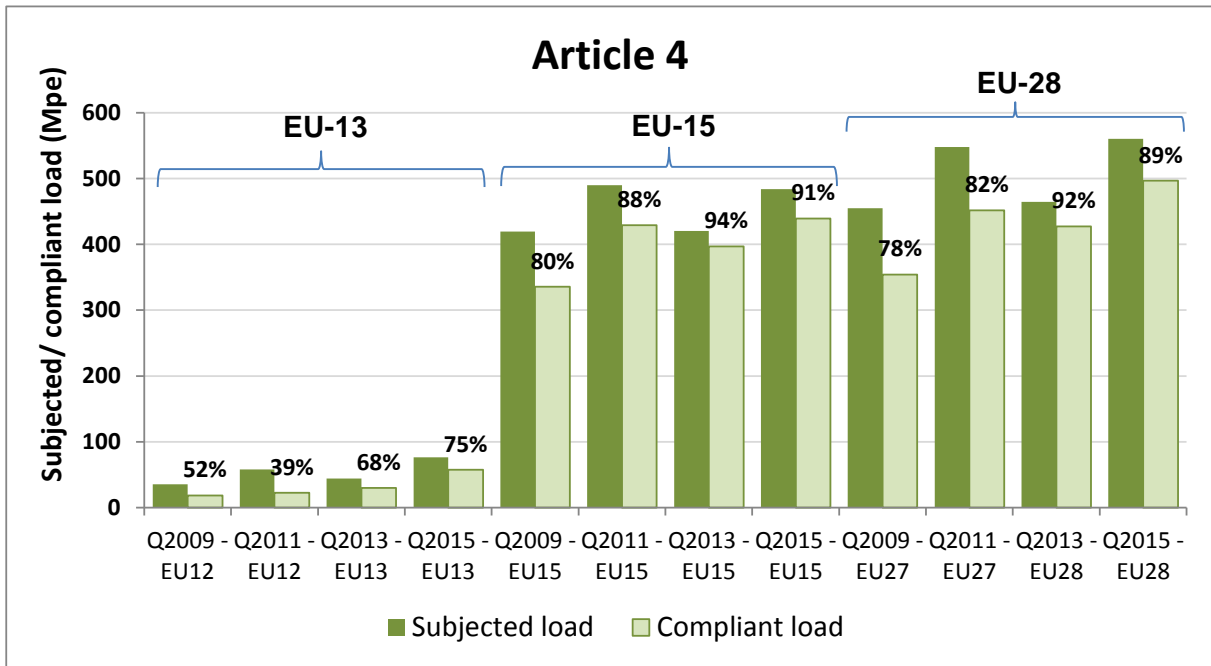


Figure 27: Changes of compliance with Article 4 on the level of EU-15, EU-13 and EU-28 in the 6th (Q2009), 7th (Q-2011), 8th (Q-2013) and 9th (Q-2015) Implementation Reports.

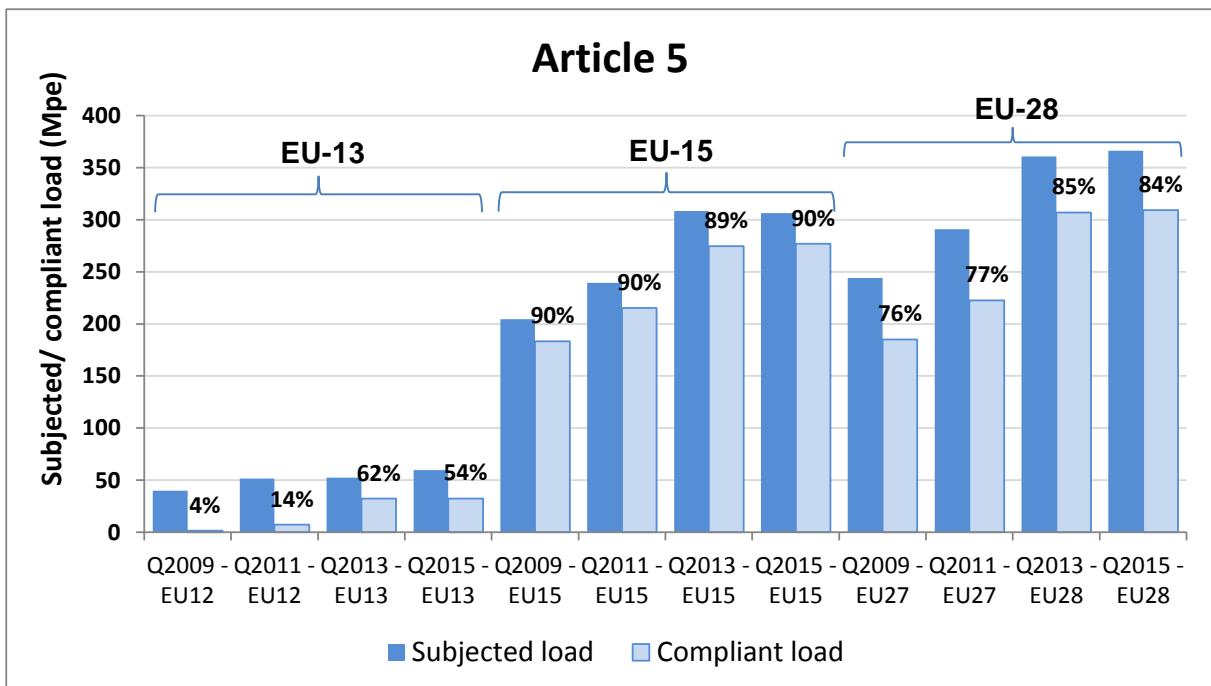


Figure 28: Changes of compliance with Article 5 on the level of EU-15, EU-13 and EU-28 in the 6th (Q2009), 7th (Q-2011), 8th (Q-2013) and 9th (Q-2015) Implementation Reports.

4 Production of sludge, sludge re-use and disposal

Sludge is a by-product wastewater treatment. The progressive implementation of the UWWTD in all EU Member States is increasing the quantities of sewage sludge requiring disposal.¹⁶

Although EU Member States report data on the production of sludge, its use and disposal under the UWWTD, the *Council Directive 86/278/EEC on the protection of the environment, and in particular of the soil, when sewage sludge is used in agriculture* of 12 June 1986 also named Sewage Sludge Directive, regulates the use of sewage sludge in agriculture in such a way as to prevent harmful effects on soil, vegetation, animals and man.

Furthermore, the Sewage Sludge Directive specifies rules for the sampling and analysis of sludges and soils. It sets out requirements for the keeping of detailed records of the quantities of sludge produced, the quantities used in agriculture, the composition and properties of the sludge, the type of treatment and the sites where the sludge is used. The European Commission is currently assessing whether the current Directive should be reviewed – and if so, the extent of this review.

Overall the reported production of sludge in EU28 in 2014 was just over 8.7 Mio T/year. This represents a significant increase of 1.36 Mio T (19%) compared to the 8th Report. This increase is partly due to improved reporting and to higher treated loads.

The use of sludge and its disposal is presented in Figure 29 and Figure 30. The largest reported destination of sludge (as a percentage of total sludge) “re-used: Soil and agriculture” (44%), followed by “disposed: incineration” (27%), “re-used: Other” (e.g. creation of a normalised product) (13%), and “disposed: landfill” (8%).

Differences can be observed for EU-13 and EU-15 EU Member States: while the use of sludge for soil and agriculture plays a major role for EU-15 EU Member States (48%), this is not the case for EU-13 EU Member States (27%). The incineration of sludge is a larger destination for EU-15 EU Member States (31%) than for EU-13 EU Member States (9%); on the other hand EU-13 EU Member States (19%) more often dispose sludge inlandfills than EU-15 EU Member States (6%).

¹⁶ More information can be found on <http://ec.europa.eu/environment/waste/sludge/>.

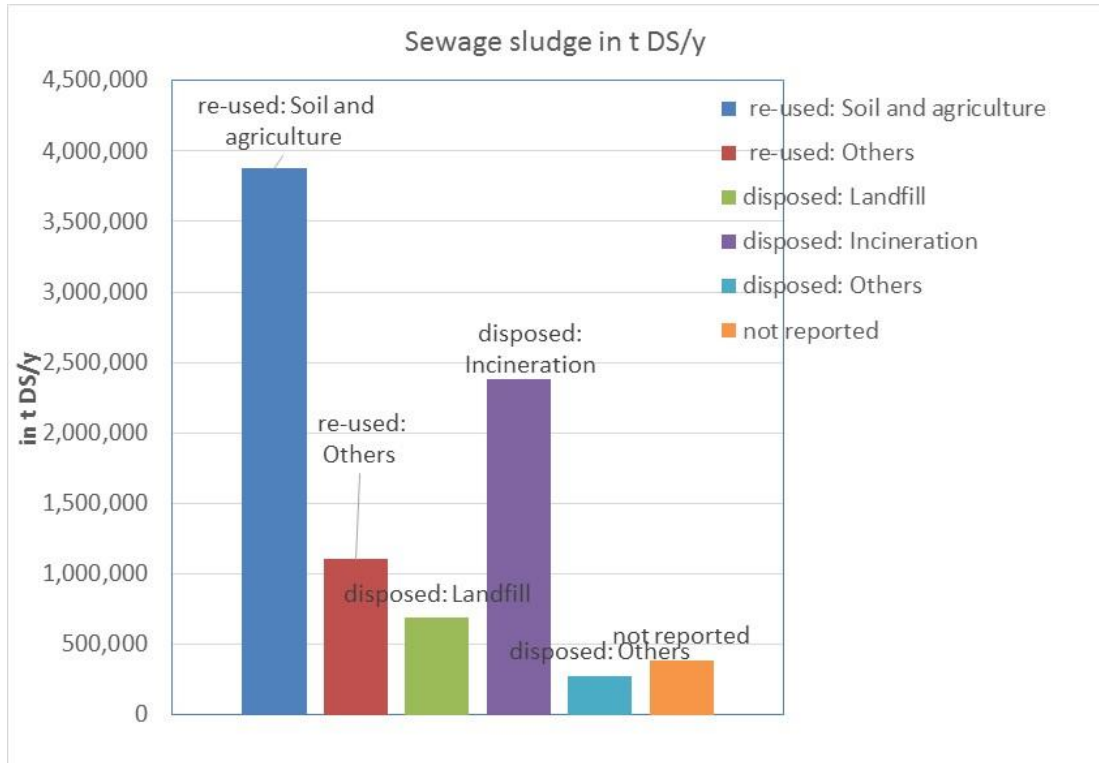


Figure 29: Sewage sludge in t DS/Year for EU-28.

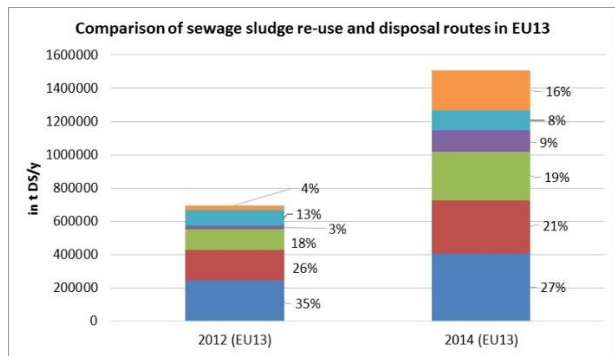
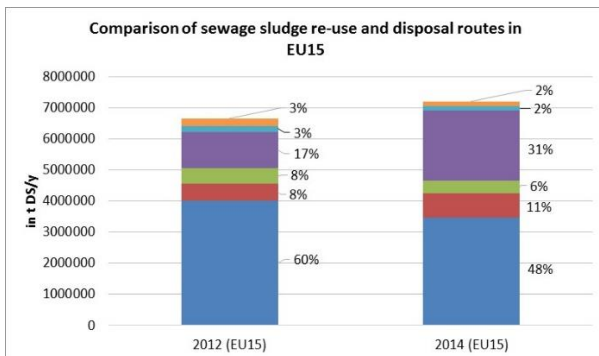
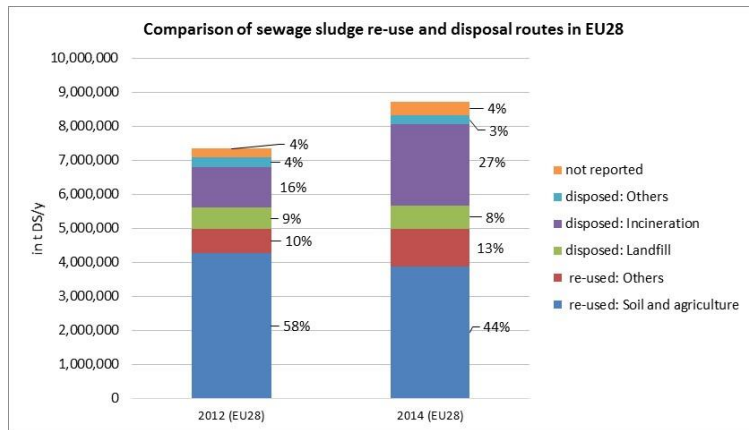


Figure 30: Sewage sludge – re-use and disposal routes in EU-13, EU-15 and EU-28 Member States.

5 Distance to compliance

A new indicator was implemented for the 9th Report, which is the distance to compliance. In some case, an agglomeration can be not compliant because of a small load comparing to the generated or the connected one. However, the whole agglomeration will be considered non compliant, and all the generated or connected load will be excluded from the compliance rate, even if a part of it is collected and treated as required by the UWWTD. This situation can happen when a part of the generated load is discharged without treatment, when there are leaks between the load collected from the agglomeration and the load entering the waste water plant, or when there are several treatment plants connected to the same agglomeration, with at least one that does not provide the required treatment.

Moreover, the agglomerations under pending deadlines were not analysed in the previous reports, even if they were very close to this deadline. This does not allow the Member States to anticipate the implementation of the UWWTD, by analysing the agglomerations that are still under pending deadlines.

The new indicator introduced for this reporting and so called “distance to compliance” allows to point out the load that still need to be collected or better treated. This indicator takes into account the load from agglomerations under expired deadline, but also from agglomerations under pending deadline, which help to estimate the efforts needed to fit with the UWWTD requirements.

Figure 31 gives the distance to compliance rates for EU-28, EU-15 and EU-13 Member States, comparing to the target load, and this for each article of the UWWTD (Article 3: connection, Article 4: secondary treatment, and Article 5: more stringent treatment).

As regards Article 3, EU-15 is almost fully compliant, which explains that the distance to compliance is close to 0% (0.2%). Distance to compliance for EU-13 is higher, with 3.4% for agglomerations under expired deadline, and 5.6% for agglomeration under pending deadline.

Regarding Article 4, the distance to compliance is 5.7% for EU-15, and 8.9% for EU-13, for agglomerations under expired deadlines. For EU-13, 6.6% of the generated load needs an appropriate treatment, but are still under pending deadlines.

For Article 5, the distance to compliance is much higher, with 6.3% for EU-15 and almost 29% for EU-13 for agglomerations under expired deadlines. Moreover both EU-15 and EU-13 have agglomerations under pending deadlines that need to be compliant: 0.9% for EU-15 and 8.7% for EU-13.

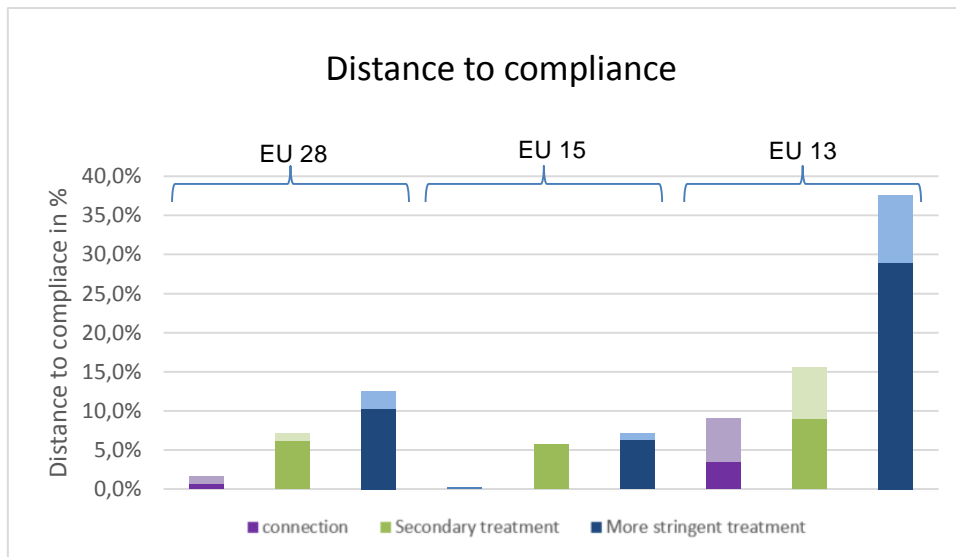


Figure 31: Distance to compliance rate by article for agglomerations under expired deadlines (dark colours) and agglomerations under pending deadlines (light colours), for the reference year 2014.

Figures 32, 33 and 34 give a more accurate statement of this indicator, but only for the current subjected load (meaning agglomerations under expired deadline). The agglomerations under pending deadline are excluded from those three maps.

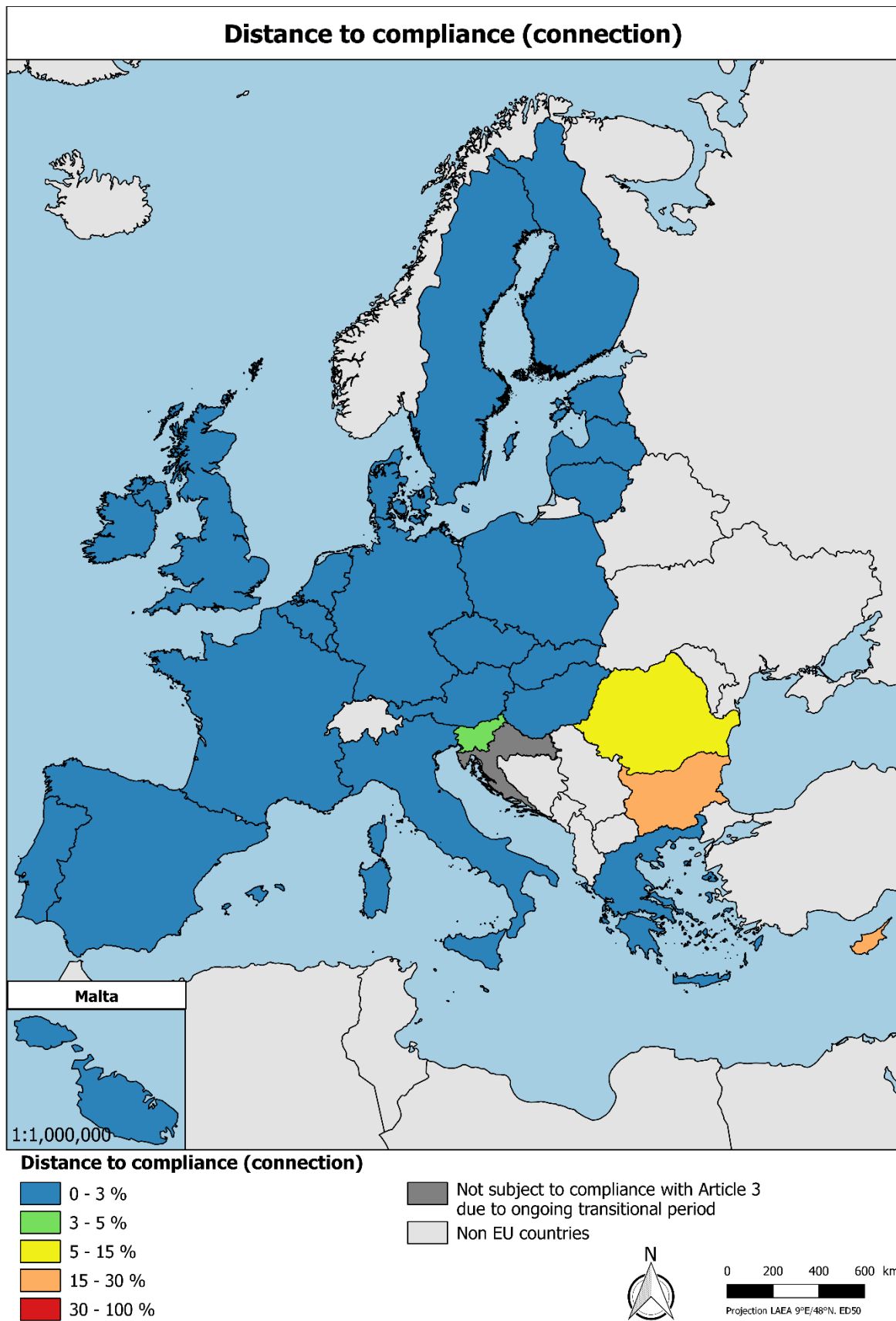


Figure 32: Map of the degree of distance to compliance (%) with Article 3 of the UWWTD for the EU-28 Member States (rate regarding expired deadlines agglomerations).

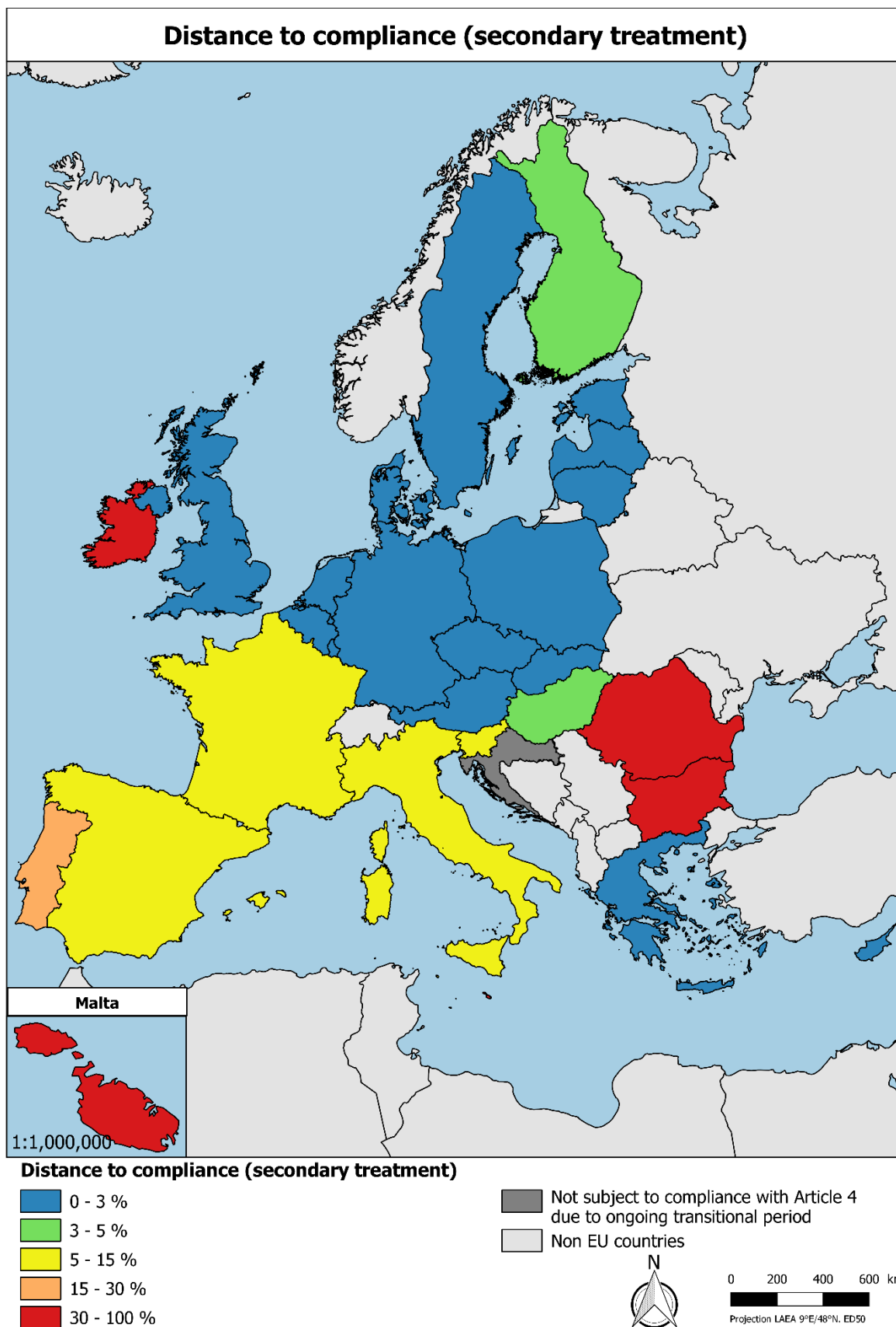


Figure 33: Map of the degree of distance to compliance (%) with Article 4 of the UWWTD for the EU-28 Member States (rate regarding expired deadlines agglomerations).

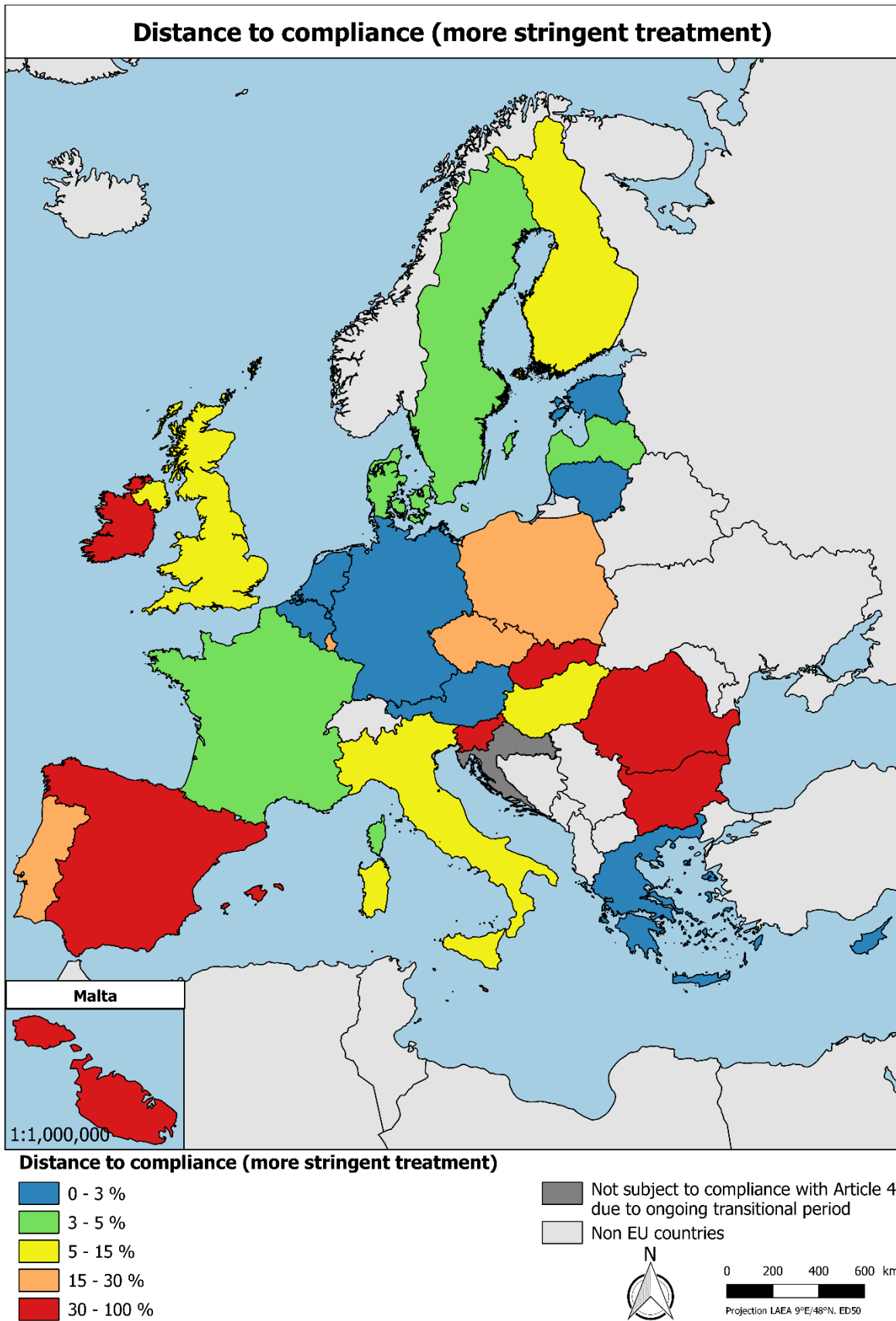


Figure 34: Map of the degree of distance to compliance (%) with Article 5 of the UWWTD for the EU-28 Member States (rate regarding expired deadlines agglomerations).

6 Assessment of National Implementation Programme according to Article 17 of the UWWTD

According to Article 17 of the UWWTD, EU Member States need to establish a programme for the implementation of the UWWTD and should provide an update of this information to the European Commission every two years. The National Implementation Programme aims at providing information on the initial status and on the forecasts for implementation of the UWWTD (by ensuring or maintaining compliance) according to the required deadlines of the UWWTD.

In addition to the request for information under Article 15 (4) of the UWWTD, the European Commission also asked EU Member States to provide an Implementation plan in accordance with Article 17 by 30 June 2014. The Commission Implementing Decision of 26 June 2014 concerning formats for reporting on the national programmes for the implementation of Council Directive 91/271/EEC (notified under document C(2014) 4208) (2014/431/EU) provides the formats (templates) for reporting information under Article 17. Templates were foreseen to provide basic information, implementation forecast information as regards non compliant agglomerations and/or agglomerations with pending deadlines, current and expected total organic design capacity and investment costs at national level and any other issues to be considered for drafting the National Implementation Programme.

All EU Member States have reported information under Article 17 of the UWWTD. Summarised information at the national level is provided in Annex V. The aggregated information at EU level is available in the Report from the Commission.

6.1 Yearly investments in new infrastructure and renewal of existing infrastructure

This parameter is very important to evaluate the projects in the Member States to enhance and/or maintain the collecting systems and treatment plants. For the 9th Report, the yearly investment is divided into three periods: Past, Current and Expected (the expected period represents an estimation of the investment). It is important to notice that these three periods are not the same for all Member States. For example, the Past period for Latvia is from 2010 to 2014, whereas for Slovakia it is from 2002 to 2012. This distribution allows to evaluate the evolution of investments over time, and also to compare expectations with reality.

Figure 32 shows the current yearly investments per inhabitant for each Member State, indicating the differences between the investments dedicated to collection systems and the investments dedicated to treatment plants. It is important to notice that PT, SE, ES and UK do not report the investments related to the renewing of the existing infrastructures, meaning that the investments for these Member States and for the EU-15 Member States are under-estimated.

The mean investments for EU-13 is 48 € per inhabitant per year. It is less in EU-15 with an average investment of 35 € per inhabitant per year. The average investment at the European level is 38 € per inhabitant per year. The investments are mostly dedicated to collection systems, with a rate of 72% of the total investment for EU-13 and 65% for EU-15.

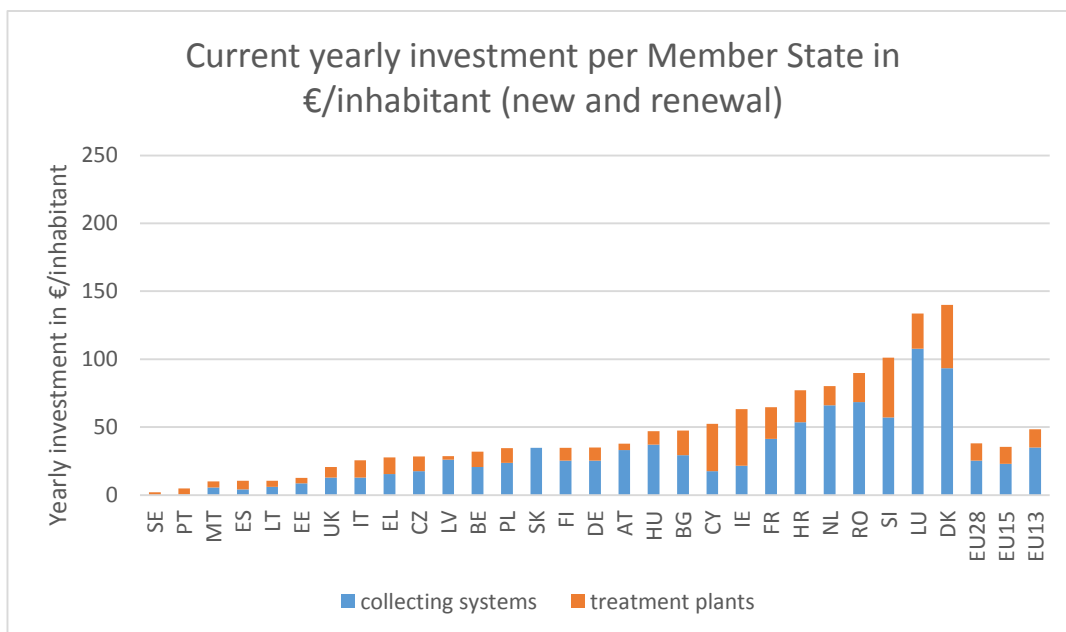


Figure 35: Current yearly investments in € per inhabitant for each Member State (new and renewal)¹⁷.

For the expected yearly investments (Figure 33), PT, SE, ES and UK again only provide the investments for new infrastructures (and not renewal). The mean investment for EU-13 and EU-15 are really similar: respectively 37 and 36 € per inhabitant per year. Moreover, the rate of investment on collection systems are similar to the current period, with 73% for EU-13 and 64% for EU-15.

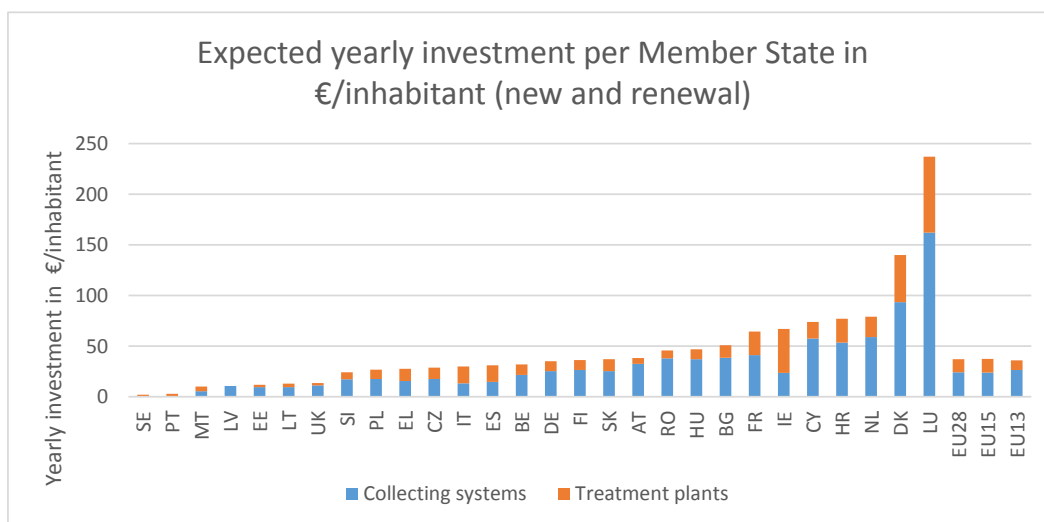


Figure 36: Expected yearly investment per Member State in €/inhabitant (new and renewal)⁹.

Figure 34 provides the evolution of the investment between the current and the expected period. On the one hand ES, LU and CY are the Members States that expect to increase their investments the most, with an increase, for example, of almost 200% for Spain. On the other hand SI, LV and RO are the Members States that expect to reduce their investments the most, with a decrease, for example, of 76% for Slovenia.

¹⁷ For Portugal, Spain, Sweden and the United Kingdom, only the investment regarding new infrastructures was reported. The consequence is that the investment for those Member States and for the EU-15 group is under-estimated.

At the European level (EU-28 Member States), there is only a -2.4% difference between Current and Expected yearly investments, but for EU-13 Member States the difference is -25.4%. This can be explained by the fact that the new Member States already allocated an important budget for new infrastructures in order to reach the compliance with the UWWTD. As these investments are new, they do not have to be replaced or renewed in the coming years. For EU-15 Member States, they already invested in new infrastructures some years ago, and so need to renew them, which involves an increase in the investments.

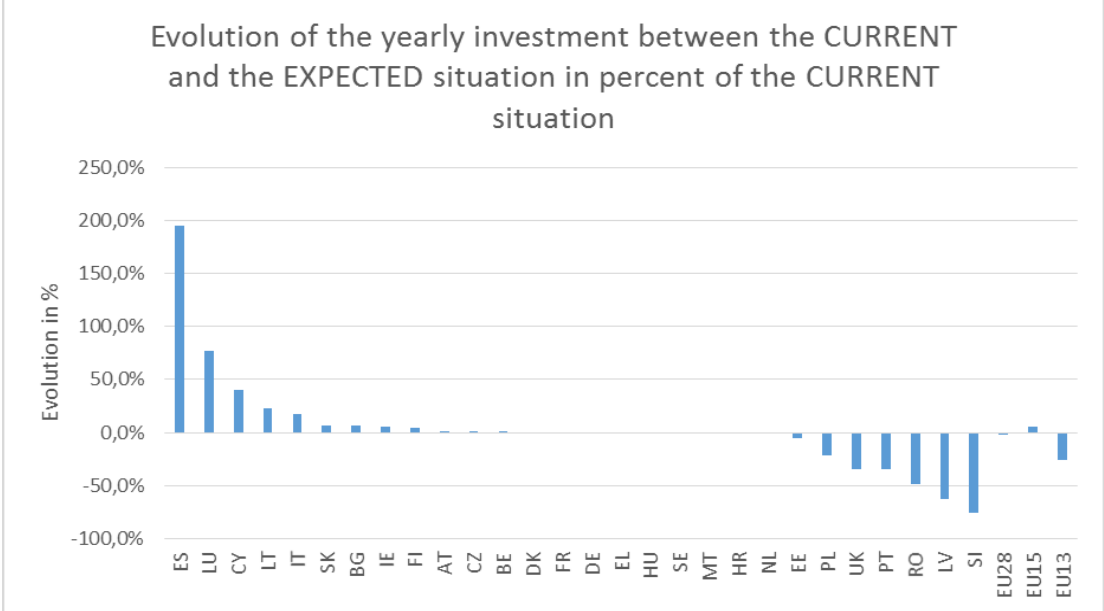


Figure 37: Evolution of the yearly investment between the Current and the Expected situation in percent of the current situation.

At a European level, the Past yearly investments have been added (Figure 35). For EU-15, we notice a progressive increase in mean investments to 15,000 M€ per year. For the EU-13, there is a drop of mean investments to 4,540 M€ per year.

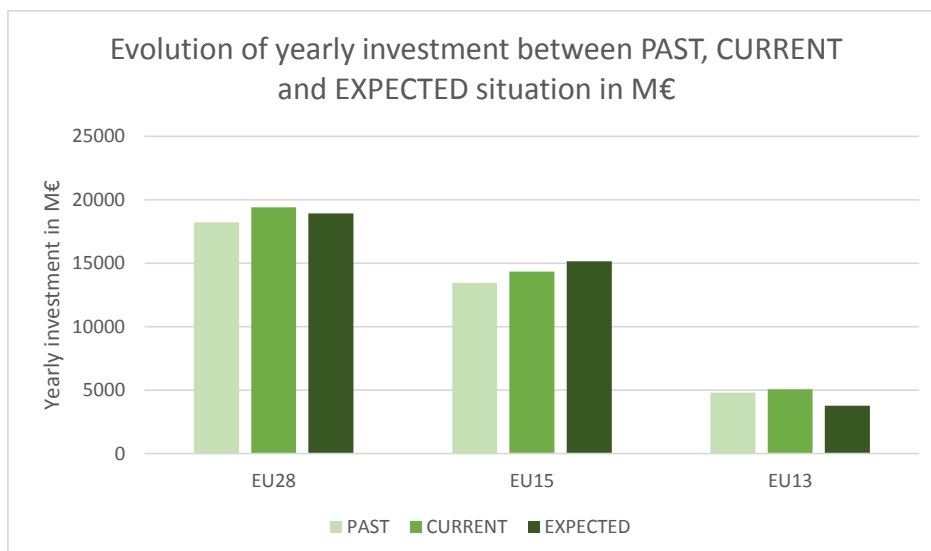


Figure 38: Amount of yearly investments for the Past the Current and the Expected situation for EU-13, EU-15 and EU-28 Member States.¹⁸

6.2 Investments in new infrastructure

This section describes the future investments in new infrastructure (without renewal). It is interesting because it includes the investments provided by European funds, and gives a global idea of future investments, as they are expressed in M€, and not divided by the number of inhabitants or the number of years.

The data is split into two Figures (Figure 36 and Figure 37) in order to visualize the small and the large investments. Figure 36 uses data from Member States with a total investment below 1 billion €, whereas Figure 37 uses data from Member States with a total investment above 1 billion €. All data used in this analysis are from projects that are expected to be finalised after the 31st of December 2014, which means after the reference year of the 9th Report.

It is important to notice that AT, DK, DE, LT and NL, do not expect to invest in new infrastructures, nor in collecting systems or treatment plants, and so do not feature in Figure 36 and Figure 37. Indeed they already have a high rate of compliance, and so do not need to install new equipments to improve this compliance. MT is also absent from Figure 36 and Figure 37, as it is not clear what will be invested in the future to improve the installations already in place.

There is a large variability between the different Member States that does not only depend on the size of the country (in terms of generated load). RO expects the highest investments, with almost 19 billion € from now until 2023. Some Member States focus their efforts mostly on collecting systems, such as EL or UK, and others focus their efforts on treatment plants, such as FR and IE. Moreover, EU funds are mostly allocated to the EU-13 Member States, that need to update their infrastructures to reach the compliance with the UWWTD. However, these funds are also available to EU-15 Member states, as shown by IE, PT and EL.

¹⁸ For Portugal, Spain, Sweden and the United Kingdom, only the investment regarding new infrastructures was reported. The consequence is that the the investment for those Member States and for the EU-15 group is under-estimated.

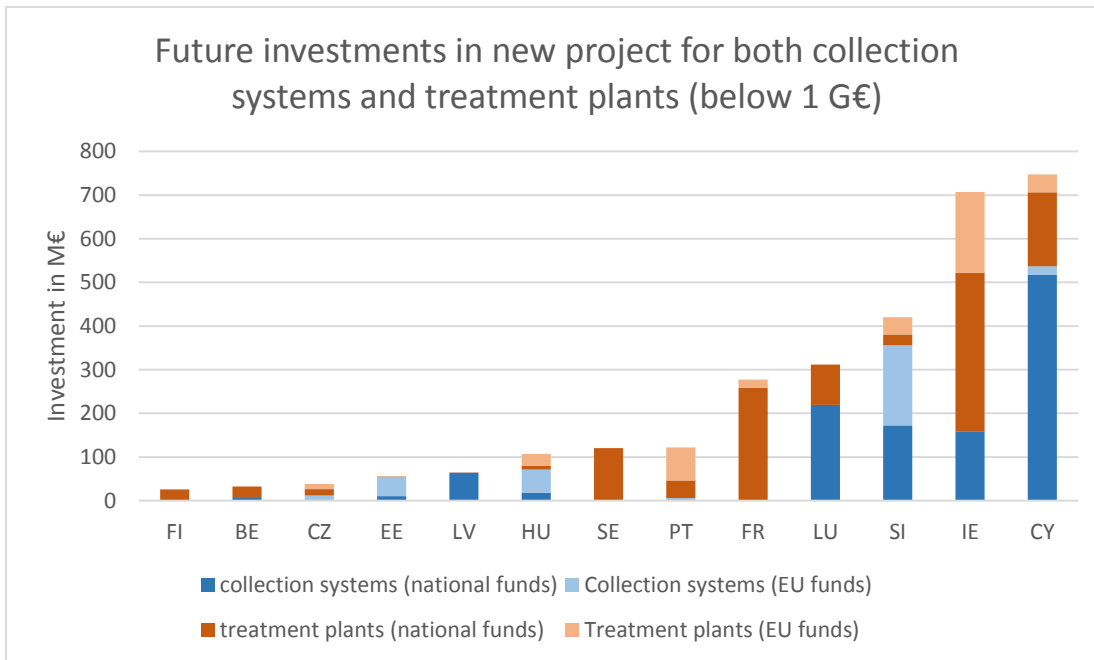


Figure 39: Future investments in new infrastructures for both collecting systems and treatment plants below 1 billion €.

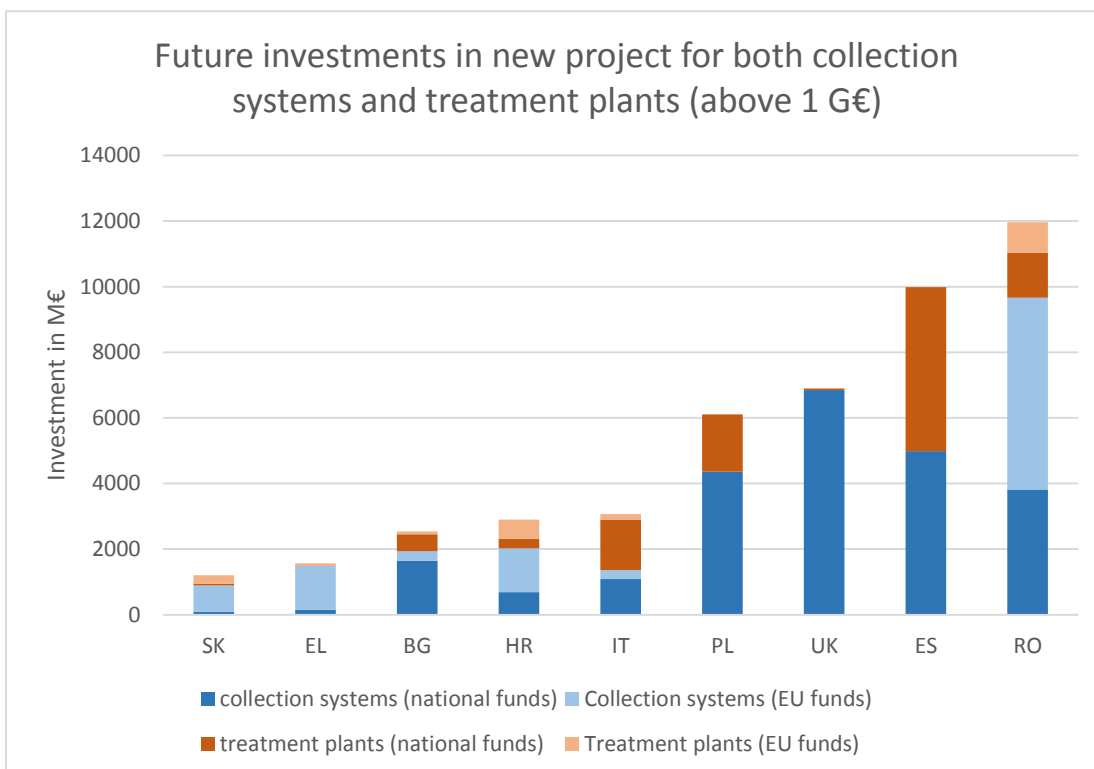


Figure 40: Future investments in new infrastructures for both collecting systems and treatment plants above 1 billion €.

6.3 Future investments on treatment plants reported to their global capacity or expected entering load

The previous section shows global indicators on the investments in each Member State of the European Union. However, as mentioned, the variability is too large between the different Member States, and a global parameter prevents comparison between the different Member States.

This section provides a ratio of investment reported to the global size of future treatment plants. This idea can only be applied to treatment plants, as there is no similar parameter for collecting systems.

It is important to notice that this analysis is a first in the history of the UWWTD reporting, and that the data collected are not necessarily adapted to such an analysis. Investments can involve an update of an existing treatment plant, or a totally new one and they can also address primary treatment or more stringent treatment. All these parameters lead to different costs, that are sometimes not representative of reality. However, this analysis can lead to further reflections on data collection to build a real benchmarking about the costs of UWWTP projects, and to enhance the cross-checking between Article 15 and Article 17 analysis.

Regarding the investments reported for the announced capacity (Figure 38), EU-15 and EU-13 have similar costs: 105 €/p.e. for Eu-15 and 95€/p.e. for EU-13. However, the variability is large, with 527€/p.e. for Belgium and 1€/p.e. for Latvia. This points out the necessity to have more standardised data regarding Article 17, in order to have more accurate analysis.

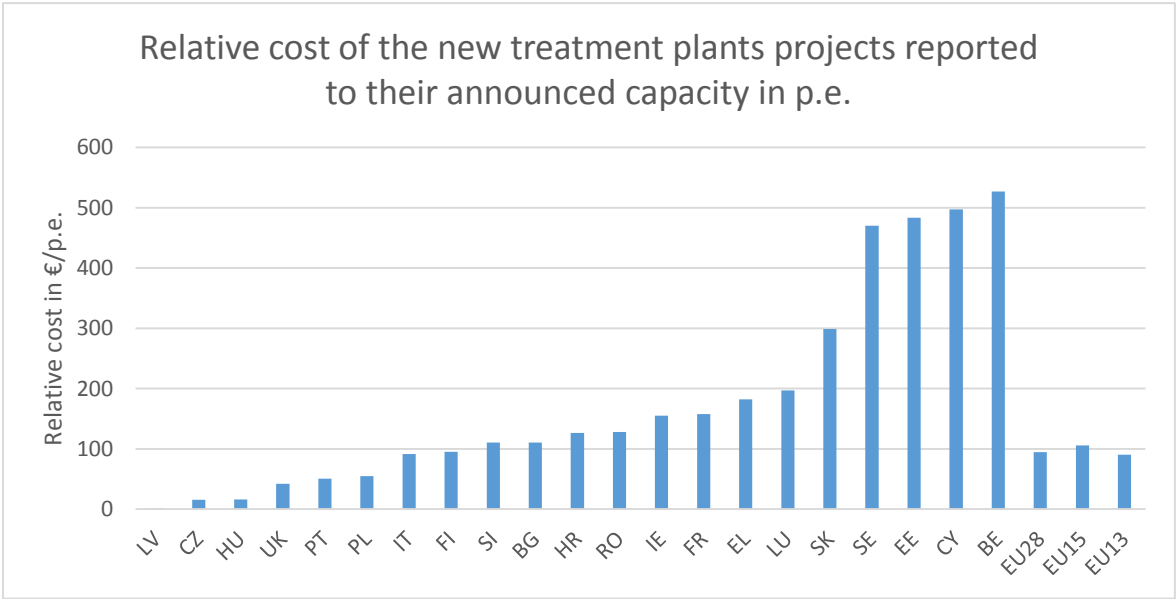


Figure 41: Investment costs of new treatment plants projects divided by the announced capacity (in p.e).

Regarding the investments reported for the expected entering load, the price is much higher for EU-15 Member States (229 €/p.e.) than for EU-13 Member States (105 €/p.e.). This points out that the standards regarding the design of wastes water treatment plants in EU-15 and EU-13 are different.

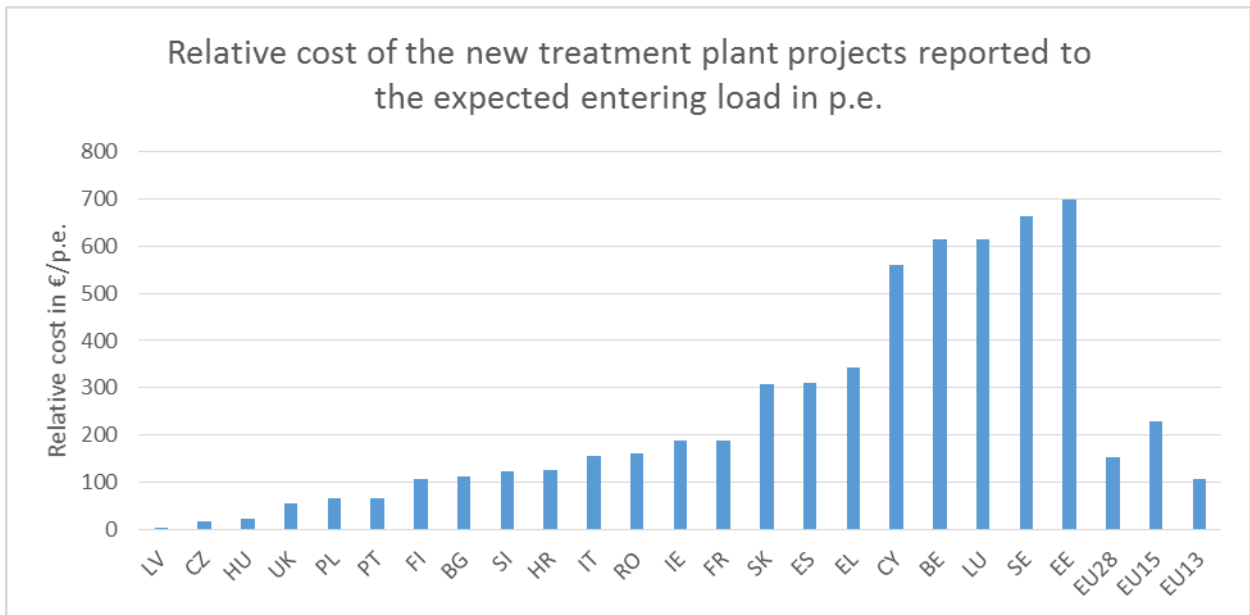


Figure 42: Investment costs of new treatment plants projects divided by the announced entering load (in p.e).

UWWTD Article 17 assessment	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
Number of collecting system and IAS works planned (expired deadlines) 2016 -->		16	288		25			6				216	72	13	672
Number of WWTP works planned (expired deadlines) 2016 -->		11	268		10	5		2	3	102		42	28	32	2,292
Number of collecting system works planned (pending deadlines) 2016 -->				275	0								214		
Number of WWTP works planned (pending deadlines) 2016 -->				261	0					5			92		
Load entering the planed UWWTP (p.e.)		38,990	5,547,693	6,963,120	375,067	1,593,900		1,466	244,500	1,483,260		237,079	1,721,709	2,946,911	11,056,386
Organic design capacity UWWTP (as planned) (p.e.)		45,560	5,547,693	6,963,120	422,117	1,710,800		2,120	270,000	1,759,067		448,128	2,279,736	3,544,880	18,701,403
Forecast cost investment needed for the collecting system (as in the national plan) (million €)		8	1,932	2,021	537			55				1,486	71	157	1,360
Forecast cost investment needed for the UWWTP (as in the national plan) (million €)		24	613	880	210	27		1	26	277		82	36	550	1,705
Amount of (planned) EU funding needed for collecting systems (million €)				290	1,338	20	11	45				1,335	53		275
Amount of (planned) EU funding needed for WWTP (million €)				89	583	41	11	1		19		75	27	185	160
Name of EU fund planned to be used		BEI loan	COHESION FUNDS	COHESION FUNDS	COHESION FUNDS	ERDF/FS		CF 2014-2020		FEADER, FEDER		COHESION FUNDS	Cohesion fund EU fund	European Investment Bank Loan	
Past yearly investment collecting system (new and renewal) (million €)	262	216	211	79	15	185	456	38	132	2,678	1,925	101	318		775
Past yearly investment treatment plant (new and renewal) (million €)	46	156	129	19	9	115	228	16	48	1,582	998	81	192		705
Current yearly investment collecting system (new and renewal) (million €)	289	233	211	225	15	185	533	12	140	2,750	2,090	167	365	100	774
Current yearly investment treatment plant (new and renewal) (million €)	41	127	129	98	30	116	266	5	52	1,550	788	133	97	195	775
Expected yearly investment collecting system (new and renewal) (million €)	283	244	276	225	49	187	533	13	146	2,750	2,090	167	365	110	804
Expected yearly investment treatment plant (new and renewal) (million €)	51	118	88	98	14	117	266	3	54	1,550	788	133	97	203	1,014
Evolution of the investments (PAST to CURRENT)	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡
Evolution of the investments (CURRENT to EXPECTED)	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡	➡
Method used for the calculation of current / expected investment	PAST: average 2010-2014 (ratio 15% UWWTPs investments/total) CUR: average 2015-2016 EXPT: average 2017-2019	PAST: average 2010-2014 CUR: average 2015-2016 EXP: average 2017-2026 Depends also on the Belgium Region	PAST: average 2013-2014 (previous) CUR: 2013-2014 (previous) EXPT: average 2017-2023	PAST: 2013 CUR: average 2015-2023 EXPT: average 2015-2023	PAST: average 2011-2013 CU: 2014-2015 EXPT: average 2016-2026 Be careful! all the amounts are allocated related to the works deadlines and not regularly allocated	PAST: 2015 CUR: 2016 EXPT: average 2017-2020	PAST: average 2010-2014 CUR: average 2015-2016 EXPT: average 2017-2019	PAST: average 2010-2014 (previous+current reporting) CUR: average 2015-2016 EXP: average 2017-2020	PAST: Average 2010-2014 (http://www.statistiques.developpement-durable.gouv.fr/publications/236/0125/comptes-environnement-2013.html) CUR: average 2014-2015 EXPT: 2017-2018	PAST: average 2008-2010 CUR: 2010 EXP: 2010	PAST: average 2010-2015 (previous with current ratio collecting system/UWWTP) CUR: average 2015-2020 EXP: average 2015-2020	PAST: average 2011-2012 (previous reporting) CUR: average 2013-2015 (previous reporting) EXPT: average 2013-2015 (previous reporting)	PAST: ? CUR: average 2014-2016 (last reporting) EXPT: average 2017-2021	PAST: average 2013-2014 CUR: Average 2015-2016 EXP: average 2016-2020	
Total organic design capacity (p.e.) 2014	21,310,558	10,534,523	8,822,593	4,023,135	1,298,999	15,382,786	11,467,823	1,700,647	6,400,000	93,594,092	147,593,580	13,990,584	13,976,178	5,196,118	102,846,752
Total organic design capacity (p.e.) (expected)	22,274,420	14,600,000	10,101,221	7,658,570	1,721,116	15,507,000	11,307,100	1,717,136	7,100,000	93,594,092	151,831,032	15,000,000	13,976,178	6,937,303	103,018,376
Generated load agglomerations	20,408,871	9,209,400	8,085,615	5,026,227	995,000	7,701,010	11,612,545	1,654,546	5,373,100	71,820,261	109,232,961	11,790,586	11,694,647	5,255,765	77,422,701
IAS agglomeration	138,055	0	5,371		16,222	521,405	0	41,429	0	0	2,007,705	1,221,239	1,483,644	262,788	3,385,253
Discharged without treatment before connection	0	20,463	1,277,950		240,650	0	0	8,410	0	0	0	0	0	0	577,726
Total load entering (2014)	13,911,535	9,188,937	6,789,381		738,128	9,352,356	11,612,545	1,195,858	5,373,100	71,644,776	107,097,681	10,547,796	10,200,443	5,255,765	73,474,063
Ratio load entering the planned UWWTP/total generated load	0.0%	0.5%	68.6%	138.5%	37.7%	20.7%	0.0%	0.1%	4.6%	2.1%	0.0%	2.0%	14.7%	56.1%	14.3%
Primary				27						1			1		
secondary		3	219	159	1					47		1	36	11	
More stringent nitrogen		7				2				6		3	20	3	
More stringent phosphorus									1	5			2	9	
More stringent microbiology					9	3				3		3			
More stringent nitrogen phosphorus		1	51	58				2	2	38			48	7	
More stringent nitrogen phosphorus microbiology										6		11			
More stringent nitrogen microbiology												25		1	
More stringent phosphorus microbiology									1				3	1	
More stringent unknown or other					1								10	1	
TOTAL treatment		11	270	244	11	5	0	2	3	107		43	120	33	
Population (million) (Eurostat 2014, Eurostat 2016)	8.7	11.3	7.2	4.2	0.8	10.6	5.7	1.3	5.5	66.6	82.2	10.8	9.8	4.7	60.7
ratio total investment/population PAST	35.4	33.0	47.5	23.4	27.9	28.4	119.8	41.4	32.8	64.0	35.6	16.9	51.9		24.4
ratio total investment/population CURRENT	37.8	31.9	47.5	77.1	52.5	28.5	140.0	12.5	34.8	64.6	35.0	27.8	47.0	63.3	25.5
ratio total investment/population EXPECTED	38.4	32.1	50.8	77.0	73.8	28.8	140.0	11.8	36.3	64.6	35.0	27.8	47.0	67.0	30.0

UWWTD Article 17 assessment	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	EU 28	EU 15	EU 13	
Number of collecting system and IAS works planned (expired deadlines) 2016 -->	3		6	various		1,119	3	191	70	18	486		5	3,209	1,417	1,792	
Number of WWTP works planned (expired deadlines) 2016 -->	3		3	various		813	50	1	103	6	486	11	11	4,282	3,043	1,239	
Number of collecting system works planned (pending deadlines) 2016 -->	63					0		1,517	35	77				2,181	0	2,181	
Number of WWTP works planned (pending deadlines) 2016 -->	65					0		1,303	31	20				1,777	5	1,772	
Load entering the planned UWWTP (p.e.)	276,284		150,125			26,248,525	1,738,651	14,418,778	992,483	529,511	16,168,999	181,350	760,504	93,675,291	35,006,755	58,668,536	
Organic design capacity UWWTP (as planned) (p.e.)	346,322		470,000			31,736,204	2,290,771	17,951,923	1,024,460	582,880		256,400	1,003,029	97,356,613	28,789,238	68,567,375	
Forecast cost investment needed for the collecting system (as in the national plan) (million €)	64		219			4,365	6	9,663	894	356	4,988		6,850	35,032	15,074	19,958	
Forecast cost investment needed for the UWWTP (as in the national plan) (million €)	0		93			1,739	116	2,299	306	64	4,997	121	42	14,207	8,032	6,175	
Amount of (planned) EU funding needed for collecting systems (million €)							4	5,845	796	184				10,197	1,614	8,583	
Amount of (planned) EU funding needed for WWTP (million €)							76	923	262	40				2,492	515	1,977	
Name of EU fund planned to be used							COHESION FUNDS	Cohesion funds AND European Regional Development Fund	Cohesion funds AND European Regional Development Fund	COHESION FUNDS AND RD FUNDS							
Past yearly investment collecting system (new and renewal) (million €)	25	79	73	7	974	1,198		1,075	67	77			844	11,810	8,436	3,373	
Past yearly investment treatment plant (new and renewal) (million €)	10	58	20	23	338	485		316	0	46	266	35	504	6,424	5,007	1,418	
Current yearly investment collecting system (new and renewal) (million €)	52	18	62	2	1,122	900	4	1,354	188	118	195		844	12,946	9,302	3,644	
Current yearly investment treatment plant (new and renewal) (million €)	5	13	15	2	238	407	46	420	0	91	295	20	504	6,457	5,044	1,413	
Expected yearly investment collecting system (new and renewal) (million €)	21	28	93	2	1,003	668	3	750	138	36	683		745	12,411	9,654	2,757	
Expected yearly investment treatment plant (new and renewal) (million €)	0	10	43	2	340	354	29	156	64	14	763	20	135	6,522	5,507	1,015	
Evolution of the investments (PAST to CURRENT)																	
Evolution of the investments (CURRENT to EXPECTED)																	
Method used for the calculation of current / expected investment	PAST: average 2010-2014 CUR: average 2015-2016 EXPT: average 2016-2022	PAST: average 2008-2011 (previous) CUR: 2012-2016 EXPT: average 2016-2018	2014/2016 (average 2016-2018)	PAST: average 2009-2011 (previous) CURRENT: average 2012-2020 (previous) EXPT: average 2016-2020	Average 2010-2012 (average 2013-2016)	2010-2012 (previous reporting) / 2013-2015 (previous reporting) / 2016-2021 (new reporting)	PAST: Average 2002-2016 CUR: 2015-2016 EXPT: 2017-2018	PAST: Average 2010-2014 CUR: average 2015-2016 (previous) EXPT: average 2017-2023	PAST: Average 2002-2016 CUR: 2015-2016 EXPT: 2017-2018	PAST: Average 2010-2014 CUR: 2015-2016 EXPT: 2016-2021	PAST: Average 2010-2014 CUR: 2015-2016 EXPT: 2016-2021	PAST: 2014 previous CUR: average 2016-2020 EXP: average 2016-2020 EXPT: average 2017-2021 not included renewal in the infrastructure	PAST: 2014 previous CUR: average 2016-2020 EXP: average 2016-2020 EXPT: average 2017-2021 not included renewal in the infrastructure	PAST: average 2010-2014 CUR: Average 2015-2021			
Total organic design capacity (p.e.) 2014	2,240,079	3,579,383	945,200	720,000	21,806,765	49,645,180	16,593,694	19,653,409	7,299,471	2,206,973		13,635,195	91,202,408	687,666,125	557,117,292	130,548,833	
Total organic design capacity (p.e.) (expected)	2,249,163	3,580,000	1,065,905	600,000	21,800,000	46,370,111	16,561,230	11,215,860	8,421,375	2,801,852		13,635,195	88,586,890	693,231,125	567,311,543	125,919,582	
Generated load agglomerations	1,549,335	2,652,090	606,215	513,001	18,225,775	38,536,550	12,029,570	20,924,781	4,656,291	1,462,223	61,860,028	12,523,628	70,882,026	603,704,748	498,253,432	105,451,316	
IAS agglomeration	44,290	124,629	4,291	0	0	3,350,373	0	138,617	766,082	91,220	782,998	0	370,425	14,756,036	8,172,754	6,583,282	
Discharged without treatment before connection	0	0	0	0	0	239,643	6,090	8,118,057	19,312	126,801	325,018	0	0	10,960,120	929,297	10,030,823	
Total load entering (2014)	1,300,457	2,529,423	601,924	513,001	17,995,880	34,990,743	12,004,870	12,897,262	3,870,897	1,243,726	60,488,649	12,524,158	70,455,641	567,798,995	482,177,320	85,621,675	
Ratio load entering the planned UWWTP/total generated load	17.8%	0.0%	24.8%	0.0%	0.0%	68.1%	14.5%	68.9%	21.3%	36.2%	26.1%	1.4%	1.1%	15.5%	7.0%	55.6%	
Primary						14	2	12		1				58	3	55	
secondary	65			2		464	35	1094	46	1	422		2	2,608	521	2,087	
More stringent nitrogen									65	4			1	112	21	91	
More stringent phosphorus											55	7	7	86	84	2	
More stringent microbiology									7	10		5		40	18	22	
More stringent nitrogen phosphorus	3		3			335	3	175	23	18			4	771	58	713	
More stringent nitrogen phosphorus microbiology									1	0				20	18	2	
More stringent nitrogen microbiology									1	13				43	30	13	
More stringent phosphorus microbiology												1		6	3	3	
More stringent unknown or other				1										13	1	12	
more stringent (total)	3	0	3	1	0	335	13	198	88	24	63	11	9	1091	233	858	
TOTAL treatment	68		3			813	50	1304	134	26	485	11	11	3,754	757	2,997	
Population (million) (Eurostat 2014, Eurostat 2016)	2.0	2.9	0.6	0.4	17.0	38.0	10.3	19.8	5.4	2.1	46.4	9.9	65.3	510.0	405.6	104.4	
ratio total investment/population PAST	18.0	47.4	161.5	67.5	77.3	44.3		70.4	12.3	59.6	5.7	3.6	20.6	35.8	33.1	45.9	
ratio total investment/population CURRENT	28.7	10.6	133.7	10.1	80.1	34.4	4.8	89.8	34.6	101.3	10.6	2.0	20.6	38.0	35.4	48.4	
ratio total investment/population EXPECTED	10.8	13.0	237.2	10.1	79.1	26.9	3.1	45.9	37.1	24.2	31.1	2.0	13.5	37.1	37.4	36.1	

Annex I: List of abbreviations and key concepts

EU-28	Austria, Belgium, Bulgaria, Cyprus, Croatia, Czech Republic, Germany, Denmark, Estonia, Greece, Spain, Finland, France, Hungary, Ireland, Italy, Lithuania, Luxembourg, Latvia, Malta, Netherlands, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia and United Kingdom
EU-13	Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Lithuania, Latvia, Malta, Poland, Romania, Slovenia and Slovakia
EU-15	Austria, Belgium, Germany, Denmark, Greece, Spain, Finland, France, Ireland, Italy, Luxembourg, Netherlands, Portugal, Sweden and United Kingdom
AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia

SK	Slovakia
UK	United Kingdom
BOD ₅	Biochemical Oxygen Demand in five days
COD	Chemical Oxygen Demand
CSA	Catchment of Sensitive Area
EEC	European Economic Community
EU	European Union
GIS	Geographical Information System
IAS	Individual Appropriate Systems
ID	Identification Number
LSA	Less Sensitive Area
MS	Member State
N	Nitrogen
NA	Normal Area
P	Phosphorus
p.e.	Population Equivalent
Q-2009	Reporting exercise of the UWWTD with reference year 2007/2008. Also results compiled using the Questionnaire sent to EU Member States in 2009.
Q-2011	Reporting exercise of the UWWTD with reference year 2009/2010. Also results compiled using the Questionnaire sent to EU Member States in 2011.
Q-2013	Reporting exercise of the UWWTD with reference year 2011/2012. Also results compiled using the Questionnaire sent to EU Member States in 2013.
Q-2015	Reporting exercise of the UWWTD with reference year 2014. Also results compiled using the Questionnaire sent to EU Member States in December 2015.
SA	Sensitive Area
UWWTD	Urban Waste Water Treatment Directive

Annex II: Glossary

Agglomeration	An area where the population and/or economic activities are sufficiently concentrated for urban waste water to be collected and conducted to an urban waste water treatment plant or to a final discharge point
Big cities/ big discharger	<p>Big cities' present 'real' cities with more than 150,000 inhabitants, which may consist of one or several agglomerations (e.g. Rome, Madrid, London). 'Big dischargers' represent all agglomerations with more than 150,000 p.e., with the waste water not necessarily stemming from inhabitants, but also from industrial activities. Although the terms 'big cities' and 'big discharger' are not given in the UWWTD, the terms have been used since the 2nd UWWTD Implementation Report in order to give the waste water treatment in the biggest stressors to the aquatic environment.</p>
Collecting system	A system of conduits which collects and conducts urban waste water
Compliance	Compliance with the UWWTD means that an agglomeration/ the generated load of an agglomeration fulfills the requirements as concerns waste water collection and/ or treatment as defined by the UWWTD.
Eutrophication	The enrichment of water by nutrients, especially compounds of nitrogen and/or phosphorus, causing an accelerated growth of algae and higher forms of plant life to produce an undesirable disturbance to the balance of organisms present in the water and to the quality of the water concerned.
More stringent Treatment	The treatment that ensures the level of quality for the effluents specified by table 2 of Annex I B of the Directive. Also known as tertiary treatment, it entails normally the removal of nutrients (i.e. Nitrogen and Phosphorus compounds). Urban waste water entering collecting systems shall before discharge into sensitive areas be subject to more stringent treatment.
Pollution load/ Generated load (p.e.)	The pollution load is a way to show the size of an agglomeration. It would represent all the organic matter in the waste water generated in an agglomeration, This waste water requires collection, or otherwise to be addressed, under Article 3(1) of the UWWTD. It does not include the load of unmixed industrial waste water which is treated separately and directly discharged into waters.
Population equivalent (1 p.e.)	The unit to quantify the pollution load is the population equivalent (p.e.). One p.e. corresponds to the organic load which has a five-day biochemical oxygen demand (BOD ₅) of 60 g of oxygen per

	day.
Reference date	Date of reported situation. For monitoring data it is the calendar year
Primary Treatment	Treatment of urban waste water by a physical and/or chemical process involving settlement of suspended solids, or other process in which the BOD ₅ of the incoming waste water is reduced by at least 20% before discharge and the total suspended solids of the incoming waste water are reduced by at least 50%
Secondary Treatment	The treatment that ensures the level of quality for the effluents specified by table 1 of Annex I B of the UWWTD. Also known as biological treatment, it makes use of processes generally involving biological treatment with a secondary settlement
Sensitive areas	<p>Water bodies whose protection requires that the waste water is subject to a treatment which is more stringent than the biological treatment. There are several reasons for which a water body could be considered a sensitive area: high risk of eutrophication, drinking water abstraction or to ensure the achievement of related environmental objectives laid down by EU legislation.</p> <p>The treatment requirements have to be met within seven years after the designation of the water body as sensitive area (see Article 5(7))</p>
Subjected load (p.e.)	<p>The compliance with the provisions in the UWWTD is assessed comparing the amount of pollution load that actually receives the treatment requested by the UWWTD (i.e. which is collected, which receives biological treatment and which receives more advanced treatment) with the total amount of load that, theoretically, should receive such treatment (the so called subjected load).</p> <p>Not all the load generated in different agglomerations has to receive treatment. Actually, not all agglomerations $\geq 2,000$ p.e. in a Member State needs to be compliant with the relevant provisions of the UWWTD. The waste water collection and treatment requirements are defined by</p> <ul style="list-style-type: none"> • the size of the agglomeration (p.e.) • the deadline to comply with UWWTD/ transitional period for this agglomeration • the type of receiving area (i.e. normal area, sensitive area,..) • the date of designation/ review of the receiving area • the type of receiving water (i.e. freshwater, coastal water,...) <p>The subjected load refers to the amount that, theoretically, should receive treatment according to specific provisions of the UWWTD a specific reference date.</p>
Transitional period	For EU-13 EU Member States, transition periods were negotiated as part of the Accession Treaties, obliging EU Member States to comply with the UWWTD by different dates.

Annex III: Methodology of data evaluation and presentation of the results

Information on urban waste water treatment, as reported by EU Member States, is analysed and presented according to the purpose of this report. Sub-section 8.1 provides an overview of the data assessment used including information on the presentation of compliance results. As the application of individual appropriate systems for waste water treatment according to Article 3 and the designation (date and criteria) of Sensitive Areas and Catchment Areas of Sensitive Areas according to Article 5 are of particular relevance for the European Commission, two separate sub-sections (sub-sections 8.2 and 8.3) provide detailed background information highlighting the principles of the respective data assessment. Furthermore, as “big cities”/big dischargers represent the biggest stressors to the aquatic environment, sub-section 8.4 describes the presentation of the current status of waste water treatment implementation in these particular agglomerations.

Assessment of compliance with the requirements and deadlines/ transitional periods

For agglomerations with more than 2,000 p.e. in EU-15 Member States, the final deadline for implementation of the UWWTD expired on 31 December 2005.

For EU-13 Member States several interim deadlines terminated for the reporting period 2011/2012; only for HR, compliance was not yet assessed due to the still pending transitional periods. In CZ, EE, LT and MT the final transitional period to comply with the UWWTD already fully expired for all agglomerations > 2,000 p.e..

For the assessment of compliance as regards the requirements, deadlines and transitional periods, the available infrastructure for urban waste water collection and treatment in each country was evaluated against the requirements laid down in Article 3, Article 4 and Article 5 of the UWWTD.

The parameters determining these treatment requirements are the following:

- Size of the agglomeration (p.e.).
- Deadline / transitional period to comply with the UWWTD for this agglomeration.
- Type of receiving area (i.e. normal area, sensitive area).
- Date of designation / review of the receiving area.
- Type of receiving water (e.g. freshwater, coastal water).

As a main principle of this evaluation, an agglomeration is considered as in compliance with the UWWTD, if all waste water is collected and connected to treatment plants, and if all these plants serving the agglomeration are compliant with the required treatment (complying treatment type and monitoring results). However, the COM allows a certain margin of flexibility for EU Member States, when assessing compliance with Article 3 (2% of the generated load or 2,000 p.e.), Article 4 and Article 5 (1% of the collected load or 2,000 p.e.). For the calculation of compliance loads (p.e.) at the MS-level, the total generated load of all agglomerations complying with Article 3 and the total load collected in collecting systems from agglomerations complying with Article 4 (and/ or Article 5) is taken into account.

The following two examples explain the data evaluation for compliance with Article 3 and 4 in more detail:

Example Article 3: In one Member State there are five agglomeration with a total generated load of 88,600 p.e. All agglomerations are subject to compliance with Article 3. For agglomeration A and B 0.1% and 0.3% of the generated load are not collected in the collecting system. As the fraction not collected in collecting system is below the margin of flexibility, both agglomerations are assessed as 'compliant'. In agglomeration C the fraction not collected in the collecting system exceeds the margin of flexibility and hence, the agglomeration is assessed as 'not compliant'. In the summary table four agglomerations with a total generated load of 71,000 p.e. are assessed as being 'compliant' with Article 3.

Agglomeration	generated load (p.e.)	Generated load (p.e.) collected in collecting system	Generated load (p.e.) addressed through IAS	Generated load (p.e.) not collected in collecting system an not addressed through IAS	Compliance Art. 3
A	17,300	17,283	0	17	C
B	17,500	17,446	0	54	C
C	17,600	17,230	0	370	NC
D	17,800	17,800	0	0	C
E	18,400	18,400	0	0	C

Member State	Number of agglomerations	Generated load (p.e.)
Agglomerations subject to compliance with Art. 3	5	88,600
- of which: compliant with Art. 3	4	71,000

Example Article 4: In one Member State there are five agglomerations with a total generated load of 110,800 p.e. and a total collected load of 108,429 p.e.. All agglomerations are subject to compliance with Article 4. For agglomeration D, 0.8% of the generated load collected in collecting system is not compliant, which is below the margin of flexibility. Therefore, agglomeration D is assessed as 'compliant'. In agglomeration B the non-compliant fraction exceeds the margin of flexibility and hence, the agglomeration is assessed as 'not compliant' with Article 4. In the summary table four agglomerations with a total collected load of 71,000 p.e. are assessed as being 'compliant' with Article 4.

Agglomeration	generated load (p.e.)	Generated load (p.e.) collected in collecting system	Generated load (p.e.) compliant with Art. 4	Generated load (p.e.) not compliant with Art. 4	Generated load (p.e.) compliant with Art. 6	Compliance Art. 4
A	20,000	19,340	19,340	0	0	C
B	20,200	19,008	14,362	4,646	0	NC
C	23,200	23,200	23,200	0	0	C
D	23,600	23,081	22,892	189	0	C
E	23,800	23,800	23,800	0	0	C

Member State	Number of agglomerations	Load collected in collecting systems (p.e.)
Agglomerations subject to compliance with Art. 4	5	108,429
- of which: compliant with Art. 4	4	89,421

Table 10 gives an example of the presentation of the assessment per Member State being included in the national assessments in Annex V of the Report. The summary table is divided into three main sections presenting compliance with Article 3, Article 4, and Article 5. To ensure consistency within the table all agglomerations $\geq 2,000$ p.e. are presented in

each section ('MS total'). For each Article, the table gives the number of agglomerations and load subject to compliance ('target') and the number and generated load of compliant agglomerations ('actual'). The summary tables clearly differentiate that the generated load of agglomerations is the reference for Article 3, whereas the load collected in collecting systems is the reference for Article 4 and 5.

Agglomerations, which are not subject to compliance with Article 3, Article 4 and/or Article 5 are additionally highlighted in the respective summary table. The most important factors, why agglomerations are not subject to compliance with a specific Article, are differentiated in the summary table:

- Article 3: transitional period in EU-13 EU Member States ongoing.
- Article 4: transitional period in EU-13 EU Member States ongoing, agglomeration size of 2,000 p.e. to 10,000 p.e. and discharge into coastal water, 0% collection in collecting system, discharge into less sensitive areas.
- Article 5: transitional period in EU-13 EU Member States ongoing, discharge into Article 5(4) area, discharge into normal area, discharge into SA/CSA with pending transitional period, discharge into SA/CSA and size of agglomeration $\leq 10,000$ p.e., discharge into CSA designated for criterion c, 0% collection in collecting system, discharge into less sensitive areas.

Member State (reference date: 2011/12/31)	agglomerations		Waste water load	
	number	[%]	p. e.	[%]
Article 3 (reference: generated waste water load)				
actual:	2,963	92.5	70,873,357	87.4
target:	3,203	100.0	81,060,585	100.0
not subject to legal compliance - total:	0	0.0	0	0.0
MS total:	3,203	100.0	81,060,585	100.0
Article 4 (reference: waste water load collected in collecting system)				
actual:	2,075	67.0	48,917,661	64.5
target:	3,099	96.8	75,888,544	99.4
not subject to legal compliance - total:	104	3.2	427,341	0.6
- due to transition period	0	0.0	0	0.0
- due to a size of 2000p.e. - 10000 p.e. and discharge into coastal water	79	2.5	427,341	0.6
- due to 0% collection in collecting system	25	0.8	0	0.0
- due to discharge into LSA	0	0.0	0	0.0
MS total:	3,203	100.0	76,315,884	100.0
Article 5 (reference: waste water load collected in collecting system)				
Article 5(2,3)				
actual:	94	77.7	6,750,649	86.2
Member State (reference date: 2011/12/31)				
target:	121	3.8	7,833,293	10.3

not subject to legal compliance - total:	3,082	96.2	68,482,592	89.7
- due to transition period	0	0.0	0	0.0
- due to discharge into Art. 5(4)- area	923	28.8	27,731,453	36.3
- due to discharge into NA	1,518	47.4	34,053,206	44.6
- due to discharge into SA/CSA	428	13.4	5,829,218	7.6
with pending transition period				
- due to discharge into SA/CSA and size of ≤ 10000 p.e.	173	5.4	742,072	1.0
- due to discharge into CSA designated for criterion c	0	0.0	0	0.0
- due to 0% collection in collecting system	25	0.8	0	0.0
- due to discharge into LSA	0	0.0	0	0.0
MS total:	3,203	100.0	76,315,884	100.0

Table 10: Example for presentation of data for assessment of the implementation of the UWWTD with regards to its requirements and deadlines/ transitional periods.

Application of individual appropriate systems (IAS) for waste water treatment (Article 3)

Article 3 of the UWWTD considers IAS in exceptional cases as an appropriate solution for waste water treatment. The fraction of waste water addressed through IAS is generally assessed to be compliant with Article 3 of the UWWTD, but with the constraint, that this compliance is questionable, unless more detailed information on IAS is made available. In case a threshold value of 2% is exceeded for IAS, more detailed data on the type of treatment provided in in-situ IAS and/or the rate of the generated load of an agglomeration transported to an UWWTP by truck after collection in IAS should be provided by EU Member States in the UWWTD-reporting format.¹⁹

As an example, Greece reported a considerable amount of agglomerations which are 100% treated in IAS. Articles 4 and 5 are hence of no relevance for these agglomerations. In the future the Commission may request further information on agglomerations, for which a threshold percentage of the waste water is treated in IAS.

Historical assessment of the date of and the criteria for the designation/review of SA and their related CSA (Article 5)

For the EU-15 EU Member States applying Article 5(2) since 2005 (namely IE, IT, ES, FR, EL and PT) an “historical assessment” as regards the date of and the criteria for the designation/review of SA and their related CSA was developed.

The need for an “historical assessment” is due to the fact that since the publication of the 4th Implementation Report many EU Member States have reviewed their list of SAs and related CSAs for plausible reasons. However, a sound GIS-database as well as clear information on designation criteria and designation dates of SA and CSA is only available from the 5th Implementation Report onwards. Therefore, it may happen that a Member

¹⁹ This should be done in the database in terms of the parameters ‘aggPercPrimTreatment’, ‘aggPercSecTreatment’ and ‘aggPercStringentTreatment’ (in the form ‘T_Agglomerations’), which reveal the type of treatment provided in in-situ IAS and/or in terms of the parameter ‘aucPercC2T’ (in the form ‘T_UwwtpAgglo’), which reveals the rate of the generated load of an agglomeration transported to an UWWTP by truck after collection in IAS.

State designated a SA in 1998 and reviewed the SA in 2004 (e.g. because the SA was enlarged). Due to the type of data reported under the UWWTD Questionnaires from the 5th Implementation Report onwards, the COM is only informed about the review date of the SA and not about the first date of designation. However, this date defines, until which date agglomerations > 10,000 p.e. discharging into the SA, need to comply with Article 5.

The process of the “historical assessment” of the date of and the criteria for the designation/review of SAs and their related CSAs (Article 5) can be described as follows: For each agglomeration, the EU Member States indicate the ID of the receiving area in the UWWTD Questionnaire. In case of discharge into a SA/CSA, the designation/review date and the criteria for designation are taken into account.

The following examples of the “historical assessment” can be given:

- An agglomeration discharges into a Sensitive Area for criterion a (P) in Q-2013 (designation/ review date: 2008). The historical assessment reveals that the agglomeration also discharges into a SA reported sensitive for criterion a (N and P) (designation date: 1998). At reference date 31/12/2011 agglomerations > 10,000 p.e. discharging into this SA have to be treated by 3P, as the first date of designation for this criterion is 1998 (and not 2008). On the contrary, requirements as concerns criterion a (N) are not relevant after the review of the SA.
- An agglomeration > 10,000 p.e. is reported as discharging into a normal area in Q-2013, but reported as discharging into a Sensitive Area (Article 5(2,3)) in former Implementation reports. As the review of SA/CSA is accepted, the agglomeration is not checked against Article 5.

Presentation of the status of waste water infrastructure and treatment in big cities / big dischargers

For big cities / big dischargers and agglomerations with more than 150,000 p.e., which represent the biggest stressors to the aquatic environment, the current status of waste water collection and treatment is described in an additional sub-chapter.

Presentation of compliance with the requirements of the UWWTD at the regional level

The assessment of compliance with the requirements of the UWWTD is for the first time in this Report not only presented on national, but also at the regional level (NUTS2 level). For all EU Member States a table and different maps for Article 3, 4 and 5 present the compliance results at the regional level (see Annex V as per EU Member State).

The additional presentation of compliance results on the basis of NUTS2 level regions provides a better correlation with data presented by Eurostat and information required for the application of several EU Funds, such as the European Regional Development Fund. Furthermore citizens are often interested in getting information on the waste water situation at a more local level, i.e. in their respective regions.

Status of Urban Waste Water Treatment Plants

This evaluation reflects the accordance of individual urban waste water treatment plants with the requirements of Articles 4 and 5 of the UWWTD (in contrast to the legal compliance assessment which is done at agglomeration level, see Annex V as per EU Member State).

Annex IV: Existing transitional periods for EU-13 EU Member States

Table: Transitional periods and interim targets²⁰ for the implementation of UWWTD in EU-10 and EU-2

<i>State</i>	<i>Articles</i>	<i>Interim target dates to comply with *</i>	<i>Final deadline of transitional period</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
Cyprus	3, 4, and 5(2) – if sensitive areas have to be identified	31 December 2008 – for 2 aggl. (Limassol and Paralimni) with >15,000p.e. 31 Dec 2009 – for 1 aggl. (Nicosia) with > 15,000 p.e. 31 Dec 2011 – for 1 aggl. with >15,000p.e.	31 Dec 2012
Czech Republic	3, 4, 5(2)	01 May 2004 – for 18 agglom. >10,000 p.e. 31 Dec 2006 – 36 aggl.	31 Dec 2010
Estonia	3, 4, 5(2)	31 December 2009 - for aggl. >10,000 p.e.	31 Dec 2010
Latvia	3, 4, 5(2)	31 Dec 2008 – for aggl. with > 100,000 p.e. 31 Dec 2011 – for aggl. between 10,000 and 100,000 p.e.	31 Dec 2015
Lithuania	3, 4, 5(2)	31 Dec 2007 – compliance with Art.4 and 5(2) for all aggl. > 10,000 p.e.	31 Dec 2009
Hungary	3, 4, 5(2) 13	31 Dec 2008 – for aggl. in sensitive areas with >10,000 p.e. 31 Dec 2010 – for aggl. in normal areas with >15,000 p.e.	31 Dec 2015 31 Dec 2008 – for biodegradable industrial waste water from plants belonging to industrial sectors from Annex III ²

²⁰ Information extracted from the Accession Treaty, OJ L 236, 23.9.2003, p.809-922, Annexes V – XIV

Malta	3	<p>01 May 2004 – compliance for Marsa land and Gozo-Main representing 24% of total biodegradable load</p> <p>30 June 2004 – for Malta South representing further 67% of total biodegradable load</p> <p>31 Dec 2005 – for Gharb in Gozo and Nadur in Gozo representing further 1% of total biodegradable load</p>	31 Oct 2006
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¹ Pannontej Rt. (Répcelak); Bàcsbokodi Tejuzem (Bàcsbokodi); Papp Kereskedelmi Kft. Konzervgyàr (Nyirtas); Vépisz Szovetkezet, Konzervuzem,(Csegold); Szatmàri Konzervgyàr Kft. (Tyukod); Petisfood Kft. Konzervuzem (Vasmegyer); Atev Rt. (Debrecen-Bànk); Mirsa Rt. (Albertirsa); Makoi Tejuzem (Màko); Zalka Tej Rt. (Nagybànhegyes)

	4	<p>01 May 2004 – for Marsa Land representing 19% of total biodegradable load</p> <p>31 Oct 2004 – for Gozo-Main representing further 5% of total biodegradable load</p> <p>31 Dec 2005 - for Gharb in Gozo and Nadur in Gozo representing further 1% of total biodegradable load</p> <p>31 Oct 2006 – for Malta North representing further 8% of total biodegradable load</p>	31 March 2007
Poland	3, 4, 5(2), 7	<p>31 Dec 2005 – in 674 all. representing 69% of total biodegradable load</p> <p>31 Dec 2010 – in 1069 aggl. representing 86% of total biodegradable load</p> <p>31 December 2013 – in 1165 aggl. representing 91% of total biodegradable load</p>	<p>31 Dec 2015</p> <p>31 Dec 2010²¹</p>
	13		

²¹ In accordance with table presented in the Accession Treaty (ref. OJ L 236, Annexes V – XIV, 23.9.2003, p.893;

Industries under points 8-9 listed in Annex III in UWWTD has to be compliance with article 13 on the date of accession (01/05/2004)

Slovenia	3, 4, 5(2)	31 Dec 2008 – in sensitive areas for aggl. with > 10,000 p.e. 31 Dec 2010 – in aggl. with > 15,000p.e.	31 Dec 2015
Slovakia	3, 4, 5(2)	31 Dec 2004 – for 83% of the total biodegradable load 31 Dec 2008 – for 91% of the total biodegradable load 31 Dec 2010 – all agglomerations > 10,000 p.e. 31 Dec 2012 – for 97% of the total biodegradable load	31 Dec 2015
Bulgaria²²	3, 4, 5(2)	31 Dec 2010 – for aggl. with > 10,000 p.e.	31 Dec 2014
Romania²³	3, 4, 5(2)		31 Dec 2018
	3	31 Dec 2010 – 61% of the load in p.e. 31 Dec 2013 – 69% of the load in p.e. 31 Dec 2015 – 80% of the load in p.e.	
	3	31 Dec 2013 – all agglomerations > 10,000 p.e.	
	4, 5(2)	31 Dec 2010 – 51% of the load in p.e. 31 Dec 2013 – 61% of the load in p.e. 31 Dec 2015 – 77% of the load in p.e. 31 Dec 2015 – all agglomerations > 10,000 p.e.	

²² Accession Treaty, ref. OJ L 157, 21.6.2005, p.298

²³ Accession Treaty, ref. OJ L 157, 21.6.2005, p.169-170

Table: Transitional periods and interim targets for the implementation of UWWTD in Croatia

State	articles	Interim target dates to comply with	Final deadline of transitional period
Croatia ²⁴	3, 4, 5(2), 7	31 December 2018 - in aggl. > 15,000 p.e. except for 11 coastal aggl.* 31 December 2020 - in aggl > 10,000 p.e. in sensitive areas and relevant catchments and the 11 aggl.*	31 December 2023

*Bibinje-Sukošan, Biograd, Jelsa-Vrboska, Makarska, Mali Lošinj, Malinska-Njivice, Nin, Pirovac-Tisno-Jezera, Pula-Sjever, Vela Luka, Vir

24 OJ L 112, 24.04.2012, p.78, Annex V

Annex V: UWWTD Implementation in EU-28 Member States – National chapters

See separate document.

Annex VI: List of designated sensitive areas/catchment areas of sensitive areas in EU-28 Member States

See separate document.

Annex VII: Waste water treatment of European big cities/ big dischargers in EU-28 Member States

See separate document.