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A COMPARATIVE EUROPEAN ENVIRONMENT AGENCY (EEA) DATASET OF SIX EU MEMBER STATES: AUSTRIA, DENMARK, GERMANY, IRELAND, POLAND, AND THE NETHERLANDS

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Description: The indicators of the European Environmental Agency (EEA) contain high-quality data on a wide set of topics and legislation related to the environment, climate and sustainability. The EEA statistical data include (1) Total net greenhouse gas emission trends and projections in Europe; (2) Total greenhouse gas emissions (CO2 equivalent), net emissions, % change between 2022-23; (3) Greenhouse gas emissions from land use, land use change and forestry in Europe; (4) Marine protected areas in Europe's seas; (5) Designated terrestrial protected areas in Europe; (6) Economic losses from weather- and climate-related extremes in Europe; (7) Green bonds in Europe; (8) Drought impact on ecosystems in Europe; (9) Fossil fuel subsidies in Europe; (10) Industrial pollutant releases to water in Europe; (11) Eco-innovation index in Europe; (12) Water scarcity conditions in Europe; (13) CO2 emissions performance of new passenger cars in Europe; (14) Nutrients in freshwater in Europe; (15) Oxygen consuming substances in European rivers; (16) Premature deaths due to exposure to fine particulate matter in Europe; (17) Imperviousness and imperviousness change in Europe; (18) Emissions of the main air pollutants in Europe; and (19) Forest connectivity in Europe.

Main primary statistical data sources: The EEA Datahub. The EEA is an agency of the EU. Together with the EEA's Eionet network, the institution provides the knowledge and the data needed to achieve sustainability in Europe.

Other statistical data sources: Energy (Eurostat), Climate (Eurostat), CO2 emissions (IPCC, European Commission, UNFCCC), Macro-economic (Eurostat), Demographic (Eurostat).

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The dataset was developed in the framework of the OPUS 26 project that is entitled '**Towards Co-creative Just Transition at the Urban Level in Europe**' and conducted in the Institute of European Studies, Faculty of Social Sciences at the University of Wrocław (Poland). The OPUS 26 project is financed by the **Polish National Science Council** (**Narodowe Centrum Nauki – NCN**). The author wishes to acknowledge the financial assistance of the **OPUS 26 grant** (**Reg. No: 2023/51/B/HS5/02581**) from the **Polish National Science Council** (**Narodowe Centrum Nauki – NCN**).

(1) Total net greenhouse gas emission trends and projections in Europe

The greenhouse gas emissions indicators consider past emissions trends in Europe and indicate the progress of the EU towards its international and internal GHG targets. The GHG emissions data cover anthropogenic emissions from all economic sectors. Member States follow the IPCC Guidelines for National Greenhouse Gas Inventories when estimating emissions and removals of greenhouse gases to ensure transparency, accuracy, comparability, completeness, and consistency in reported data. The reduction of GHG emissions is vital to slow the rate of global warming and mitigate its impact on environment and human health (EEA, 2024a).

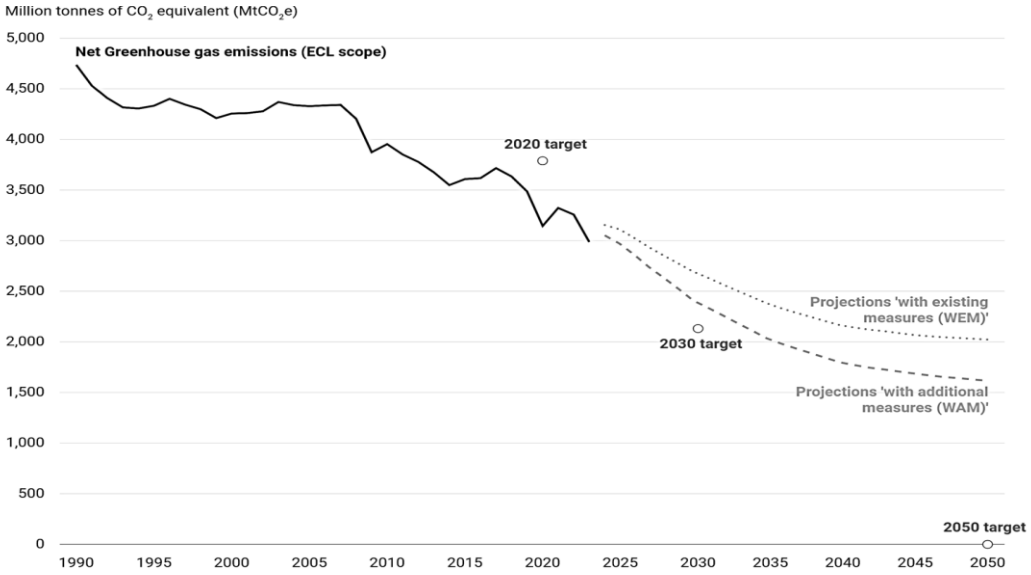


Figure 1. Progress towards achieving climate targets in the EU-27
Source: EEA, 2024a

Net greenhouse gas (GHG) emissions fell by 31% in the EU-27 between 1990 and 2022. The reduction of 8% in 2023 marked significant progress toward climate neutrality for the EU. A 49% reduction in net emissions will be reached by 2030 compared to 1990 levels, missing the 55% reduction target for 2030 (EEA, 2024a).

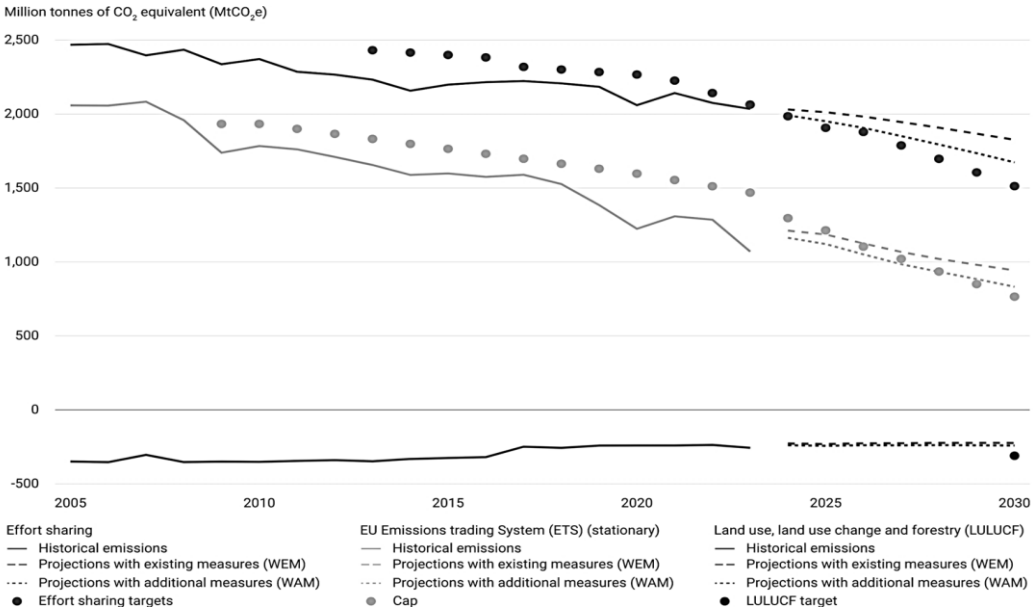


Figure 2. Effort Sharing, ETS, LULUCF trends and projections in the EU-27
Source: EEA, 2024

(2) <u>Total greenhouse gas emissions (CO2 equivalent), net emissions, % change between 2022-23</u>

Emissions from stationary installations have decreased by 48% between 2005 and 2023. Stationary emissions showed a substantial 17% decrease in 2023 compared to 2022. Projections suggest a considerable gap towards the target for 2030, with Effort Sharing emissions expected to reach a reduction of 34% compared with the target of 40%. GHG projections as submitted by Member States foresee an increase of carbon sink, but not at a rate that would permit achievement of the target level of minus 310MtCO2e by 2030 (EEA, 2025a).

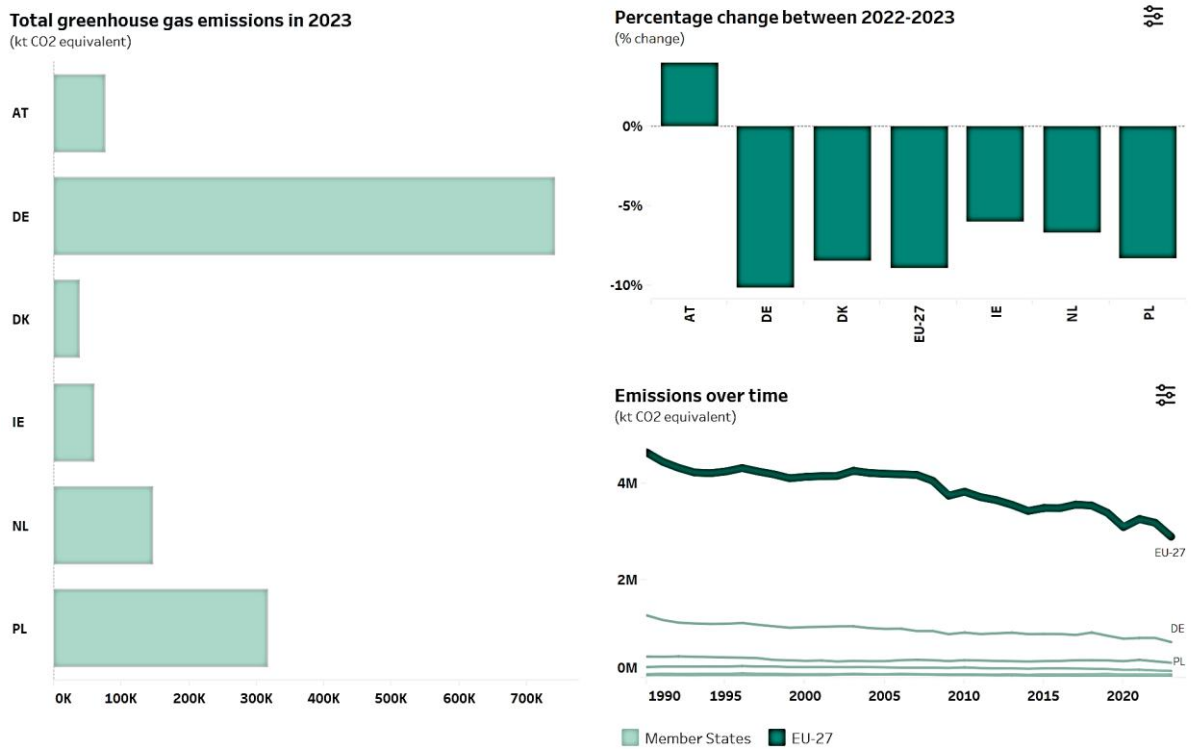


Figure 3. Total greenhouse gas emissions (CO2 equivalent), total net emissions (UNFCCC), percentage change between 2022-23
Source: EEA, 2025a

Austria (AT): 76,226 (kt CO2 equivalent in 2023); 4% percentage change between 2022-23
Germany (DE): 740,673 (kt CO2 equivalent in 2023), -10% percentage change between 2022-23
Denmark (DK): 38,785 (kt CO2 equivalent in 2023), -8% percentage change between 2022-23
Ireland (IE): 58,829 (kt CO2 equivalent in 2023), -6% percentage change between 2022-23
Netherlands (NL): 146,441 (kt CO2 equivalent in 2023), -7% percentage change between 2022-23
Poland (PL): 315,780 (kt CO2 equivalent in 2023), -8% percentage change between 2022-23

Table 1. Greenhouse gas emissions (no LULUCF included) (1990-2024 Provisional)

Years	***Austria***	***Denmark***	***Germany***	***Ireland***	***Netherlands***	***Poland***
1990	79621,23653	72471,1967	1252397,338	55734,91443	223121,7545	476113,058
1991	83293,1	83233,8	1206567	56501,3	231017	463735
1992	76723,7	77273,5	1157074	56496,3	231375	450891
1993	77094,8	79671,4	1147917	56955,9	231615	450404
1994	77304,1	83567,1	1129646	58274,5	232265	444743
1995	80570,1	80651,3	1122691	59675,1	232278	446288
1996	83756,5	93742,3	1140026	61746,2	242574	459835
1997	83380,1	84140,1	1104233	63068,3	234124	449612
1998	82702,5	80189,5	1079171	65539,9	234325	418654
1999	81161,2	77456,5	1045172	66730	221842	406849
2000	81388,8	73113,6	1042347	68855,8	220173	393469
2001	85278,4	74676,2	1056831	70848,8	221440	391933

2002	87042,8	74182,6	1035157	68941	219070	381758
2003	92414,4	79164,8	1026714	69376,2	219750	395131
2004	92214,5	73206,1	1003306	68687,7	221259	400617
2005	93340,7	68893,1	989744	70149,9	215456	400585
2006	90899,9	76562,1	1003267	69269,8	210325	415385
2007	88097,1	71860,3	962986	68655,1	208886	414531
2008	87509,8	68226,8	971036	67927	208645	407507
2009	80896,2	65488,9	902262	62153,3	202889	389116
2010	85441,9	65660	930250	61797	214856	405956
2011	83250,5	60422,6	906735	57836,3	200655	404513
2012	80487,1	55850,8	916997	58358,8	196362	396998
2013	80867,7	57549,7	933986	58007,7	195788	393046
2014	77215,2	53343,6	893549	58094,9	187549	380435
2015	79359	50599,6	901826	60426,4	194646	383035
2016	80319,4	52596,4	897287	62715,2	195248	393851
2017	82635,4	50235,8	882232	61940,6	192536	408462
2018	79441,5	50074,5	852858	61595,4	187372	408496
2019	80640,7	46105,7	798048	59772,9	181544	386178
2020	74678,8	43475,7	732993	57618,7	164978	371259
2021	78073,2	44382,9	761427	60227,7	167211	399263
2022	73515,2	42781	748793	58960,4	153553	380844
2023	68695,9	39285,8	672020	54934,4	142637	348436
2024	66939,9	37252,4	649059	53751,7	142536	331695
2025	N/A	N/A	N/A	N/A	N/A	N/A

Source: EEA, 2025a

(3) <u>Greenhouse gas emissions from land use, land use change and forestry in Europe</u>

Member State projections submitted in 2023 and 2024 suggest that net removals will decrease at EU level, from an average of 315MtCO2e per year in 1990-2021 to 206MtCO2e in 2022-2050 with existing measures. Additional measures reported by Member States are expected to increase average net removals in 2022-2050 (by 10% compared to existing measures scenario). Projections show that 2030 net removals of 224MtCO2e are expected with existing measures and 240MtCO2e with planned additional measures. This means at present, the EU is not on track to meet the 2030 net removal target of additional 42MtCO2e compared to the 2016-2018 average (EEA, 2025b).

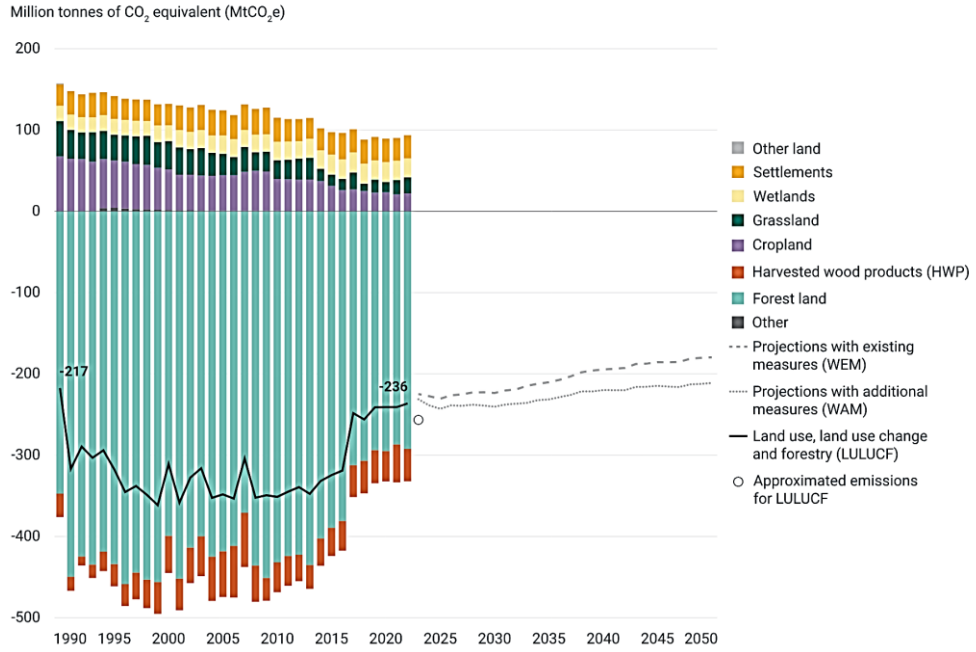


Figure 4. EU emissions and removals of the LULUCF sector by main land use category
Source: EEA, 2025b

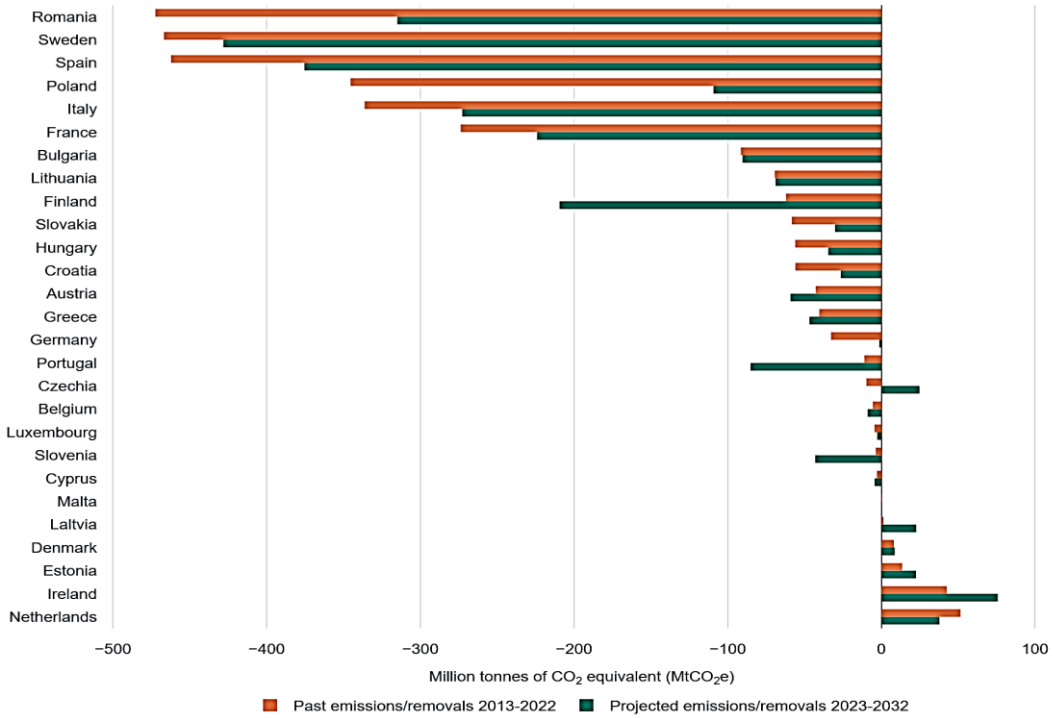


Figure 5. Comparison of cumulative historical and projected LULUCF emissions and removals per Member State
Source: EEA, 2025b

Among the EU Member States, Romania, Sweden, Spain, Italy, **Poland**, and France were responsible for the largest cumulative net removals from the LULUCF sector in the past 10 years, contributing to approximately 85% of the EU's LULUCF sink. However, **Austria**, Belgium, Cyprus, Finland, Greece, the **Netherlands**, Portugal and Slovenia project increasing cumulative removals in the next decade. The LULUCF sectors in **Denmark**, Estonia, **Ireland**, Latvia, Malta and the **Netherlands** were a net source of emissions in the past decade and are projected to remain so in the coming decade (EEA, 2025b).

(4) <u>Marine protected areas in Europe's seas</u>

The EU has made progress in designating new marine protected areas. Marine protected area in coverage more than doubled, to 12.3%, between 2012 and 2022. However, efforts will need to increase significantly to achieve the EU Biodiversity strategy target of protecting at least 30% of EU seas by 2030 (EEA, 2025c).

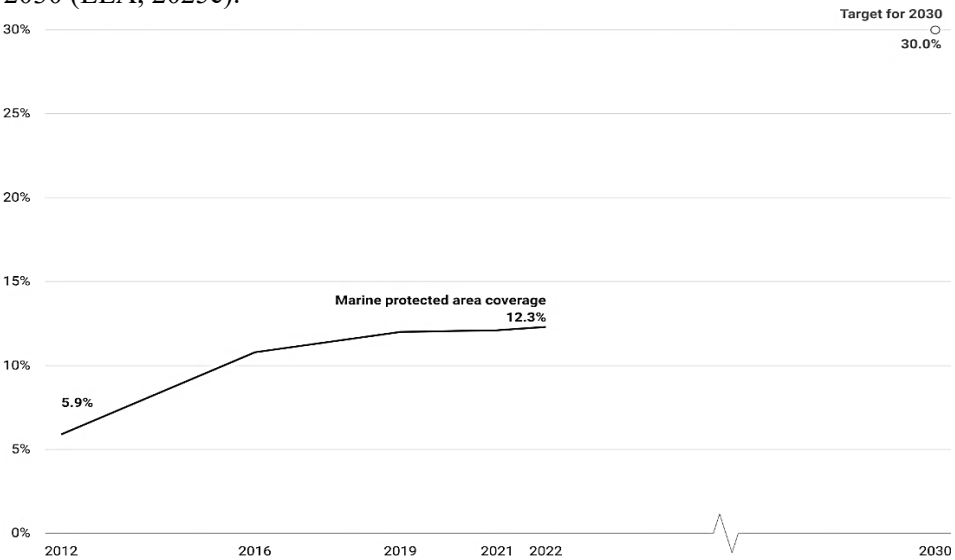


Figure 6. Marine protected area coverage in the EU, 2012-2022
Source: EEA, 2025c

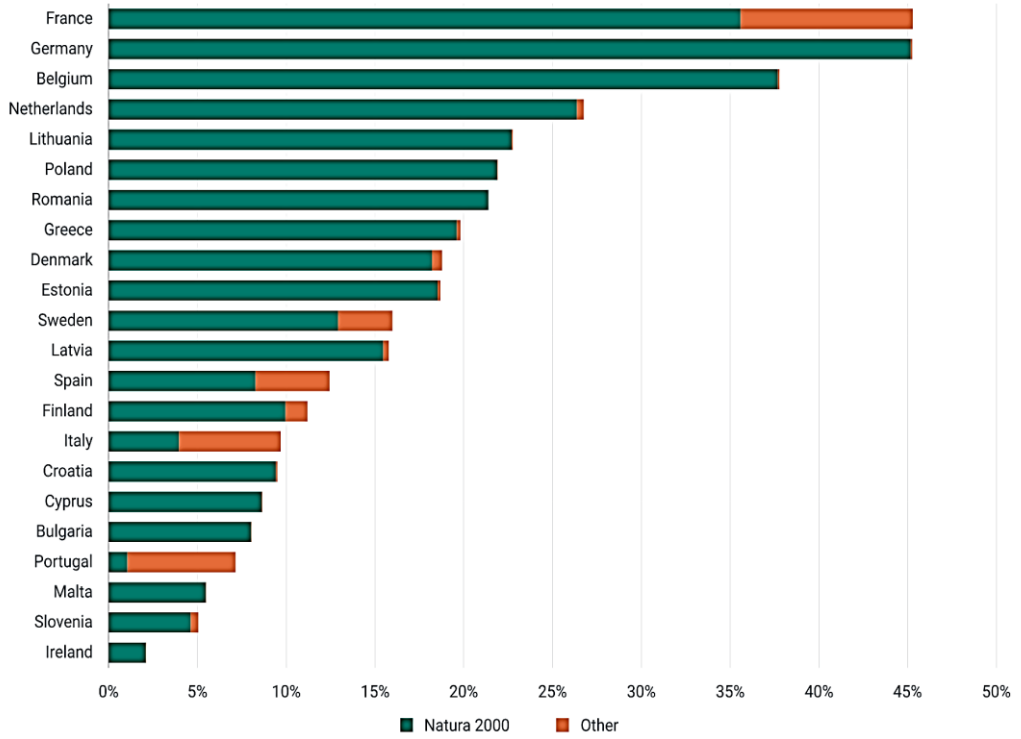


Figure 7. Marine protected area coverage in EU Member States, 2012-2022
Source: EEA, 2025c

By 2022, several EU Member States had made significant progress in protecting their marine ecosystems through the designation of MPAs. **Germany**, Belgium, and France have surpassed 30% coverage. Other countries such as the **Netherlands**, Lithuania, **Poland**, and Romania have expanded their networks of MPAs beyond 20% (EEA, 2025c).

(5) Designated terrestrial protected areas in Europe

By the end of 2023, protected areas covered 26.4% of EU land, with 18.6% of EU land designated as Natura 2000 sites and 7.8% under other complementary national designations (EEA, 2025d).

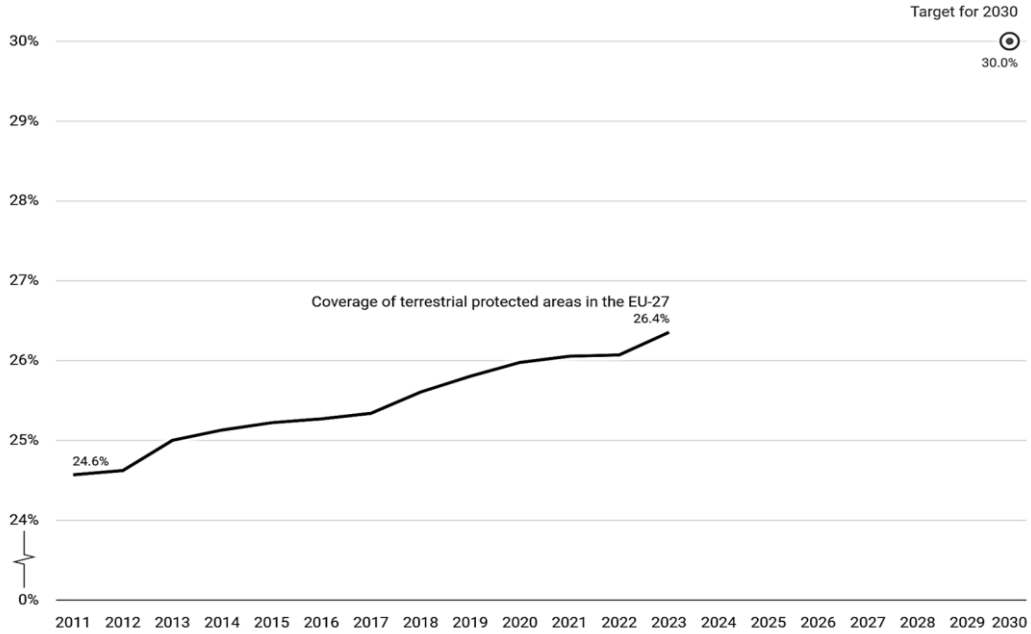


Figure 8. Coverage of protected areas in the EU-27 land area in 2011-2023
Source: EEA, 2025d

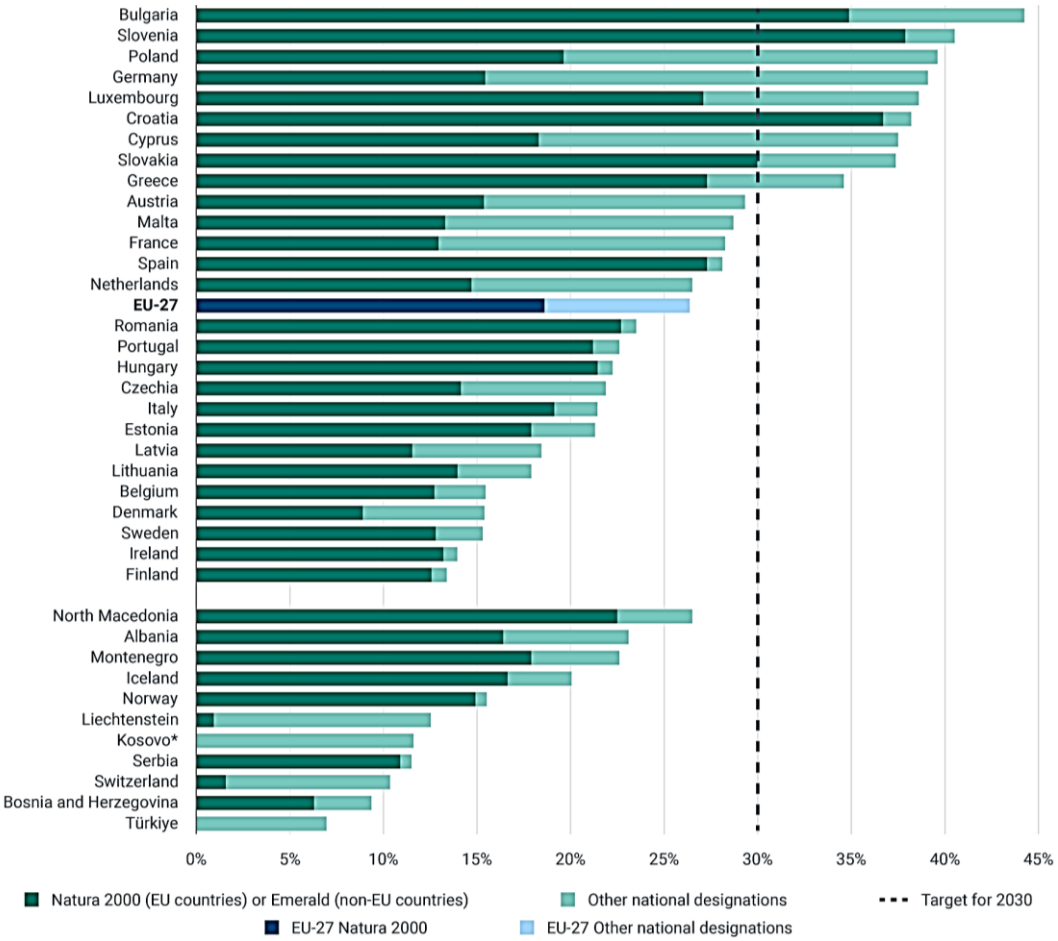


Figure 9. Terrestrial protected area coverage by country and in the EU-27 by the end of 2023
Source: EEA, 2025d

By the end of 2023, nine Member States had designated more than 30% of their land area as protected: Bulgaria, Croatia, Cyprus, **Germany**, Greece, Luxembourg, **Poland**, Slovakia, and Slovenia. Weather- and climate-related extremes caused economic losses of assets estimated at EUR 822 billion during 1980 - 2024 in the EU, with over EUR 208 billion (25%) between 2021 and 2024 (EEA, 2025d).

(6) <u>Economic losses from weather- and climate-related extremes in Europe</u>

Weather- and climate-related extremes caused economic losses of assets estimated at EUR 822 billion during 1980 - 2024 in the EU, with over EUR 208 billion (25%) between 2021 and 2024 (EEA, 2025e).

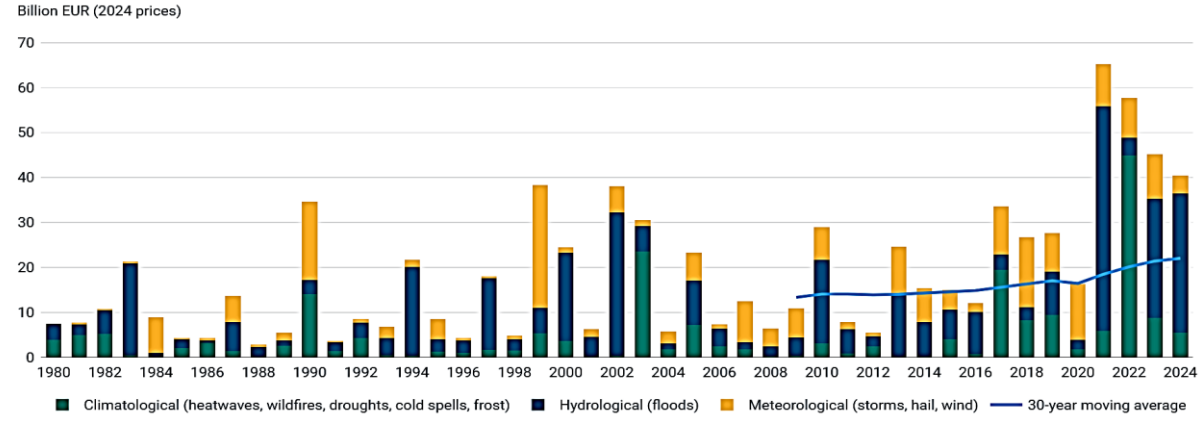


Figure 10. Terrestrial protected area coverage by country and in the EU-27 by the end of 2023
Source: EEA, 2025e

Hydrological hazards (floods) account for 47% and meteorological hazards (storms, including

lightning and hail) account for around 27% of the total. For the climatological hazards, heat waves caused almost 18% of the total losses. The remaining 8% were caused by droughts, wildfires, cold spells and frost (EEA, 2025e).

Table 2. Economic losses and fatalities caused by weather - and climate - related extreme events (1980-2024) - per country

Country	Total losses million EUR	Loss per km2 EUR	Loss per capita EUR	Insured losses million EUR	Insured losses %	Fatalities
Austria	19,757	235,538	2,417	3,669	19	2,426
Denmark	9,347	217,750	1,724	5,690	61	1,036
Germany	186,908	522,718	2,304	57,663	31	107,508
Ireland	4,833	69,095	1,169	813	17	295
Netherlands	13,241	354,112	828	6,255	47	5,450
Poland	27,885	89,395	738	1,611	6	6,773
Total EU-27	**822,624**			**160,403**		**441,069**

Source: EEA, 2025e

The economic impact of climate-related extremes varies across the EU. In absolute terms, the highest economic losses during the period 1980-2024 were recorded in **Germany**, Italy, France and Spain. According to estimates for 1980-2024, less than 20% of total losses were privately insured. Over 35% economic losses were recorded in Belgium, **Denmark**, France, Luxembourg, **Netherlands**, Liechtenstein, Norway and Switzerland (EEA, 2025e).

(7) Green bonds in Europe

The European Green Deal emphasizes the need to direct capital flows to green investments. One way to achieve this is by issuing green bonds, which, supported by the EU Sustainable Finance Framework, raise finance for projects that help achieve environmental and climate objectives. Green bond issuance increased significantly in the EU between 2014 and 2024, from 0.1% to 6.9% of total bonds issued. This indicates an increasing demand to finance sustainable investments, driven in part by the European Green Deal and the need to fund the transition to a low-carbon, green economy. In recent years, green bond issuance by corporations increased rapidly, from 5.6% of total corporate bonds issued in 2020 to a new high of 12.8% in 2024. A recovery from the recent fall to 10% in 2023 (EEA, 2025f).

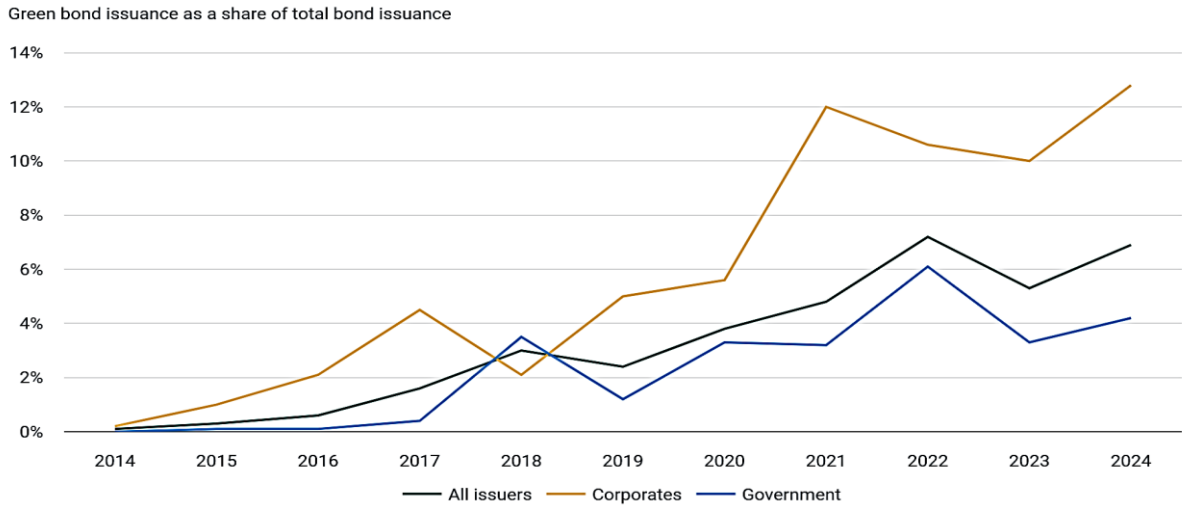


Figure 11. Green bonds as a percentage of total bonds issued by corporations, by governments, and by both corporations and governments in the EU-27, 2014-2024
Source: EEA, 2025f

The share of green bonds issued by governments (sovereign bonds) increased from 3.3% in 2020 to 4.2% in 2024, which is lower than the peak 6.1% noted in 2022. Corporations accounted for 58.8% of the total value of corporate and government green bonds issued in the EU during 2024, reaching €33.55 billion (EEA, 2025f).

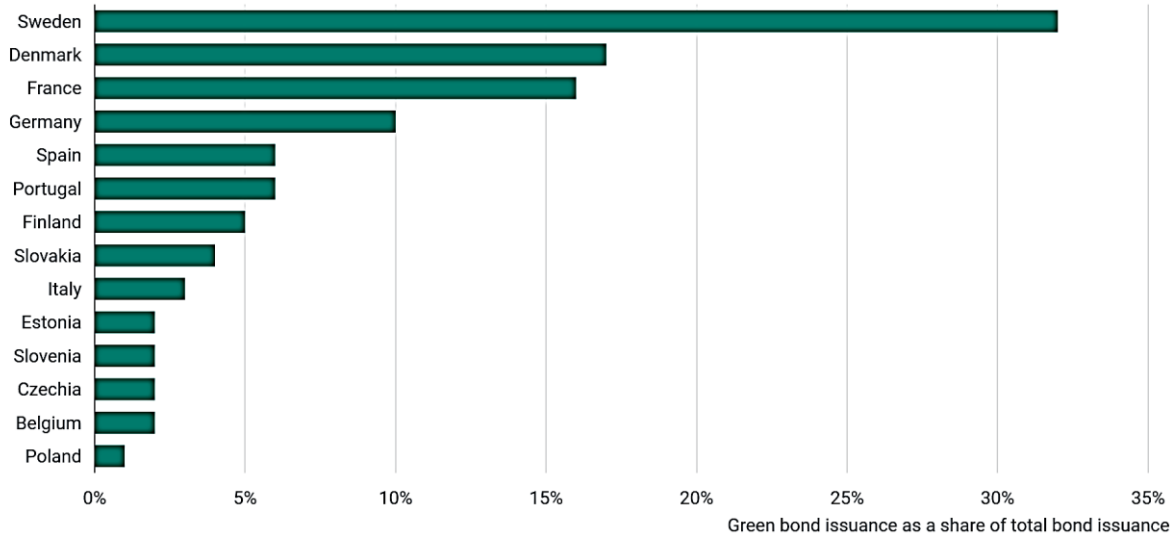


Figure 12. Shares of green bonds issued by corporations and by governments in 2024, by EU Member State
Source: EEA, 2025f

Green bond issuance as a share of total bond issuance varies across the EU Member States. In 2024, the share of green bonds was highest in Sweden, **Denmark** and France, where green bonds represented more than 16% of bonds issued. In contrast, thirteen Member States did not issue any green bonds in 2024. The speed at which national green bond markets develop and mature depends on many variables, including policy and regulatory factors, market conditions and financing trends. Further growth in the issuance of green bonds across the EU faces a range of challenges, including fragmented capital markets in Europe, insufficient pipelines of standardized green projects ready for green bond funding, and a lack of domestic investors (EEA, 2025f).

(8) <u>Drought impact on ecosystems in Europe</u>

The EEA's European Climate Risk Assessment concludes that Europe is the fastest-warming continent in the world. Monitoring impacts of meteorological droughts supports policy measures, targeting greenhouse gas removals and the adaptation of ecosystems to climate change. In 2023 drought impact on European ecosystems eased after the devastating previous year. The EU aggregated drought impact area was 143,513 km2, larger than the 2000-2020 long-term average drought impact (EEA, 2025g).

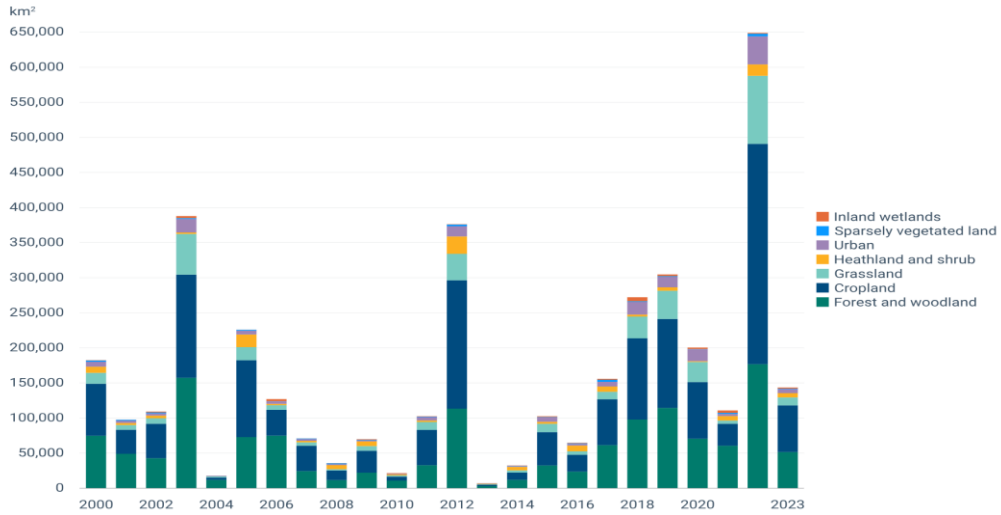


Figure 13. Area of drought impact on vegetation productivity in the EU-27
Source: EEA, 2025g

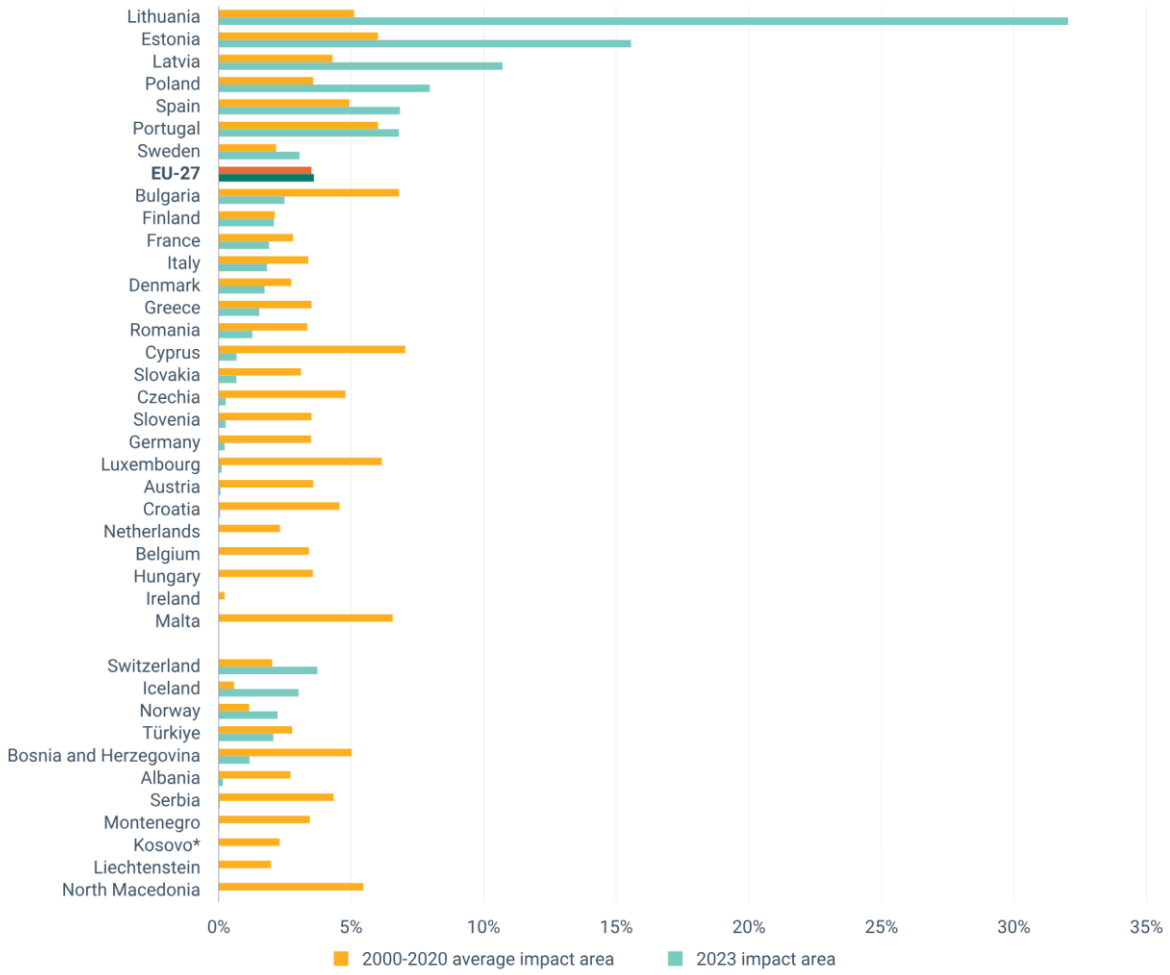


Figure 14. Drought impact area during 2023 in comparison to the 2000-2020 average for the EEA-38 regions
Source: EEA, 2025g

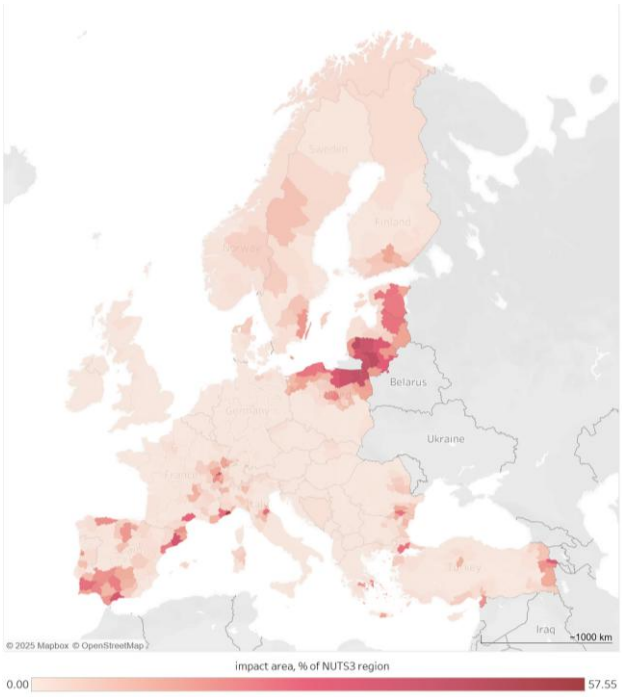


Figure 15. Drought impact area (area of vegetation productivity deficit), in proportion of NUTS3 regions
Source: EEA, 2024b

The 2023 impact in the Baltic states is much larger than previous drought conditions in the EU region. The most striking result was found in Lithuania, where 32% of the country endured less than average vegetation productivity compared to 5% of the country being impacted during 2000-2020. Drought impacted 16% of Estonia and 10% of Latvia in 2023. Both countries' long-term average impact was less than 10% of the territory. **Northern Poland** and the southern part of Portugal and Spain drought impact was also above the long-term average impacted area, yet remained below 10% of their territories. When considering the absolute impacted areas in 2023, Spain had the largest territory under drought (34,000km2), followed by **Poland** (24,000km2) and Lithuania (20,000km2). From the non-EU countries, Norway and Switzerland experienced drought impact in 2023 that exceeded the long-term average impact, yet in both cases, it was less than 4% of the territory (EEA, 2025g).

(9) Fossil fuel subsidies in Europe

Fossil fuel subsidies remained stable, at between EUR 57-62 billion (2023 prices), from 2015 to 2021. A growth of EUR 4 billion occurred during 2015-2018, caused by increases in transport and industry sector subsidies. Followed by a decrease of EUR 5 billion from 2018-2021, mostly due to reductions in the energy sector and subsidies for coal and lignite. The recent steep rise in fossil fuel subsidies is likely an outlier. In 2023, 43% (EUR 47.7bn) of total fossil fuel subsidies have a planned end-date before 2025, while a further 9% (EUR 10.1bn) have an end-date by 2030. There is no end-date provided for 48% (EUR 53.1bn) of fossil fuel subsidies (EEA, 2025h).

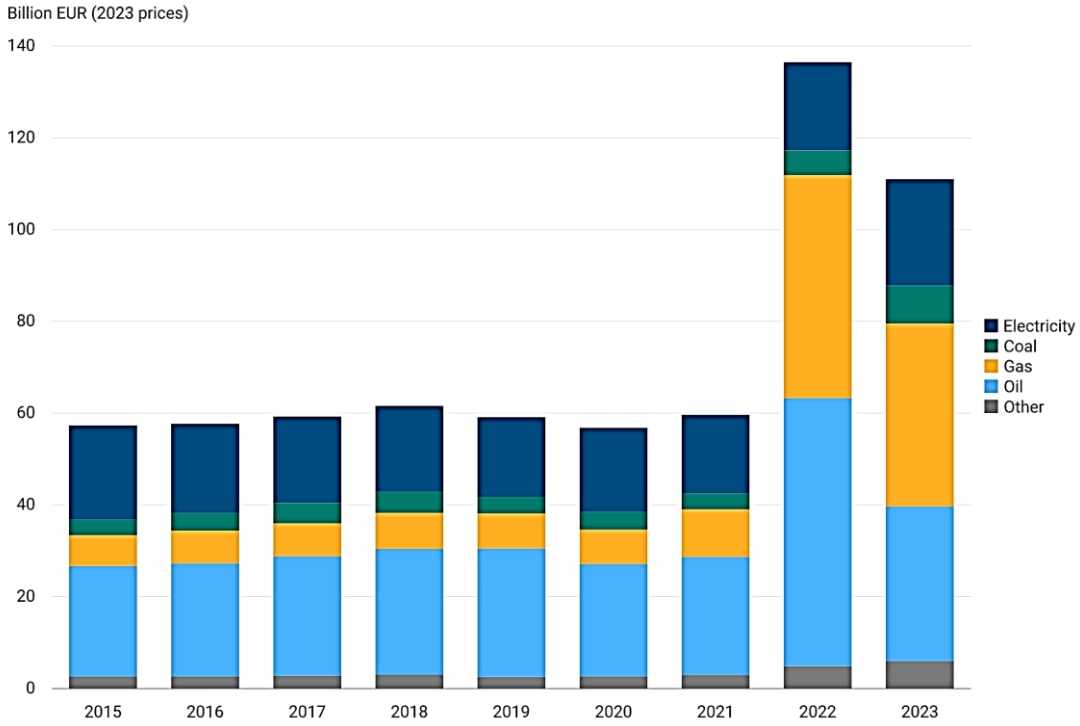


Figure 16. Fossil fuel subsidies by energy vector in EU Member States, 2015 and 2023 (in 2023 prices)
Source: EEA, 2025h

Fossil fuels are non-renewable sources of energy, and their production and use contribute significantly to climate change and pollution. In line with international commitments — such as the G20 Pittsburgh Summit and COP26 Glasgow Climate Pact — and the European Green Deal, the EU's 8th Environment Action Programme (8th EAP) calls for a phase out without delay of subsidies for fossil fuels (such as coal, gas and oil). Fossil fuel subsidies declined in 20 EU Member States from 2022 to 2023, yet remained above levels seen in 2021 for most cases. Nine EU Member States made progress in phasing out fossil fuel subsidies, with a decrease in real terms over this period (EEA, 2025h).

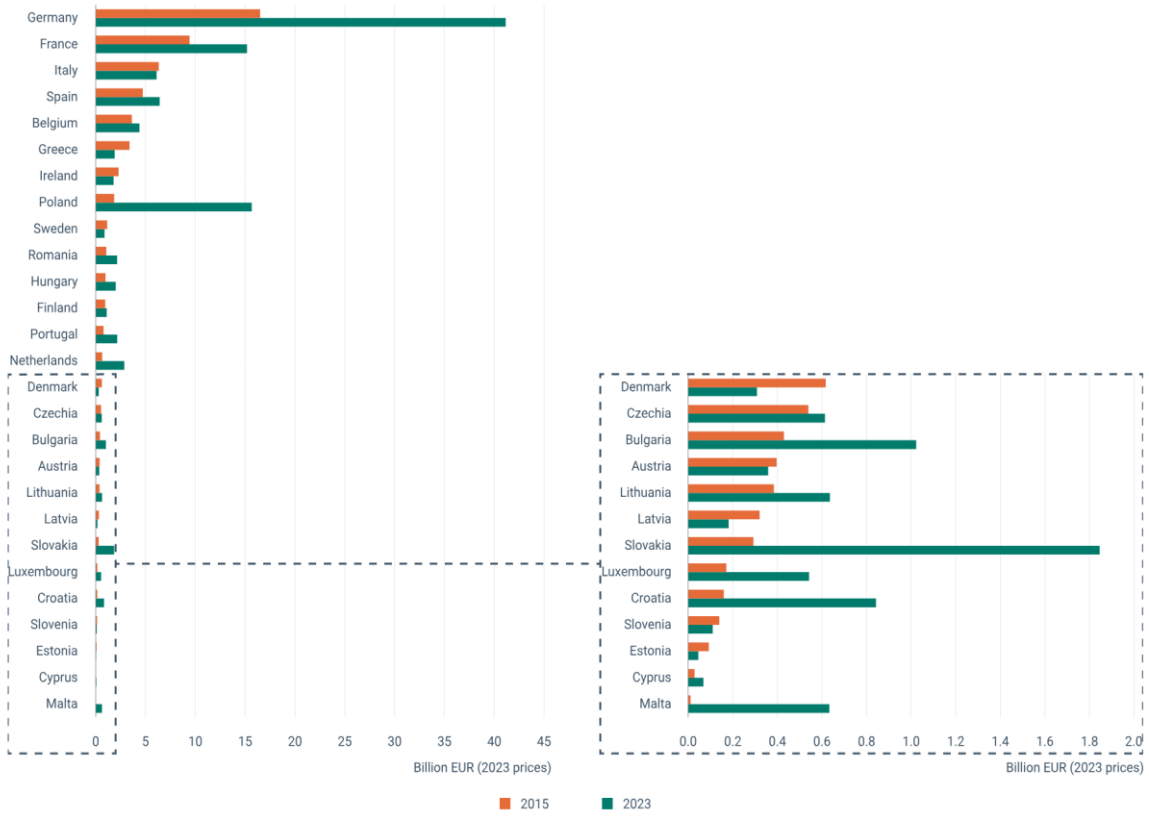


Figure 17. Fossil fuel subsidies in EU Member States, 2015 and 2023 (in 2023 prices)
Source: EEA, 2025h

Notably, more than 60% of all fossil fuel subsidies granted in 2023 were spent in three countries: **Germany** (EUR 41 billion), **Poland** (EUR 16 billion), and France (EUR 15 billion). In 2023, fossil fuel subsidies represented the highest shares of gross domestic product (GDP) in Malta, **Poland**, and Slovakia (all at or above 1.5%). Countries with the lowest shares were **Austria**, **Denmark**, and Estonia less than 0.2% of GDP (EEA, 2025h).

(10) <u>Industrial pollutant releases to water in Europe</u>

Between 2010 and 2023, industrial releases to Europe's water bodies of pollutants damaging to human health and the environment declined overall. Releases of heavy metals declined until 2016 with a stagnating trend thereafter. Emissions of nitrogen, which cause eutrophication, declined to a lesser extent. The economic value of industry increased by almost 20%, in line with the EU policy objective of supporting industrial growth while decreasing industrial emissions. However, data gaps make it difficult to assess industry's contribution to overall water pollution in Europe (EEA, 2025i).

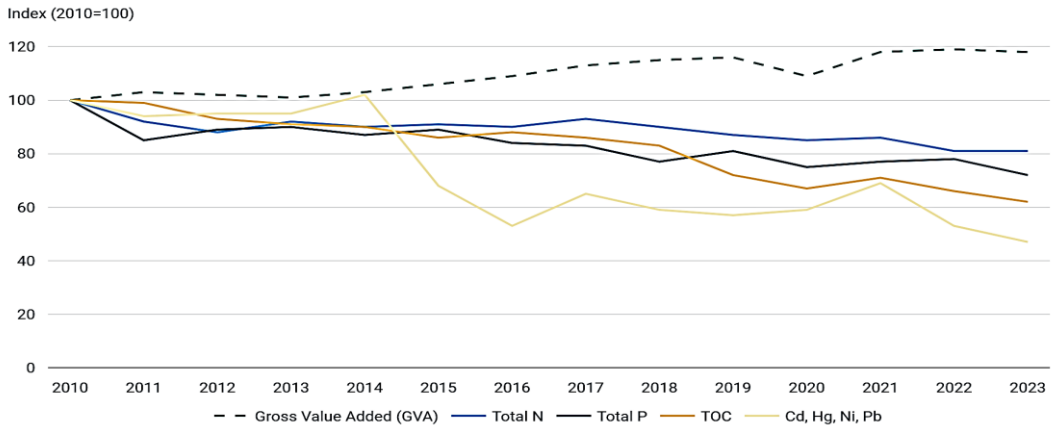


Figure 18. Industrial releases of pollutants to water and economic activity in the EU-27
Source: EEA, 2025i

Water is a valuable resource that is under pressure in the EU, with only 38% of surface water bodies in good ecological status and 30% in good chemical status. EU industrial policy strives to reduce pollutant emissions while supporting growth and competitiveness. Legislation, such as the Water Framework Directive (WFD) and the Industrial Emissions Directive (IED), aim to protect Europe's water bodies from industrial emissions, thus supporting this goal. Industrial emissions to water are reported under the European Pollutant Transfer and Release Register (E-PRTR), recently rebranded as European Industrial Emission Portal by Regulation (EU) 2024/1244 (EEA, 2025i).

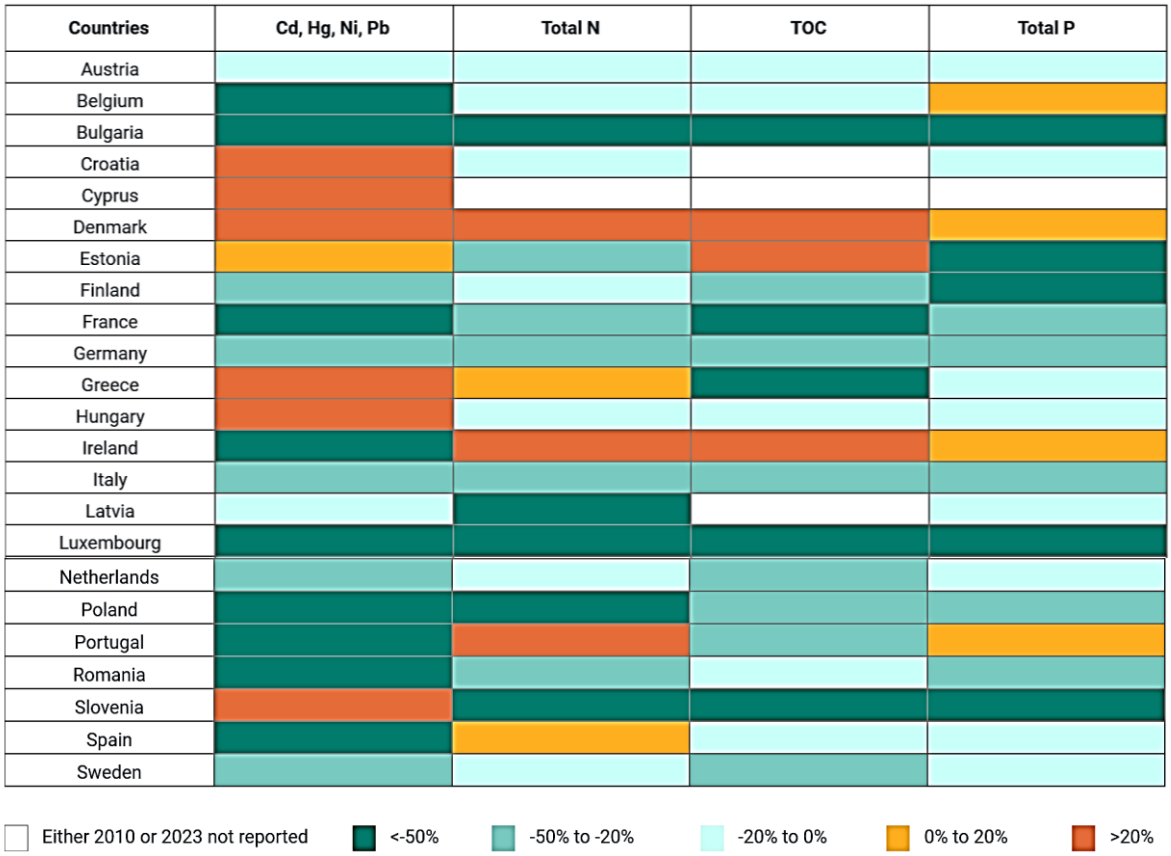


Figure 19. Water pollutant releases relative changes from 2010 to 2023 for the EU Member States
Source: EEA, 2025i

Progress across countries in containing these releases is mixed, shown in Figure 19. While this reflects stronger monitoring of releases in certain instances, it confirms the ongoing need to enhance treatment of releases in line with the objectives of EU water policies. Figure 19 indicates generally consistent progress across countries, with some exceptions. Additional efforts are needed to further contribute to improving the ecological and chemical status of European water bodies (EEA, 2025i).

(11) Eco-innovation index in Europe

Eco-innovation, which is crucial for achieving the European Green Deal objective of transitioning to a carbon-neutral and sustainable economy, has increased in the EU. The European Commission's eco-innovation index increased by 27.5% from 2014 to 2024, mainly driven by improvements in resource efficiency (EEA, 2025j).

Eco-innovation refers to any innovation that reduces impacts on the environment, increases resilience to environmental pressures or uses natural resources more efficiently. The European Commission's eco-innovation index is a composite indicator based on five dimensions: (1) eco-innovation inputs; (2) eco-innovation activities; (3) eco-innovation outputs; (4) resource efficiency outcomes, and (5) socio-economic outcomes (EEA, 2025j).

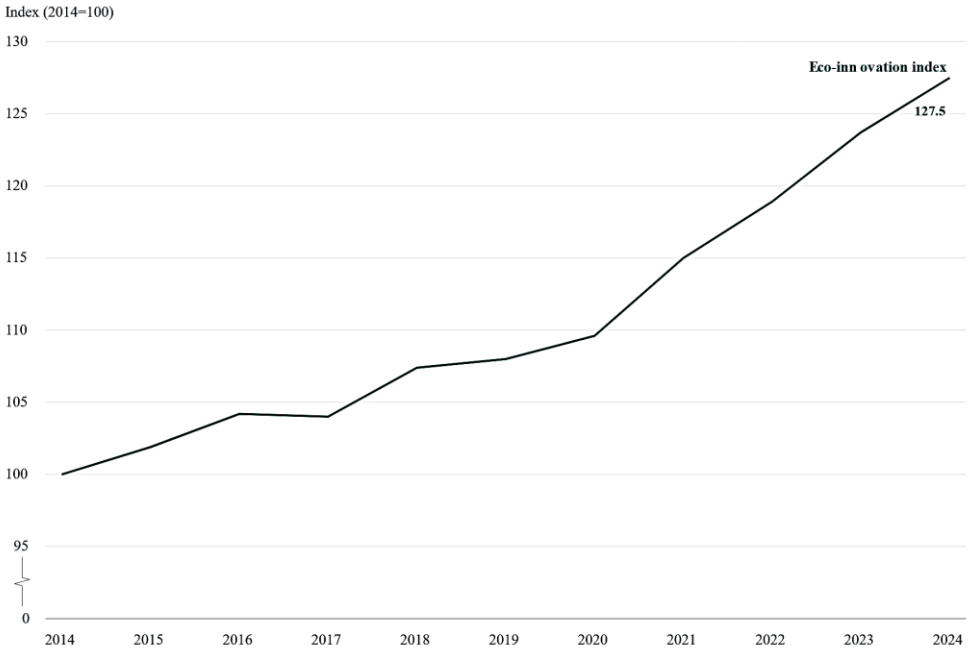


Figure 20. Eco-innovation index, EU-27, 2014-2024 (EU-27=100 in 2014)
Source: EEA, 2025j

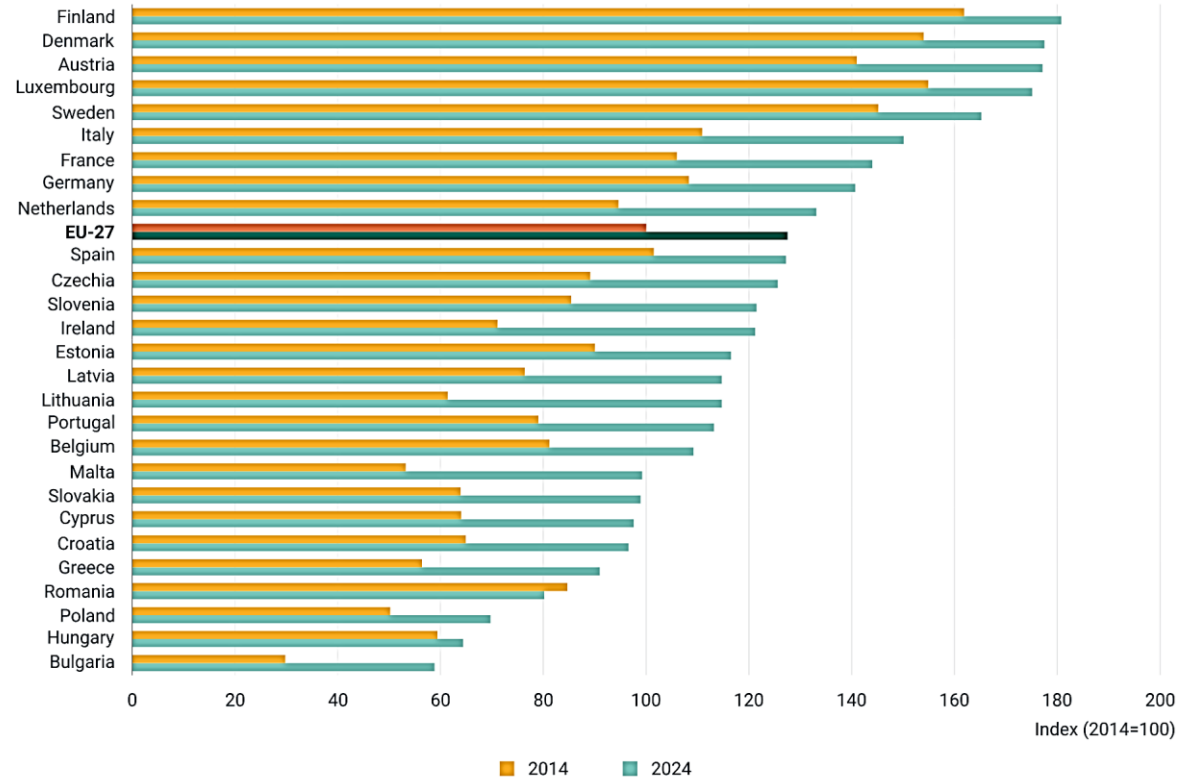


Figure 21. Eco-innovation index by EU Member State, 2014-2024 (relative to EU-27=100 in 2014)
Source: EEA, 2025j

The Nordic countries, Luxembourg and **Austria** were the best performers of eco-innovation from all individual EU Member States in 2014 and 2024. Apart from Finland, all these countries performed well in resource efficiency outcomes. Finland and **Austria** scored particularly highly on socio-economic outcomes. Index scores improved between 2014 and 2024 for all Member States except Romania. Eighteen Member States achieved increases above the EU-27 average. Lithuania achieved the largest growth, followed by **Ireland** and Malta (EEA, 2025j).

(12) <u>Water scarcity conditions in Europe</u>

Water scarcity affected 34% of the EU territory during at least one season in 2022. Despite water abstraction declining by 19% in the EU between 2000 and 2022, there has been no overall reduction in the area affected by water scarcity conditions. In fact, the situation has intensified since 2010. This, compounded with the fact that climate change is expected to further increase the frequency, intensity and impacts of drought events, makes it somewhat unlikely that water scarcity will reduce by 2030 (EEA, 2025k).

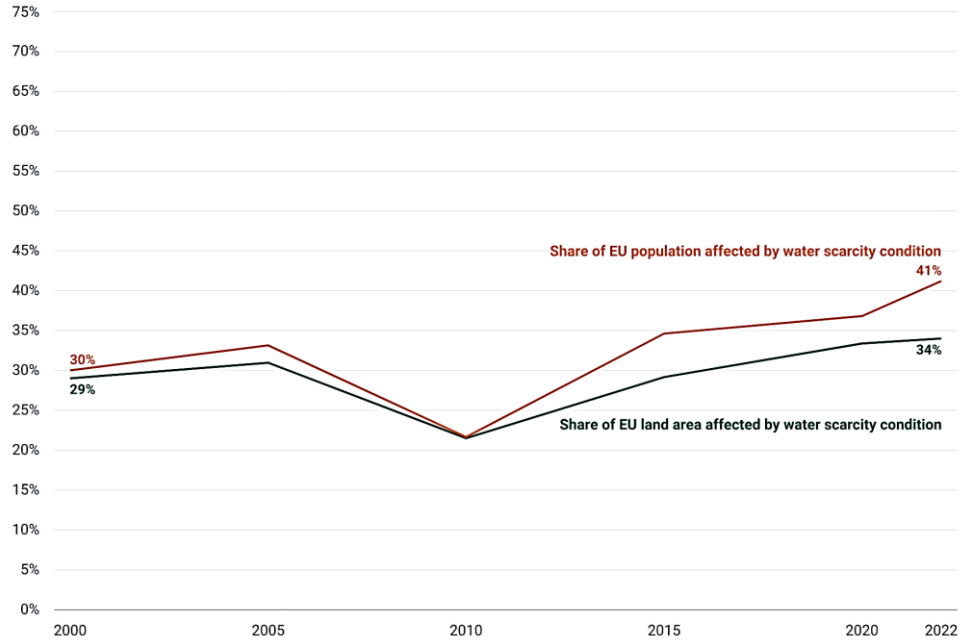


Figure 22. Area and population affected during at least one quarter of the year by water scarcity conditions in the EU, measured by the water exploitation index plus
Source: EEA, 2025k

Figure 22 shows the percentage of EU territory and population affected in at least one of the four quarters of the year by water scarcity conditions (Seasonal WEI+ above 20%). On average, about 30% of the EU territory and 34% of the population are affected each year. In 2022, water scarcity conditions affected 34% of the population and 40% of the EU land area (EEA, 2025k).

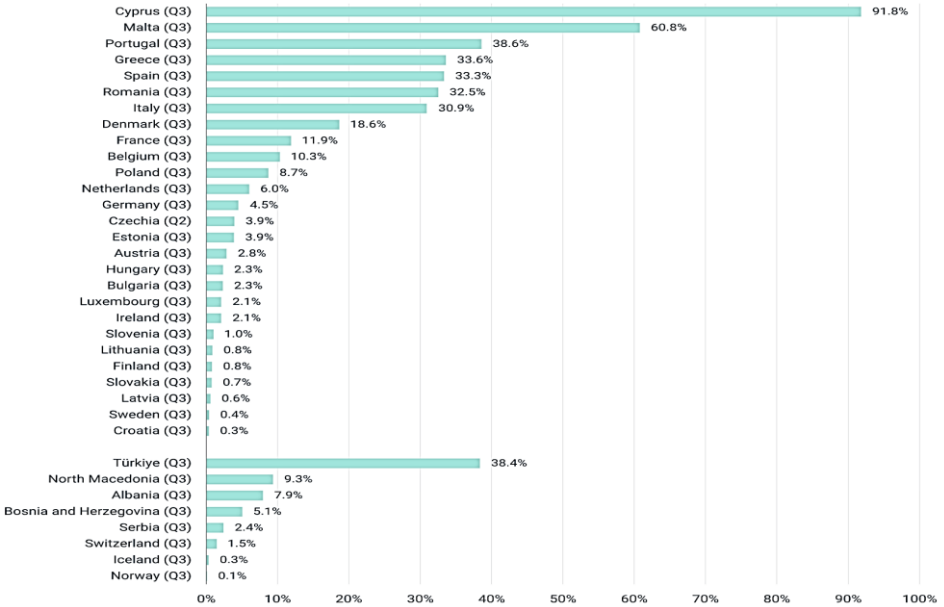


Figure 22. Worst seasonal water scarcity conditions for European countries in 2022, measured by the water exploitation index plus (WEI+)
Source: EEA, 2025k

Water scarcity is prevalent in southern Europe, with around 30% of the population in areas with permanent water stress and up to 70% in areas with seasonal summer stress. Agriculture, public water supply, and tourism place significant pressure on freshwater resources in this region. Cyprus and Malta faced the most significant water scarcity conditions of the EU Member States on the seasonal scale (seasonal WEI+ >40%). Greece, Portugal, Spain and Romania experienced water scarcity particularly during spring and summer. Malta is experiencing the permanent water scarcity conditions partly due to its natural hydro-climatic conditions. Certain river sub-basins were affected by seasonal water scarcity in 2022. Belgium, Bulgaria, Cyprus, **Denmark**, France, **Germany**, Greece, Hungary, Lithuania, Malta, **Netherland**, Portugal, Romania, Spain and Slovakia (seasonal WEI+ >20%; see detailed information on seasonal WEI+ at Subunit scale) were all effected (EEA, 2025k).

(13) CO2 emissions performance of new passenger cars in Europe

Average CO2 emissions from new passenger cars registered in Europe have fallen steadily in recent years, resulting in a 28% reduction between 2019 and 2023. The main driver of this decrease in emissions is the surge in electric vehicle registrations, which reached 23.6% of the EU's new car fleet in 2023. Almost all car manufacturers met their binding targets in 2023 (EEA, 2025l).

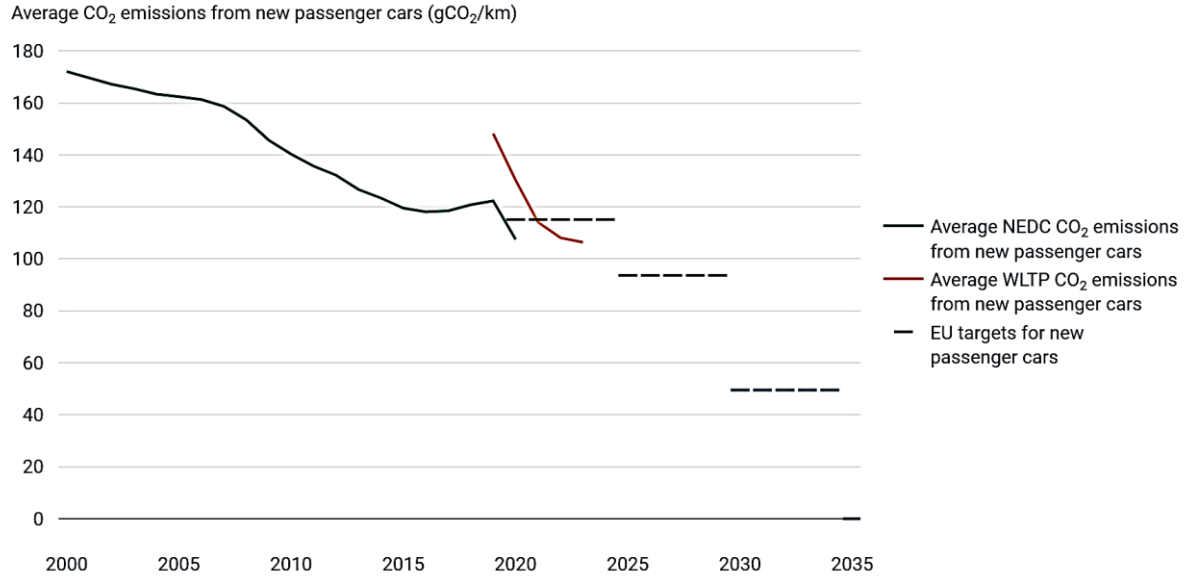


Figure 23. Average CO_2 emissions from new passenger cars and future targets
Source: EEA, 2025l

Emissions from transport account for one quarter of the EU's greenhouse gas emissions. Regulation (EU) 2019/631 sets fleet-wide targets for the average CO2 emissions from all new passenger cars in Europe, and these targets are set to become stricter over time. For the years 2020-2024, the target is 95gCO2/km (NEDC), equivalent to around 115.1gCO2/km (WLTP). From 2025 onwards, stricter EU-wide fleet targets will apply: 93.6g/km until 2029, 49.5g/km from 2030 to 2034 and 0g/km from 2035. This is illustrated in Figure 23 (EEA, 2025l).

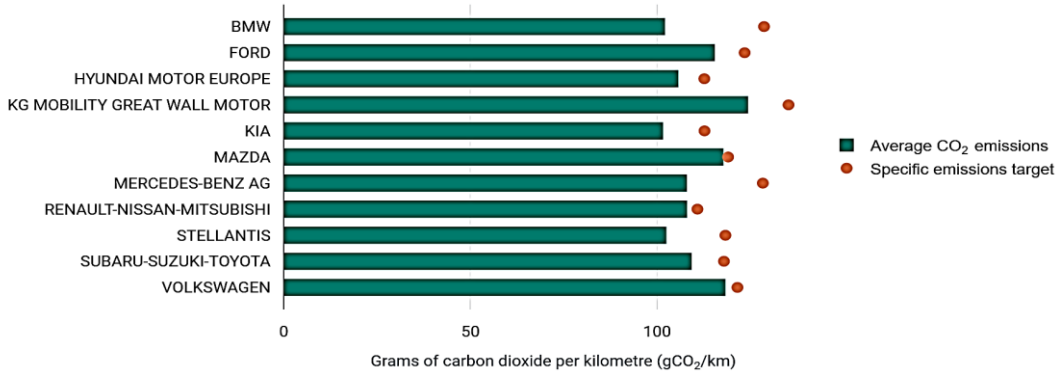


Figure 24. Average CO_2 emissions from new passenger cars and future targets
Source: EEA, 2025l

In 2023, 98 out of 101 manufacturers - individually or as members of a pool - met their binding target. In some cases, this was facilitated by the use of eco-innovation savings. Three individual manufacturers (DFSK Motor Co Ltd, General Motors Holdings LLC and Lotus Cars Limited), each responsible for fewer than 1,600 vehicles newly registered in Europe, exceeded their respective emission targets. The average CO2 emissions of all pools are below 125gCO2/km. Pools with the lowest average CO2 emissions were Kia, BMW and Stellantis, reporting between 100 and 103gCO2/km. This is illustrated in Figure 24 (EEA, 2025l).

(14) Nutrients in freshwater in Europe

Nutrient conditions in European surface waters have improved in recent decades. Average concentrations of nitrate and phosphate in rivers and total phosphorus in lakes have decreased. In recent years changes in surface water concentrations have levelled off, except for river phosphate which has gradually increased since 2013 (EEA, 2025m).

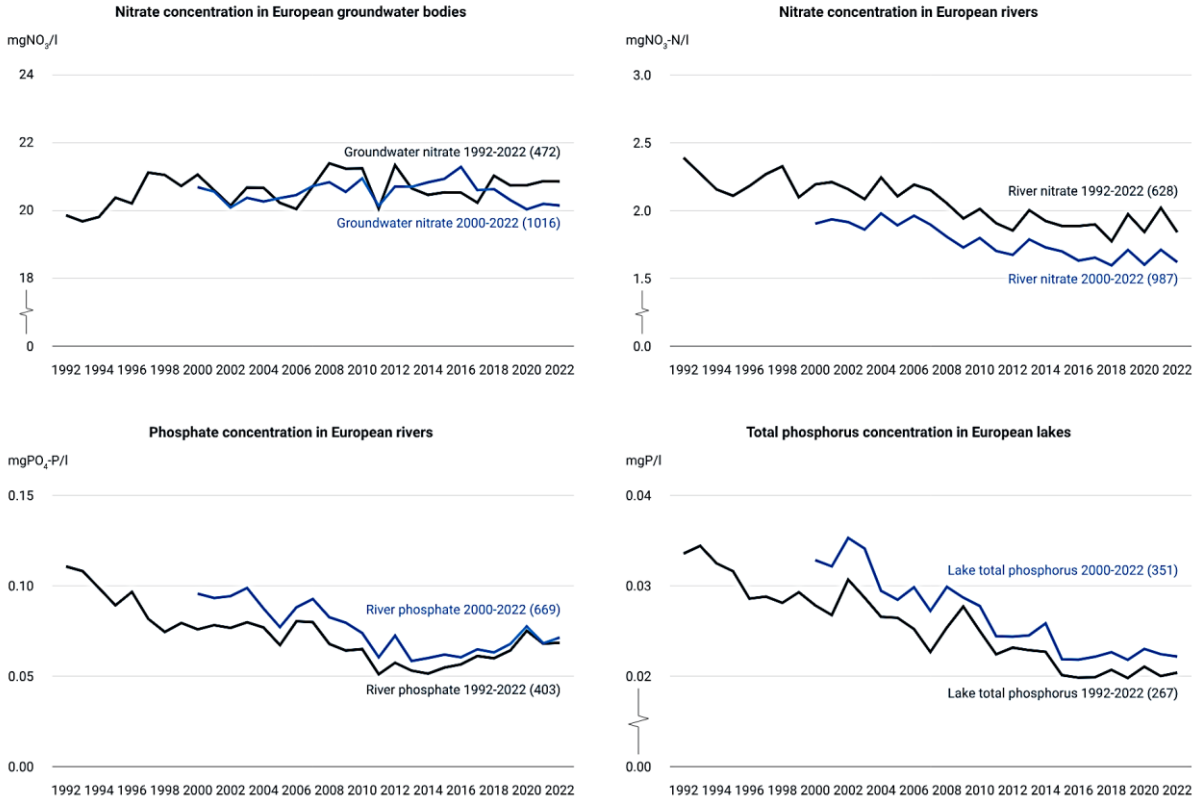


Figure 25. Nutrient trends in European water bodies
Source: EEA, 2025m

The average nitrate concentration in European groundwater fluctuates around the same level and there is no clear trend (Figure 25). The average nitrate concentration in European rivers decreased steadily over the period 1992-2012 and has levelled off since. The average phosphate concentration in European rivers more than halved over the period 1992-2011. From 2011 onwards, the concentration levels off and increases in the last few years, indicating a need for further measures. There has been a gradual reduction in average total phosphorus concentration in European lakes since 1992, although the concentration settles from 2015 (EEA, 2025m).

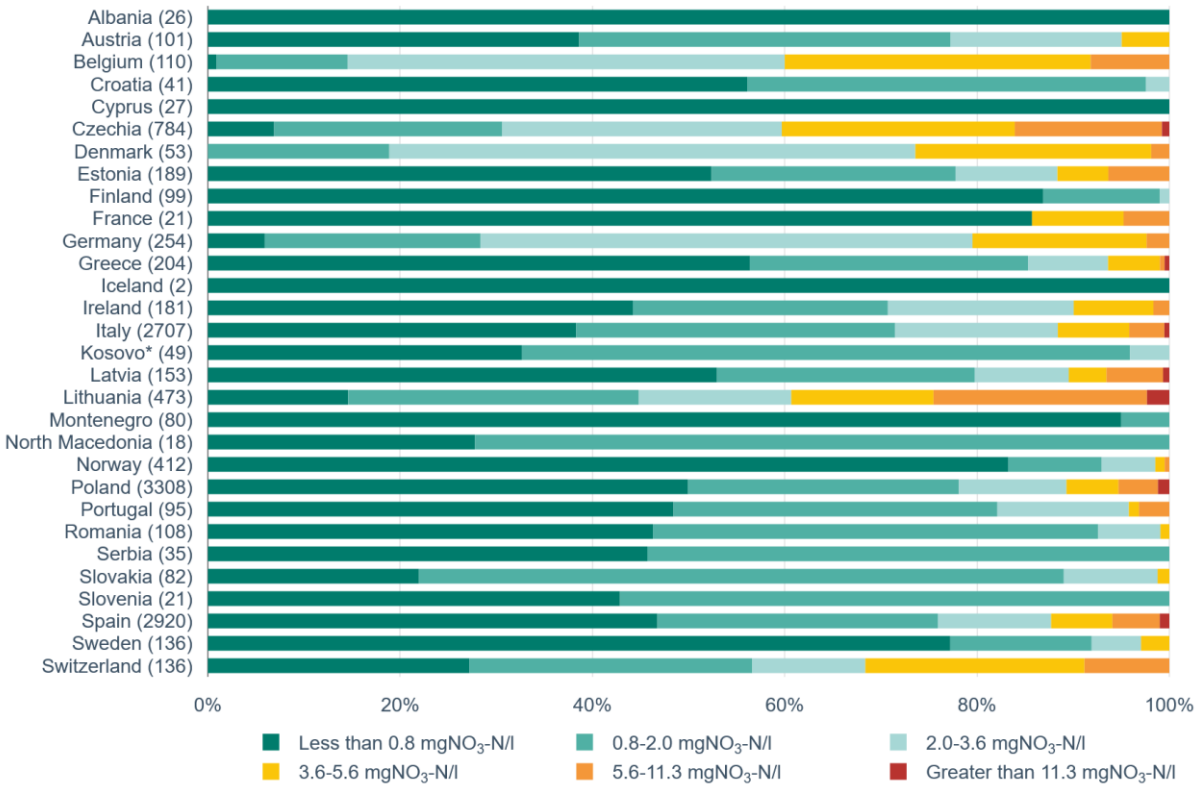


Figure 26. Status of nitrates in rivers in European countries
Source: EEA, 2025m

For the period 2020-2022 (Figure 26), the largest proportion of river sites with average nitrate concentrations exceeding 5.6mgNO3-N/l (25%) was found in Lithuania. Moreover, Belgium, Czechia, and Switzerland had a high proportion (more than 32%) of sites with concentrations exceeding 3.6mgNO3-N/l. There has been a significant decrease in river nitrate concentrations at 49% of the monitoring sites since 1992. An increase is shown at 12% of the sites. Czechia, **Denmark**, **Germany** and Slovakia had the highest proportion of significantly decreasing trends (82-100%). Spain and Switzerland had similar proportions of significantly increasing and decreasing trends, while Estonia and Lithuania had the highest proportion of significantly increasing trends (44% and 59%, respectively). An overall decline, although slowing in recent years, is observed for Belgium, Czechia, Cyprus, **Denmark**, **Germany**, Serbia and Sweden, contributing to the pattern seen in the European time series (EEA, 2025m).

(15) Oxygen consuming substances in European rivers

In European rivers, oxygen consuming substances decreased over the period 1992 to 2022. Biochemical oxygen demand (BOD) fell to half of the 1992 level but has been fluctuating at around 2.7mgO2/l since 2010. Ammonium concentrations fell to 20% of the 1992 level. After 2014, the level has stabilized around 110µgNH4-N/l. The economic crisis in central and eastern European countries during the 1990s also contributed to decreasing pollution from manufacturing industries. In European rivers, BOD levels have generally been decreasing between 1992 and 2022 (Figure 27), with an average annual decrease in BOD of 0.06mg/l (0.7% per year). The BOD reached its lowest level (2.4mg/l) in 2011 yet surpassed 3.0mg/l in the period 2015-2016. A notable decrease is evident at 48% of the river sites, with an additional 3% of rivers showing a small decline. A significantly increasing BOD trend is recorded at 10% of the sites. The shorter, more representative time series of 2000–2022 closely follows the longer one (EEA, 2025n).

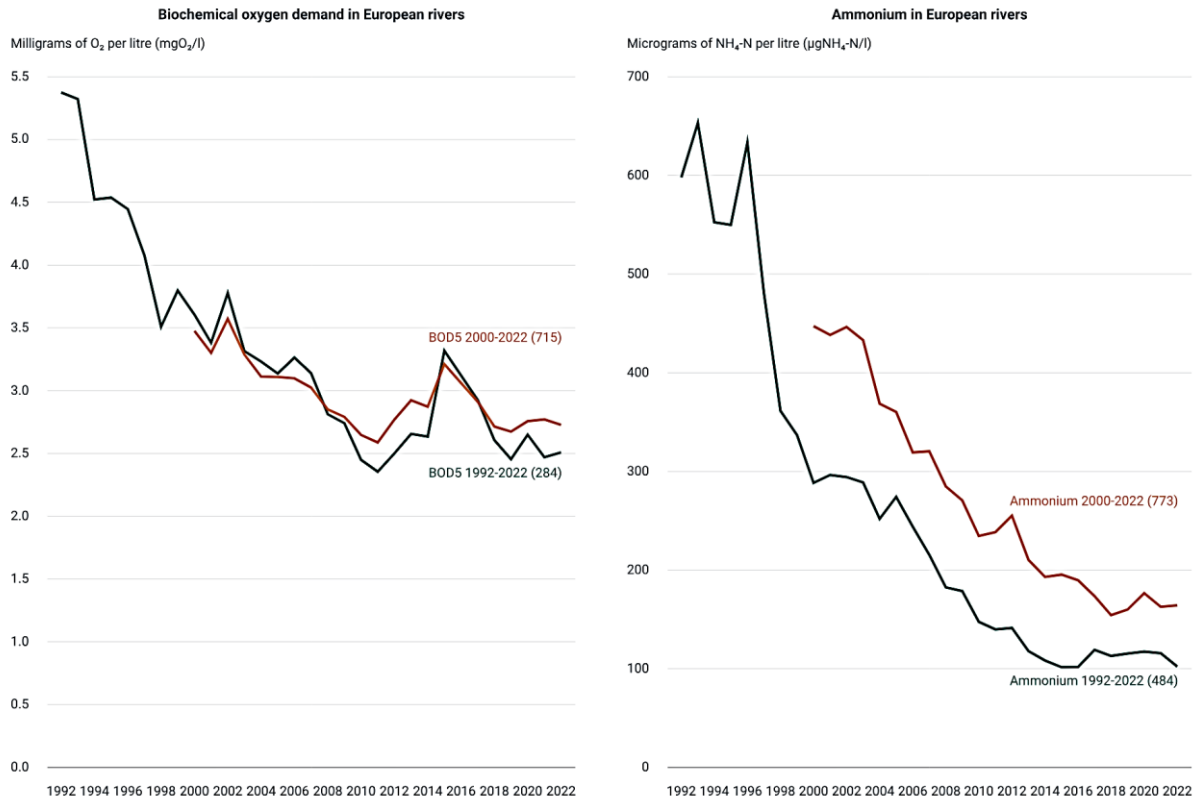


Figure 27. Biochemical oxygen demand and ammonium in European Rivers
Source: EEA, 2025n

Annual ammonium concentrations decreased by 11.1µg/l per year (-2.2%) on average over the period 1992-2022 (Figure 27). Significantly decreasing concentrations were observed at 71% of the sites, with an additional 5% of the sites showing a marginal decrease. No change has been observed at 22% of the river monitoring sites. A significant increase was evident at 2% of the sites. The shorter, more representative time series of 2000–2022 shows higher concentrations, but a similar trend of overall decrease (EEA, 2025n).

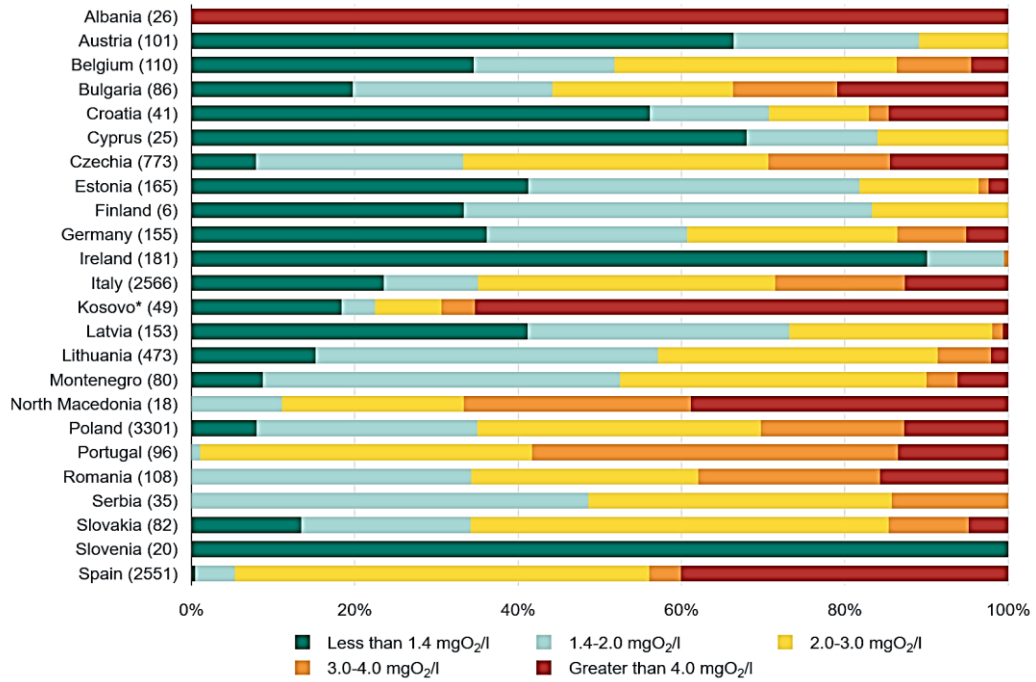


Figure 28. Status of biochemical oxygen demand in rivers in European countries
Source: EEA, 2025n

Countries with the highest share of river sites in the best quality class (i.e. less than 1.4 mg/l) are Slovenia (100%), **Ireland** (90%), Cyprus (68%), and **Austria** (66%). The share of monitored river sites with BOD equal to or higher than 3mg/l is particularly high (50% or more) in Albania, Kosovo under UNSCR 1244/99, North Macedonia, and Portugal (EEA, 2025n).

(16) <u>Premature deaths due to exposure to fine particulate matter in Europe</u>

The European Commission zero pollution action plan sets a target to reduce the health impacts of air pollution by at least 55% by 2030, compared to 2005. Between 2005 and 2022, the number of premature deaths in the EU attributable to PM2.5 fell by 45%. Despite ongoing improvement, 239,000 premature deaths attributable to PM2.5 occurred in the EU during 2022 (EEA, 2025o).

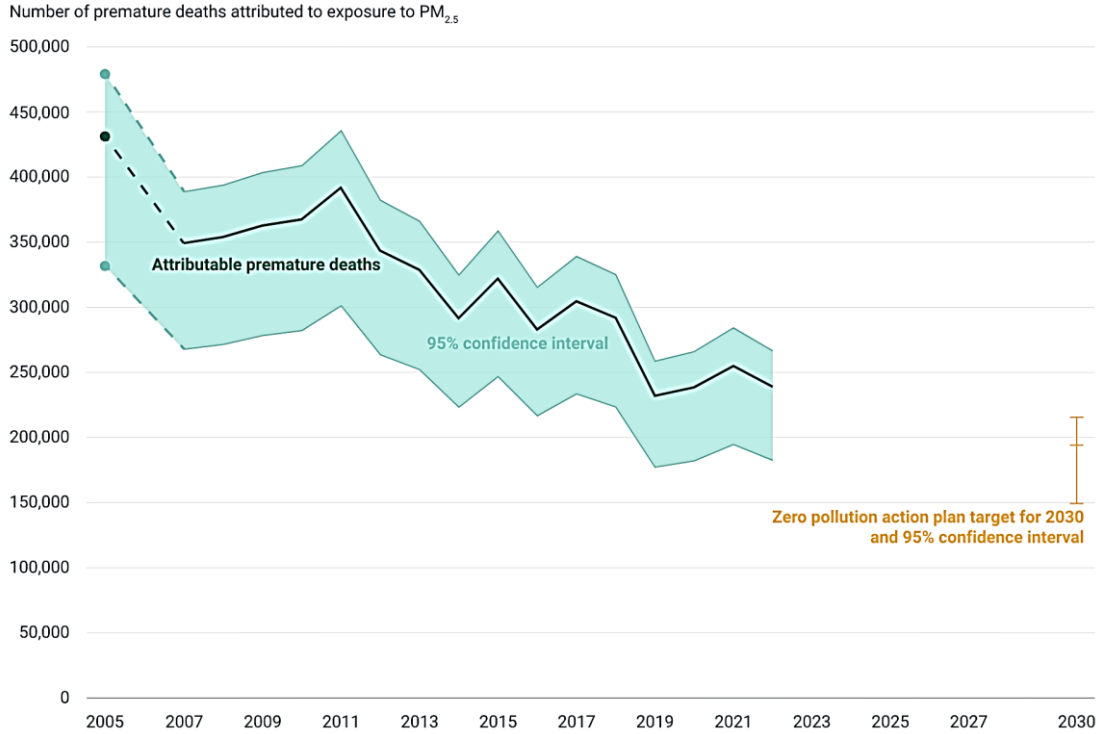


Figure 29. Premature deaths attributable to exposure to fine particulate matter ($PM_{2.5}$), EU
Source: EEA, 2025o

Between 2005 and 2022, premature deaths attributable to PM2.5 exposure above the WHO air quality guideline level of 5µg/m3 fell by 45% in the EU Member States (Figure 29). The decrease was caused by a decline in concentrations of PM2.5, hence a decrease in the exposure of the population to this air pollutant. Yet, more than 70% of the EU population live in urban areas and in 2022, 96% of the urban population was exposed to PM2.5 concentrations above the WHO guideline level. If the past 17-year trend should continue, the decline in premature mortality attributable to PM2.5 would reach 63% by 2030 (from 2005 levels) and the 55% zero pollution reduction target would be exceeded. The 2022 Third Clean Air Outlook also estimates that the target may be exceeded if the foreseen clean air measures, together with climate and energy policies of the 'Fit for 55' package are implemented. It envisions a similar reduction of 66% by 2030 if the conditions are met (EEA, 2025o).

The ZPAP target is set at EU level and there are many differences in the change of mortality due to exposure to PM2.5 at country level during 2005 to 2022. Mortality per capita has decreased in all EU Member States, by more than half in 21 countries (Figure 30).

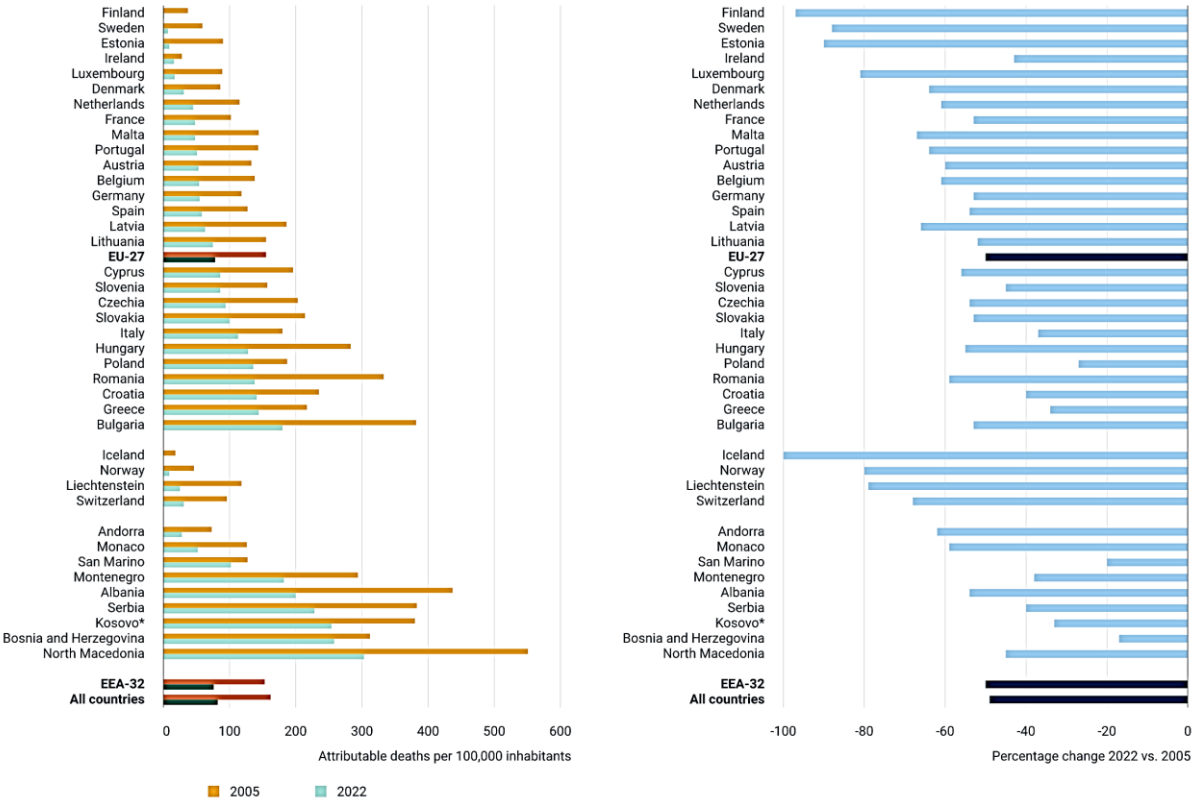


Figure 30. Premature deaths normalized by population attributable to exposure to $PM_{2.5}$ at country level in 2005 and 2022, and percentage of change
Source: EEA, 2025o

The highest relative number of attributable deaths in 2022 within the EU were in the regions of Sofia and Vidin (Bulgaria), and **Miasto Kraków** (**Poland**). In contrast, several Finnish and Swedish regions and one **Austrian** region had very low attributable deaths (i.e. below one per 100,000 inhabitants aged above 30 years). The highest number of relative attributable deaths for European countries outside the EU in 2022 were in the regions of Skopski, Vardarski and Pelagoniski (North Macedonia) and Nišavska oblast (Serbia). The lowest numbers were seen in all Icelandic and four Norwegian regions with less than one attributable death per 100,000 inhabitants aged above 30 years (EEA, 2025o).

(17) Imperviousness and imperviousness change in Europe

Imperviousness negatively affects biodiversity, carbon storage and sequestration, soil hydrological properties, ecosystem services and nature conservation. In 2018, the sealed area in the EU Member States was 110,702km2 (2.7%). The increase in this area was 3,606km2 (3.4%) between 2006 and 2018. The largest sealing increase of 1,156km2 during 2009-2012 fell to half during 2012-2015, yet picked up again from 2015 to 2018 (796 km2). Sealing in cropland was also substantial with 1,383km2 agricultural area sealed from 2006 till 2018 (EEA, 2025p).

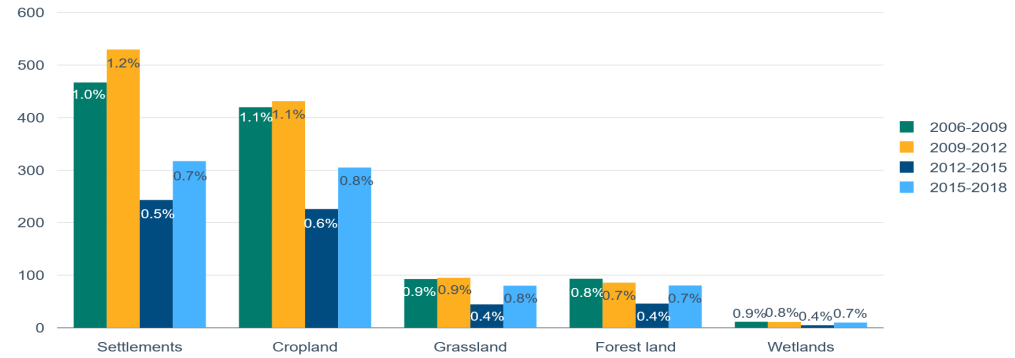


Figure 31. Imperviousness increase by land use category in EU-27
Source: EEA, 2025p

New sealing dominated settlements during all four observation periods (Figure 31), contributing to the development of urban heat islands, floods and impacts on human health. This is no surprise, as sealing is driven by socio-economic factors such as the demand for new homes, industrial buildings, and infrastructure (EEA, 2025p).

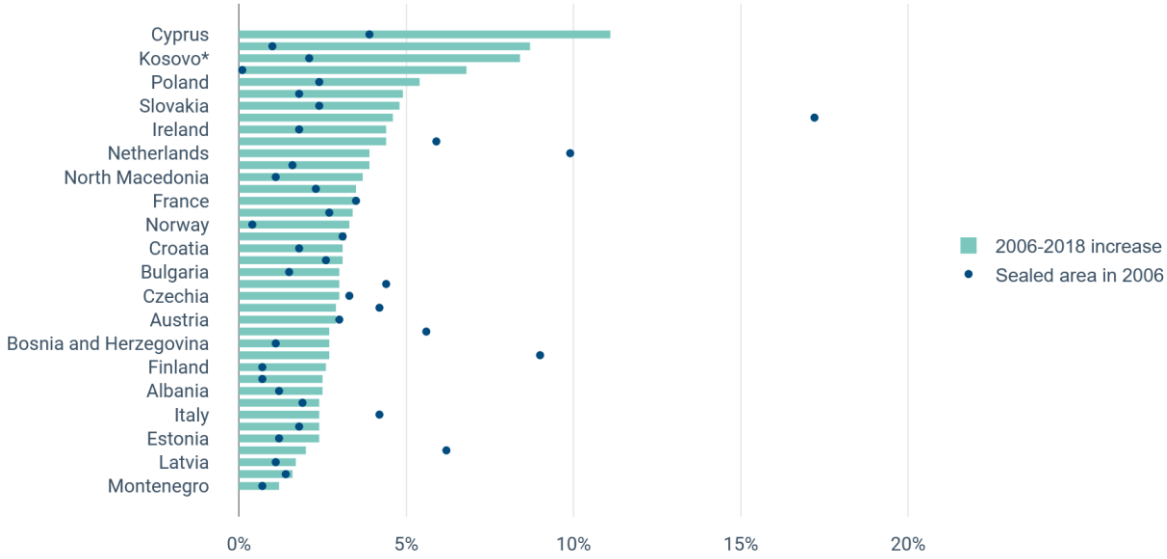


Figure 32. Imperviousness in 2006 and imperviousness increase during 2006-2018 in the EEA-38
Source: EEA, 2025p

Among all 38 EEA member states (Figure 32), the largest sealing increase during 2006-2018 was in Cyprus (11% compared to 2006). For the EU-27, **Poland**'s sealing increase was the second largest, yet only amounting to half of the increase in Cyprus. **Poland**'s 2006 sealed surface was only 2.4% of the country, compared to almost 4% in Cyprus. Larger sealing increase in other EU countries remained under 5% (Malta 4.6%, Slovakia 4.8%, Spain 4.9%), although Malta had the largest sealing in 2006 of all Member States (17% of the country). Sealing increase was less than 4% in the **Netherlands** and Belgium, however their 2006 sealing level was almost 10% of the country, very high among Member States. Latvia and Lithuania increased soil sealing the least (less than 2%) and were amongst the lowest in 2006 (less than 2% of the country) (EEA, 2025p).

(18) <u>Emissions of the main air pollutants in Europe</u>

The air pollutants: ammonia, non-methane volatile organic compounds, nitrogen oxides, fine particulate matter and sulphur oxides damage the environment and human health. Reducing their anthropogenic emissions is a priority for EU and international air quality legislation. Since 2005, emissions of all five pollutants have declined with sulphur oxide reducing the most (84%) and ammonia the least (17%). Stronger effort, particularly in the agriculture, transport and energy sectors, is essential for the EU to fulfil longer term reduction commitments (EEA, 2025q).

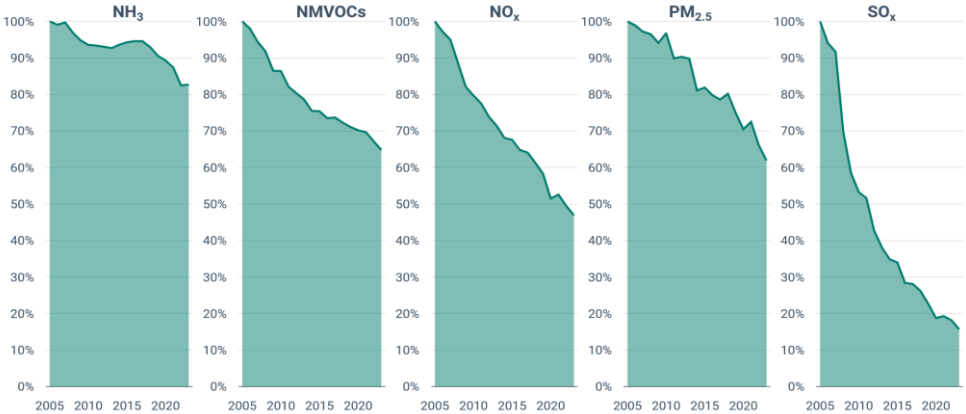


Figure 32. Imperviousness in 2006 and imperviousness increase during 2006-2018 in the EEA-38
Source: EEA, 2025q

Under the NECD, all EU Member States must report annual emissions inventories for the five air pollutants. Between 2005 and 2023, emissions of four of these pollutants declined considerably in the Member States: SO_x emissions by 84%, NO_x by 53%, NMVOCs by 35% and $PM_{2.5}$ by 38%. NH3 emissions also declined, but only by 17% overall. This reflects limited progress in the agriculture sector, which is responsible for more than 94% of NH3 emissions in the EU (EEA, 2025q).

Countries	NH_3	NMVOCs	NO_x	$PM_{2.5}$	SO_x
Austria	-5.8	-36.6	-56.1	-44.4	-59.2
Belgium	-20.6	-39.4	-62.9	-50.4	-84.5
Bulgaria	5.9	-33.7	-51.7	-41.2	-95.5
Croatia	-46.4	-51.3	-43.9	-40.3	-90.6
Cyprus	-13.6	-45.9	-44.5	-55.9	-73.4
Czechia	-9.4	-34.4	-53.1	-42.0	-76.8
Denmark	-32.7	-39.0	-60.7	-47.7	-69.1
Estonia	-7.0	-28.2	-51.4	-43.4	-85.7
Finland	-26.3	-50.7	-56.7	-49.6	-70.5
France	-18.7	-40.2	-58.8	-53.0	-83.0
Germany	-20.3	-34.9	-47.3	-40.9	-54.1
Greece	-17.2	-59.3	-54.9	-44.9	-93.5
Hungary	-17.3	-37.6	-49.4	-20.0	-73.5
Ireland	-6.1	-13.2	-50.6	-50.8	-90.1
Italy	-20.7	-36.6	-57.2	-23.8	-82.5
Latvia	5.4	-31.7	-30.6	-46.3	-56.0
Lithuania	-7.2	-21.8	-29.6	-48.5	-67.5
Luxembourg	-11.6	-39.9	-82.1	-50.4	-86.8
Malta	-8.8	-29.4	-52.7	-58.2	-98.7
Netherlands	-25.0	-11.1	-57.5	-51.4	-74.2
Poland	-10.1	-24.5	-41.4	-27.7	-75.3
Portugal	-2.0	-22.8	-51.4	-23.3	-78.1
Romania	-16.2	-37.1	-41.5	-17.1	-95.4
Slovakia	-11.8	-44.6	-51.8	-63.3	-84.3
Slovenia	-18.1	-42.0	-56.8	-43.4	-93.5
Spain	-16.9	-29.8	-56.3	-37.6	-91.8
Sweden	-9.9	-32.8	-45.5	-55.1	-57.9

Decrease in emissions compared to 2005 Increase in emissions compared to 2005

Figure 33. Changes in the main air pollutant emissions by EU Member State in 2023 compared to 2005 levels
Source: EEA, 2025q

Between 2005 and 2023, all Member States reduced their emissions of NMVOCs, NOx, SOx and PM2.5, while NH3 emissions increased in Bulgaria and Latvia. Despite the reductions, several countries are not on track to meet their reduction commitments for 2020-2029, with NH3 as the main challenge. The main hurdle will be to reduce NH3 emissions, for which only 12 Member States have already met their 2030 emission reduction commitments in 2023 (EEA, 2025q).

National systems include all relevant institutional, legal and procedural arrangements established within a country for reporting on greenhouse gas emissions policies and measures, for evaluating policy, and for making projections of anthropogenic greenhouse gas (GHG) emissions by sources and removals by sinks. Within the EU climate governance framework, national systems serve as the backbone for planning, monitoring, and reporting processes. A complete and transparent national system is essential to deliver good-quality information on GHG projections to integrate policy effects and understand GHG emission trends (EEA, 2025r).

(19) Forest connectivity in Europe

Increasing forest connectivity is crucial for supporting biodiversity. Connectivity within stocked forest areas is limited by elements fragmenting the tree cover. The EU's average forest connectivity was

80.6% in 2021, a 0.8% decrease from 2018. The EU has effective policies promoting forest connectivity. However, the effects of these policies will take time to appear as pest and fire outbreaks which intensify with climate change lead to immediate, often temporary, losses in connectivity. Therefore, it is unlikely that forest connectivity will increase by 2030 (EEA, 2025s).

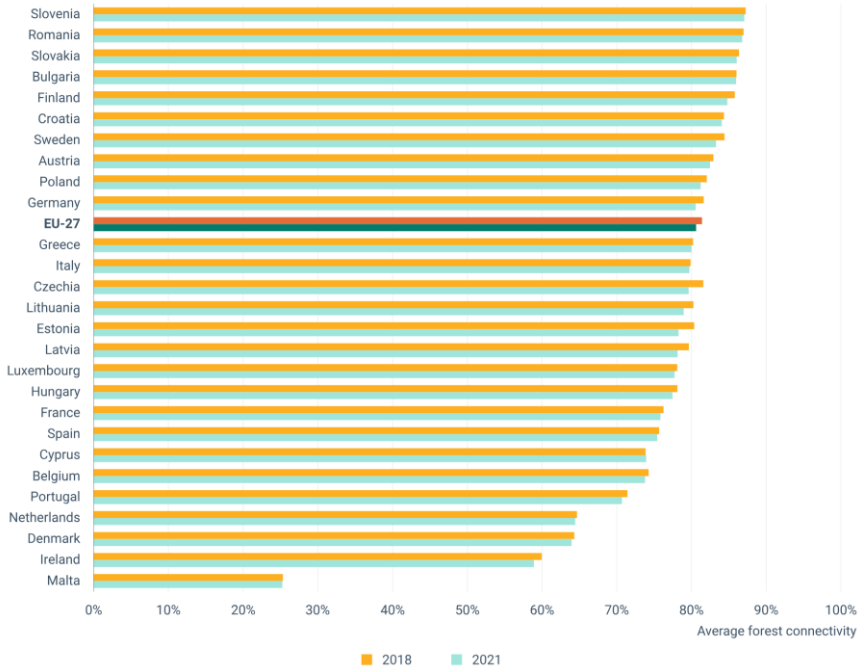


Figure 34. Change in average forest connectivity in EU member states between 2018 and 2021
Source: EEA, 2025s

The EU's average forest connectivity was 80.6% (Figure 34) in 2021. This indicates that on average, 80.6% of the 10-hectare area surrounding a 100m2 forest grid cell was covered by forest. Forest connectivity decreased by 0.8% from 2018 to 2021 (EEA, 2025s).

Country	Average connectivity		Change in connectivity 2018-2021	Share of forest by connectivity classes in 2021				
	2018	2021		Very low	Low	Intermediate	High	Very high
Slovenia	87.2%	87.1%	-0.2%	0.1%	3.1%	7.2%	26.6%	63.0%
Romania	87.0%	86.8%	-0.2%	0.3%	4.4%	7.5%	22.5%	65.3%
Slovakia	86.3%	86.1%	-0.3%	0.3%	4.9%	7.2%	24.2%	63.4%
Bulgaria	86.0%	86.0%	0.0%	0.3%	5.4%	7.5%	22.4%	64.4%
Finland	85.8%	84.8%	-1.0%	0.0%	2.5%	7.9%	36.6%	53.0%
Croatia	84.3%	84.0%	-0.3%	0.3%	5.8%	9.3%	25.6%	59.0%
Sweden	84.4%	83.3%	-1.1%	0.1%	3.3%	9.1%	37.7%	49.9%
Austria	82.9%	82.5%	-0.4%	0.2%	5.1%	9.8%	33.0%	51.9%
Poland	82.0%	81.2%	-0.8%	0.5%	7.6%	9.8%	29.4%	52.7%
Germany	81.6%	80.6%	-1.1%	0.6%	8.1%	10.8%	27.9%	52.6%
EU-27	**81.4%**	**80.6%**	**-0.8%**	**0.4%**	**6.9%**	**10.8%**	**32.5%**	**49.5%**
Greece	80.2%	80.0%	-0.2%	0.4%	8.1%	11.4%	30.3%	49.9%
Italy	79.9%	79.7%	-0.1%	0.5%	8.7%	11.3%	29.1%	50.4%
Czechia	81.6%	79.6%	-2.0%	0.5%	8.4%	11.6%	29.6%	49.9%
Lithuania	80.3%	79.0%	-1.3%	0.4%	7.0%	11.9%	37.2%	43.6%
Estonia	80.4%	78.3%	-2.1%	0.1%	5.5%	13.4%	41.9%	39.1%
Latvia	79.6%	78.1%	-1.5%	0.2%	5.9%	12.8%	42.6%	38.5%
Luxembourg	78.1%	77.7%	-0.4%	0.5%	7.5%	13.4%	36.4%	42.2%
Hungary	78.1%	77.5%	-0.7%	0.8%	10.2%	12.5%	29.7%	46.7%
France	76.3%	75.8%	-0.4%	0.7%	11.2%	13.8%	31.2%	43.1%
Spain	75.7%	75.4%	-0.2%	0.5%	10.3%	14.5%	35.1%	39.6%
Cyprus	73.9%	73.9%	0.1%	1.3%	14.9%	12.6%	27.6%	43.6%
Belgium	74.3%	73.8%	-0.5%	1.0%	12.9%	14.5%	31.5%	40.1%
Portugal	71.4%	70.7%	-0.7%	0.6%	13.8%	17.7%	36.8%	31.1%
Netherlands	64.7%	64.4%	-0.2%	2.4%	22.0%	17.5%	29.7%	28.5%
Denmark	64.3%	63.9%	-0.4%	2.1%	21.0%	18.9%	32.7%	25.2%
Ireland	60.0%	58.9%	-1.1%	2.5%	24.1%	23.2%	33.2%	17.0%
Malta	25.3%	25.3%	-0.1%	13.2%	71.0%	12.1%	3.3%	0.4%

Figure 35. Forest connectivity in the EU Member States in 2018 and 2021
Source: EEA, 2025s

The EU average is highly influenced by areas with large continuous forest coverage, mainly in Slovenia, Romania, Finland and Sweden. Few countries show average connectivity below 70%. Forest connectivity was stable (less than 0.1% change) in four countries, whereas it decreased by more than 1.5% in Estonia, Czechia and Latvia, possibly due to logging, partly related to storms and bark beetle outbreaks (EEA, 2025s).

DATASET OF SELECTED 6 COUNTRIES: KEY TRENDS AND ASSESSMENTS

(1) AUSTRIA

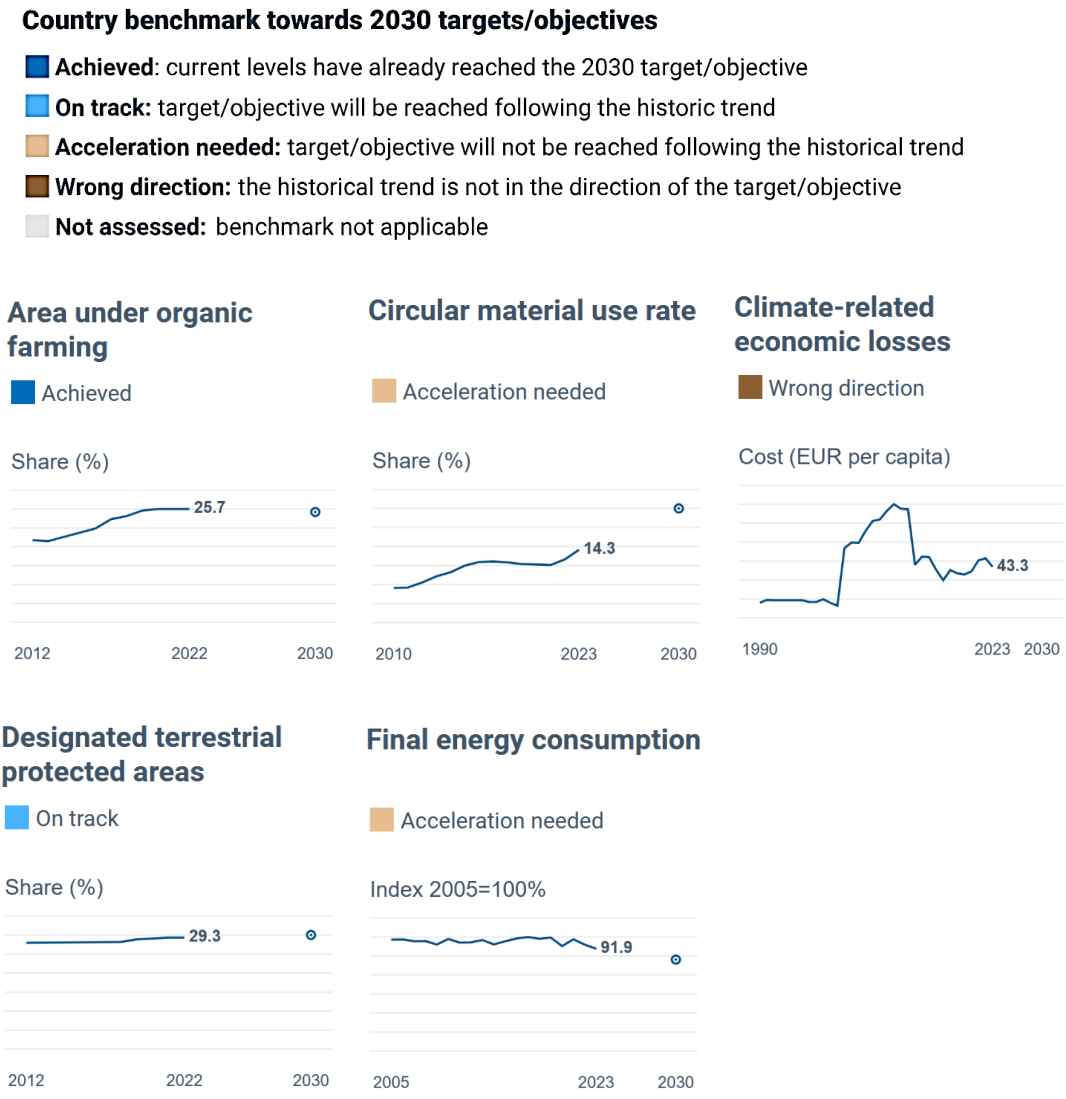


Figure 36. Austria: Environment and climate trends and assessments
Source: EEA, 2025t

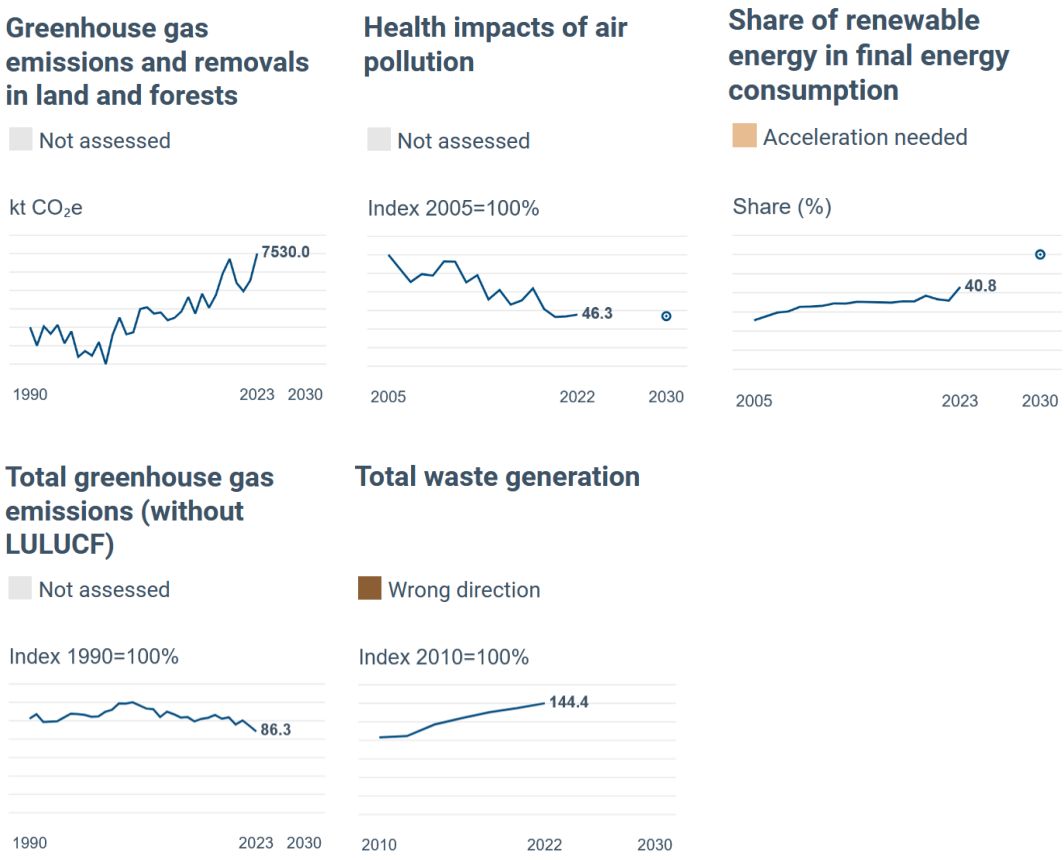
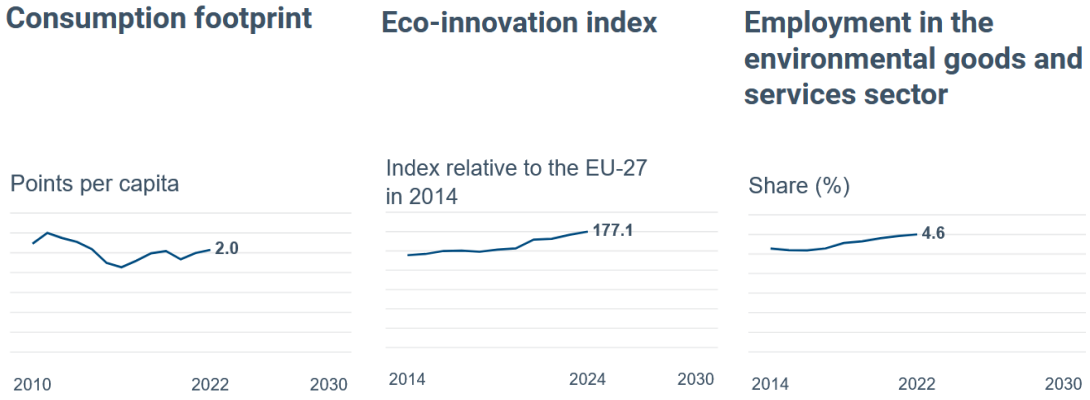


Figure 36. Austria: Environment and climate trends and assessments (continued)
Source: EEA, 2025t

Austria excels in organic farming, with 27% of agricultural land under organic production by 2022, surpassing the EU target of 25% and aiming for 35% by 2030. In energy and emissions, progress is mixed. Renewable energy, led by hydropower, biomass energy, wind power and solar power, places Austria in a strong position to achieve 100% renewable electricity by 2030. Austria's circular economy has improved, with the circular material use rate doubling to 14.3% since 2010, and a target of 18% has been set for 2030, focusing on sectors like construction. Air quality has improved significantly, with fine-particulate-matter-related health impacts dropping since 2005, but levels in urban areas still exceed the World Health Organization guideline level. Water pollution by specific individual perfluoroalkyl and polyfluoroalkyl substances and other substances, including nitrates, persists. In addition, extreme weather events continue to affect water availability and quality (EEA, 2025t).



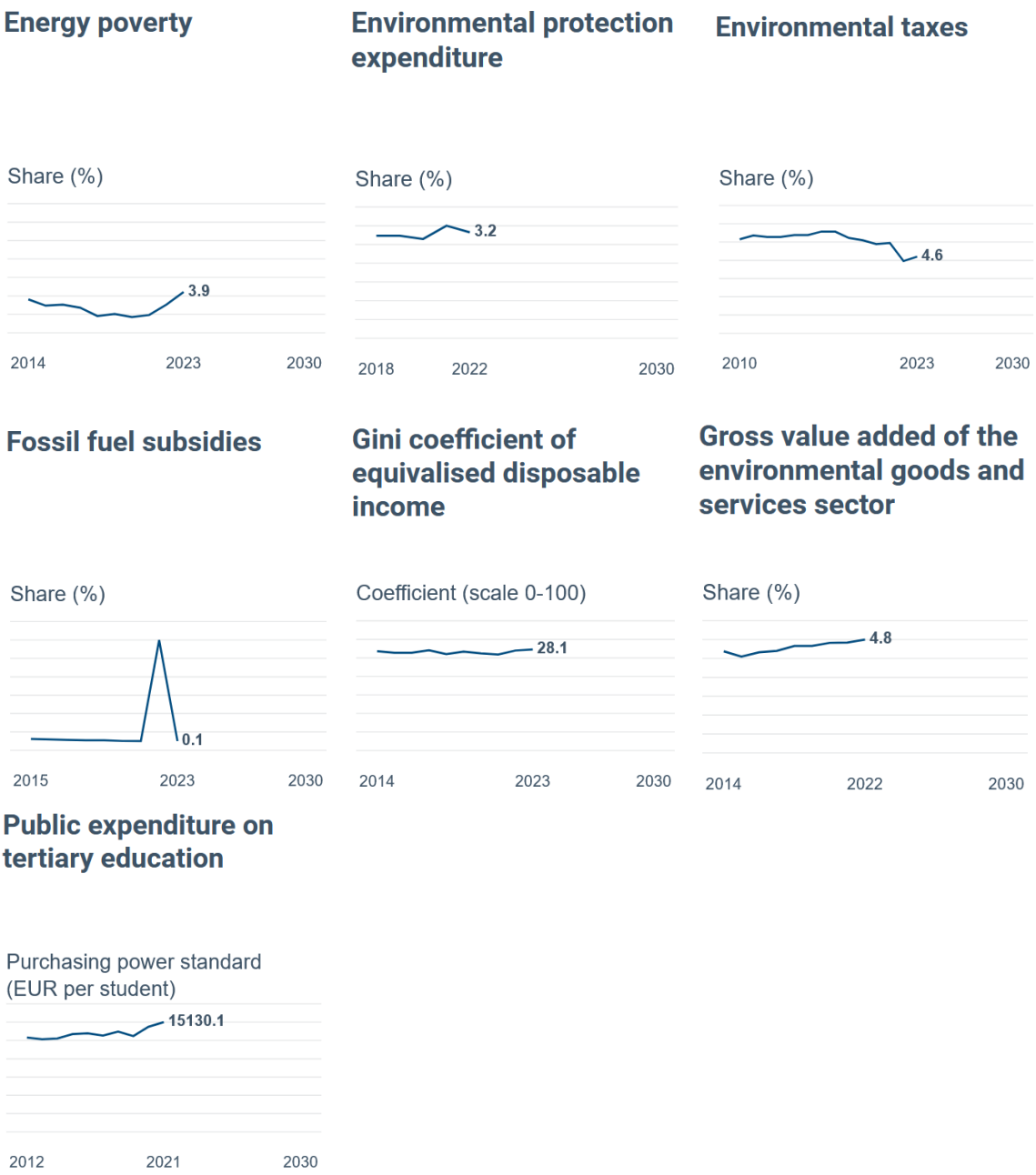


Figure 37. Austria: Socio-economic change trends and assessments
Source: EEA, 2025t

Climate and environmental protection is becoming increasingly important for the Austrian economy and public budgets. This is reflected in the growing expenditure on environmental protection, which rose to 3.6% of gross domestic product (GDP) in 2021, 1.6 times higher than the EU-27 average for the same year. Research conducted by the Technical University of Vienna and Environmental Agency Austria highlights the crucial role of public capital stock in driving Austria's progress towards decarbonization. They estimate that the additional investments required to decarbonize the existing public capital stock will amount to EUR 36 billion cumulatively by 2030, equivalent to 1.2% of GDP annually. Investments and decisions focused on climate protection boost GDP and employment, while advancing climate neutrality (EEA, 2025t).

Air pollution country profile

Exposure - Austria

The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

		2018	2019	2020	2021	2022
BaP	annual mean	0.0	0.0	0.0	0.0	0.0
NO2	annual mean	2.0	0.2	0.0	0.0	0.0
O3	percentile 93.15	72.8	40.1	0.0	0.0	27.1
PM2.5	annual mean	0.0	0.0	0.0	0.0	0.0
PM10	annual mean	0.0	0.0	0.0	0.0	0.0
	percentile 90.41	0.3	0.0	0.0	0.0	0.0

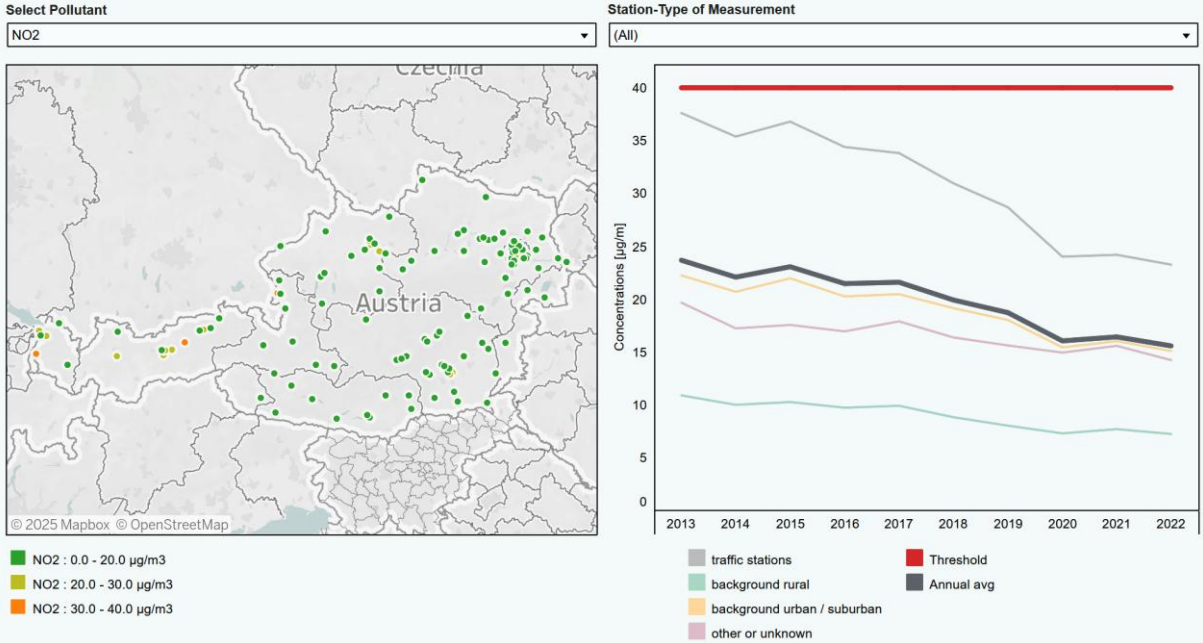
Health impacts

Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Austria	10.1	3,320	13.8	780	97	1,440
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

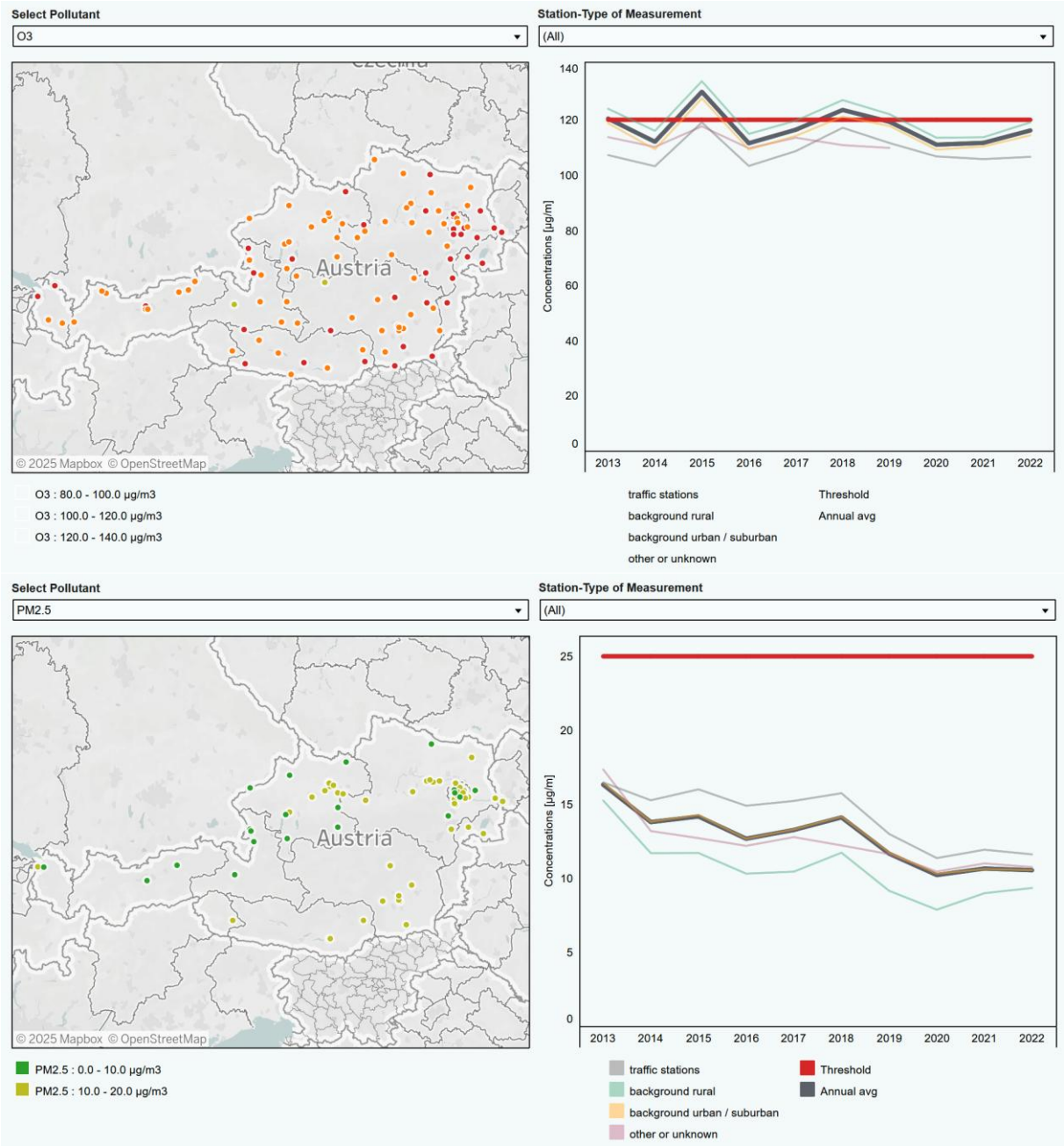
Air quality

The map on the left is drawn from annual statistics calculated by the EEA from time series reported by countries and present the air quality monitoring stations in country and the concentrations of pollutant monitoring at each station.
Year of statistics: 2022

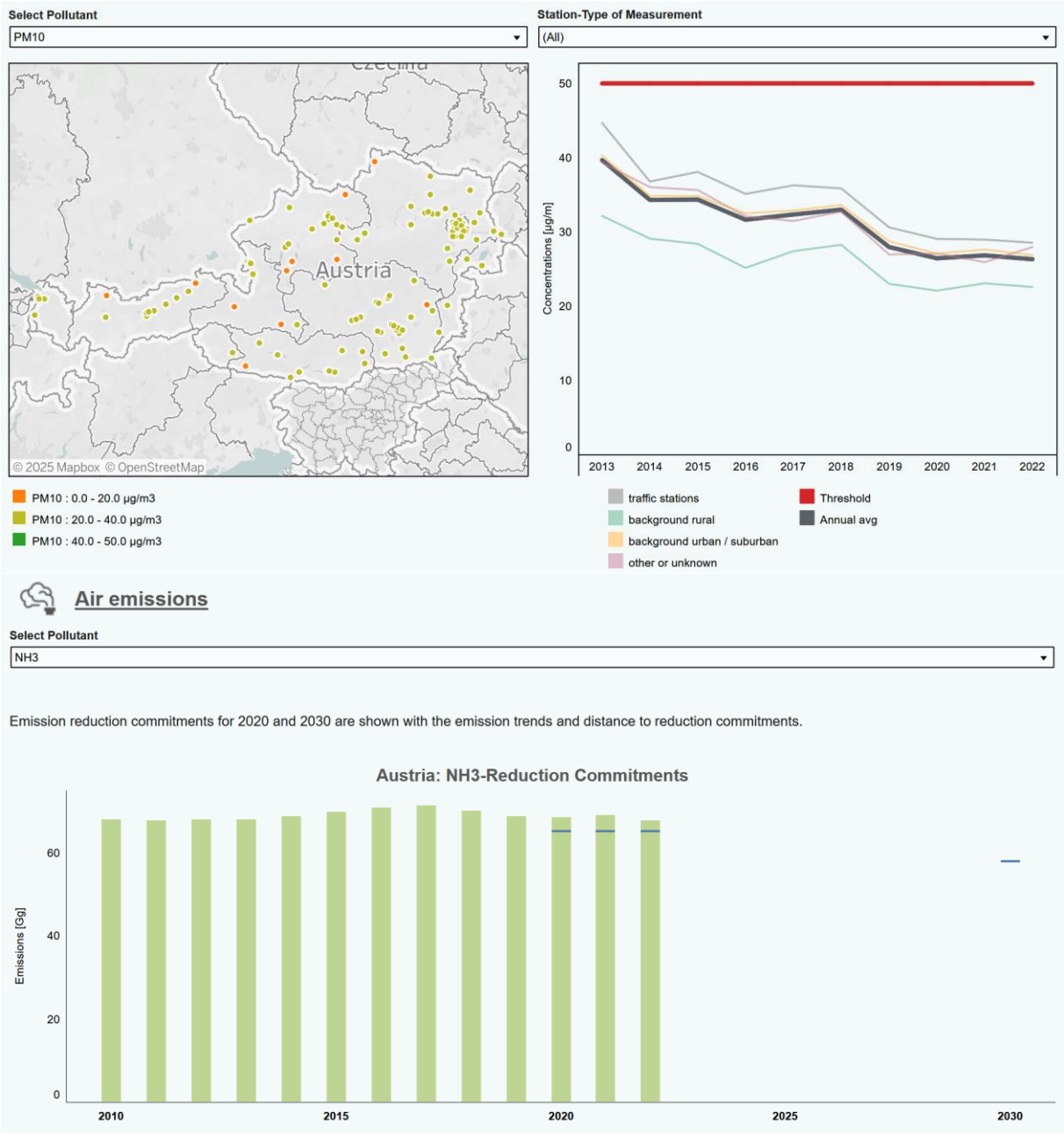
The graph on the right presents the trend in annual mean concentration of pollutant by station type and the mean across all stations against the EU standard (µg/m3 for the years 2013 to 2022. For BaP concentrations are in ng/m3)



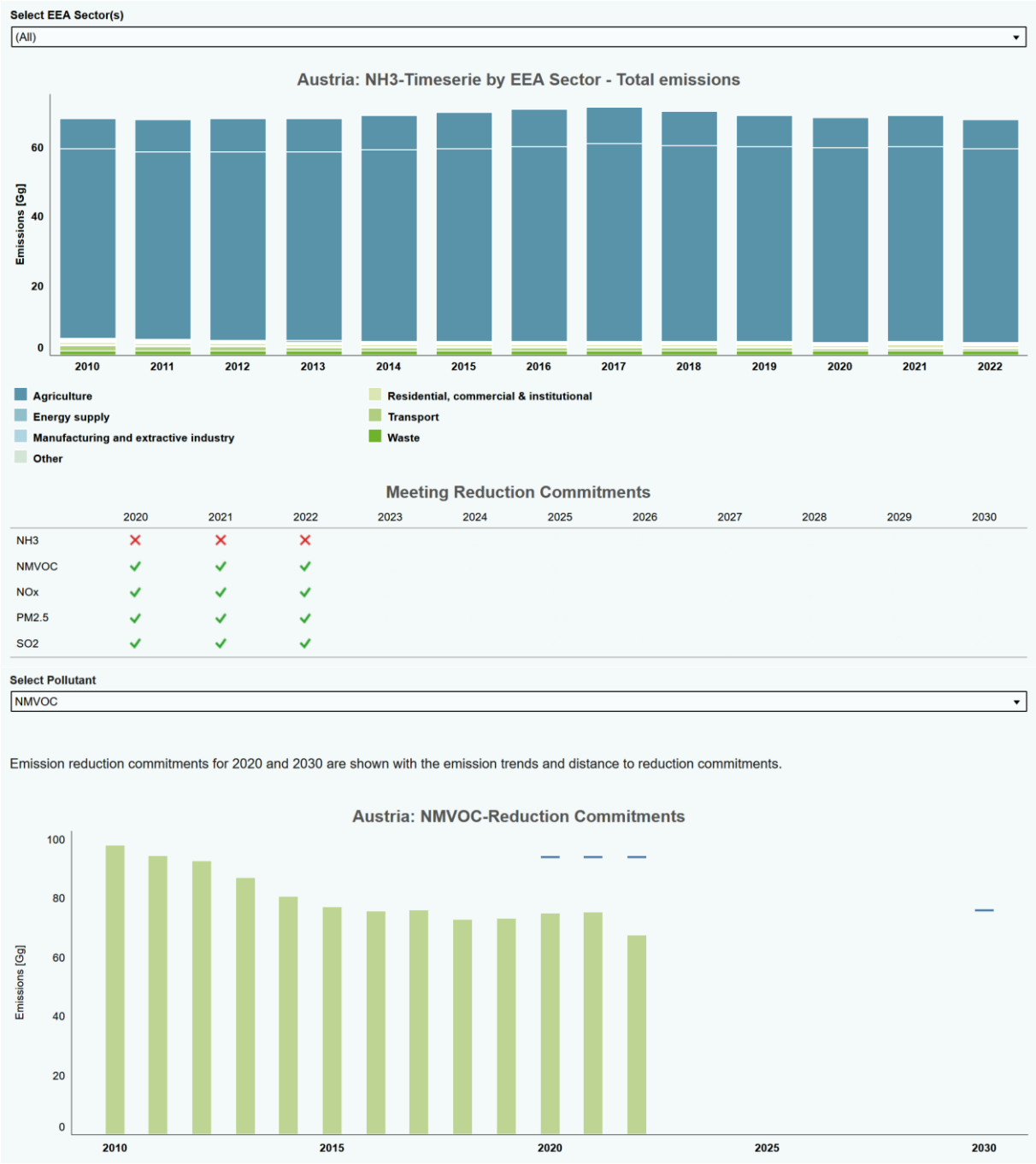
Source: European Commission, 2025a.



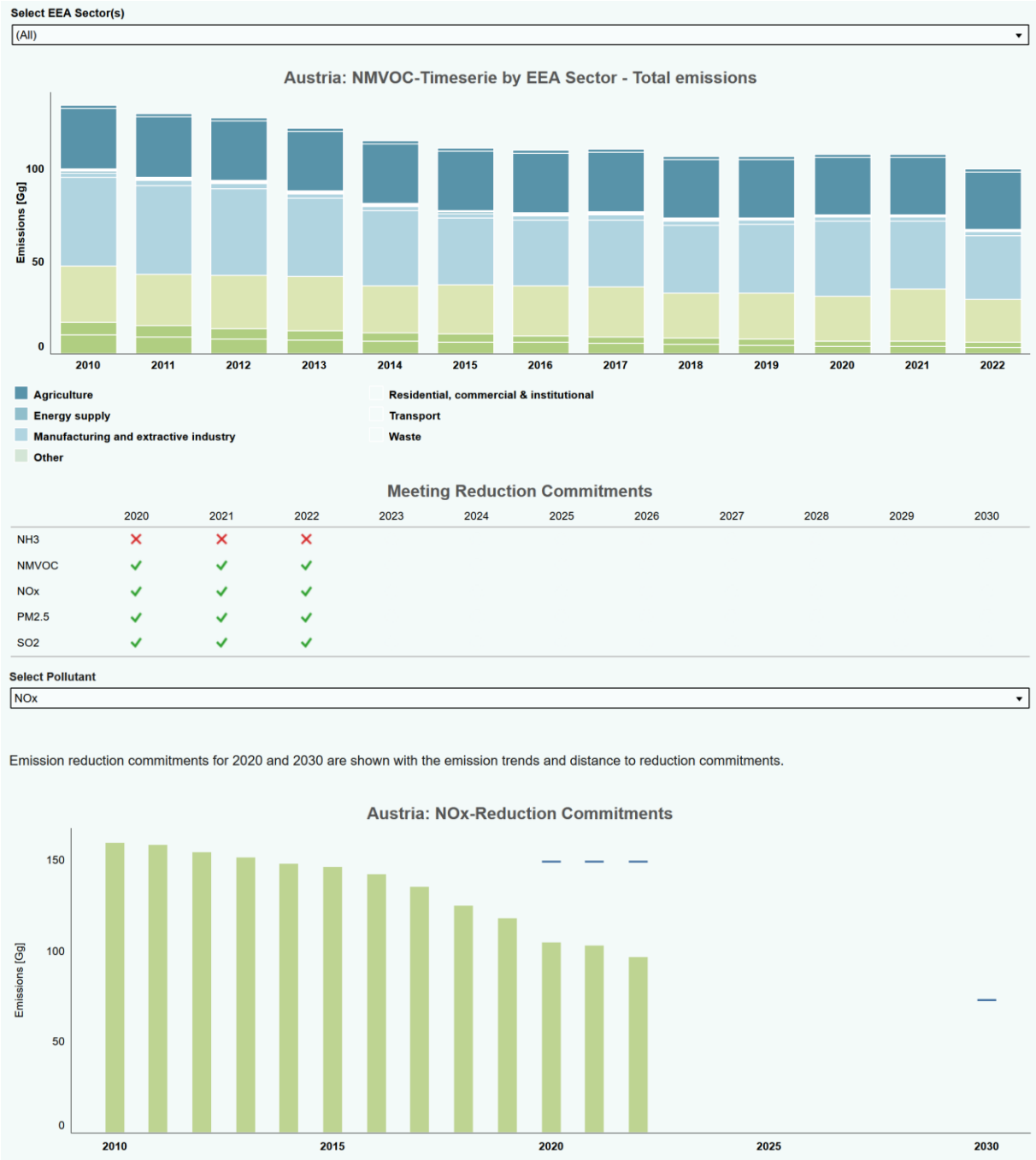
Source: European Commission, 2025a.



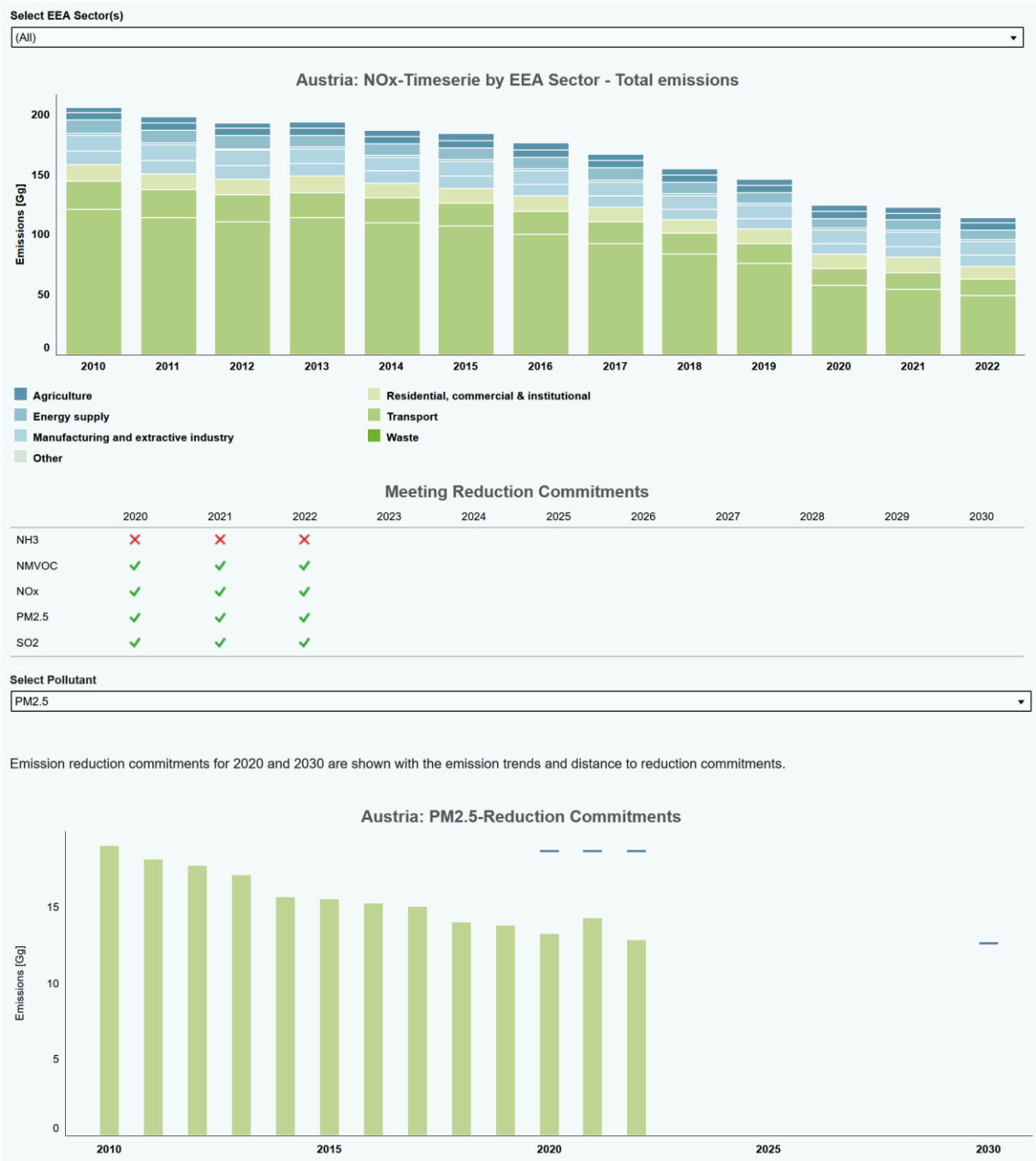
Source: European Commission, 2025a.



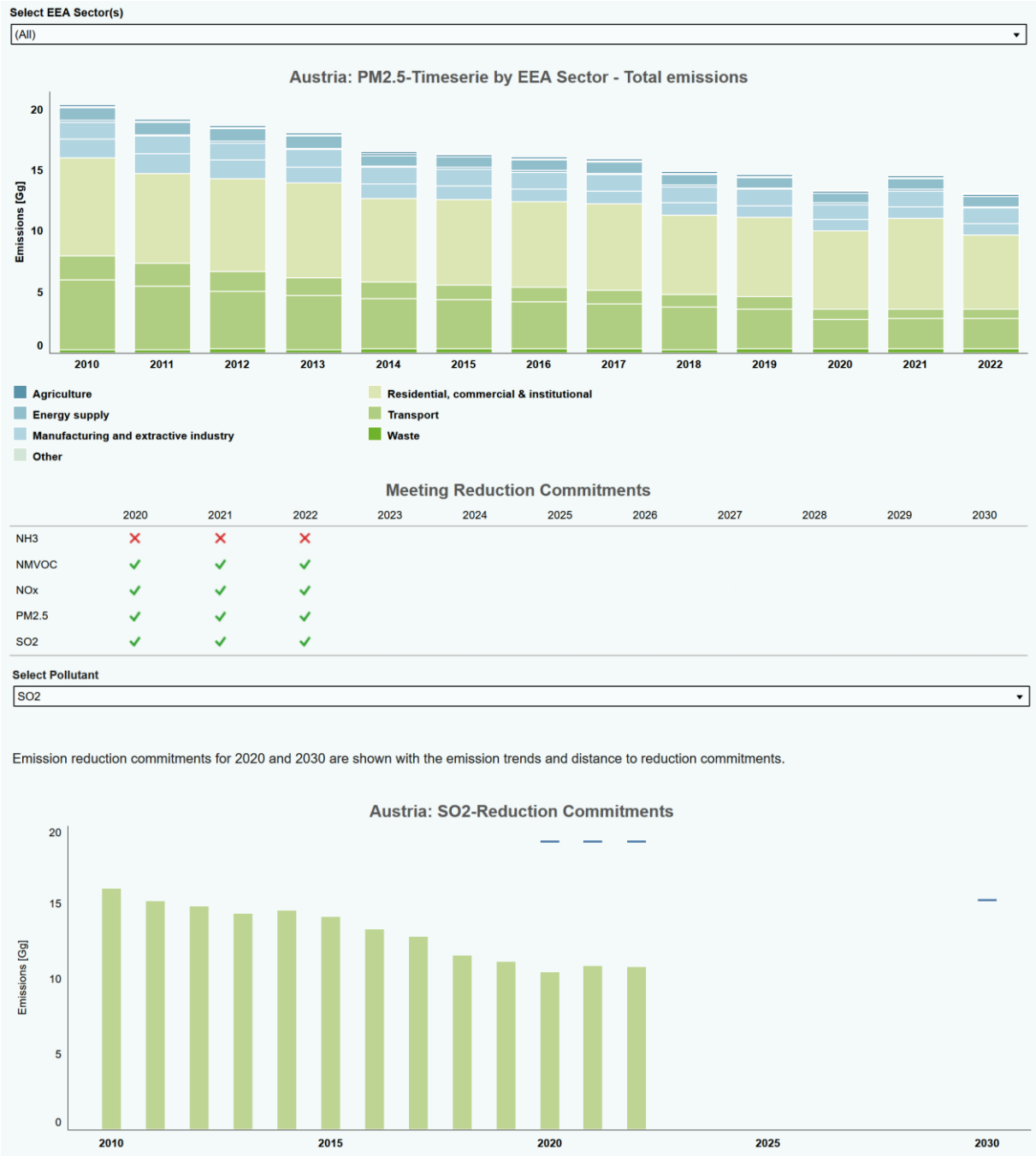
Source: European Commission, 2025a.



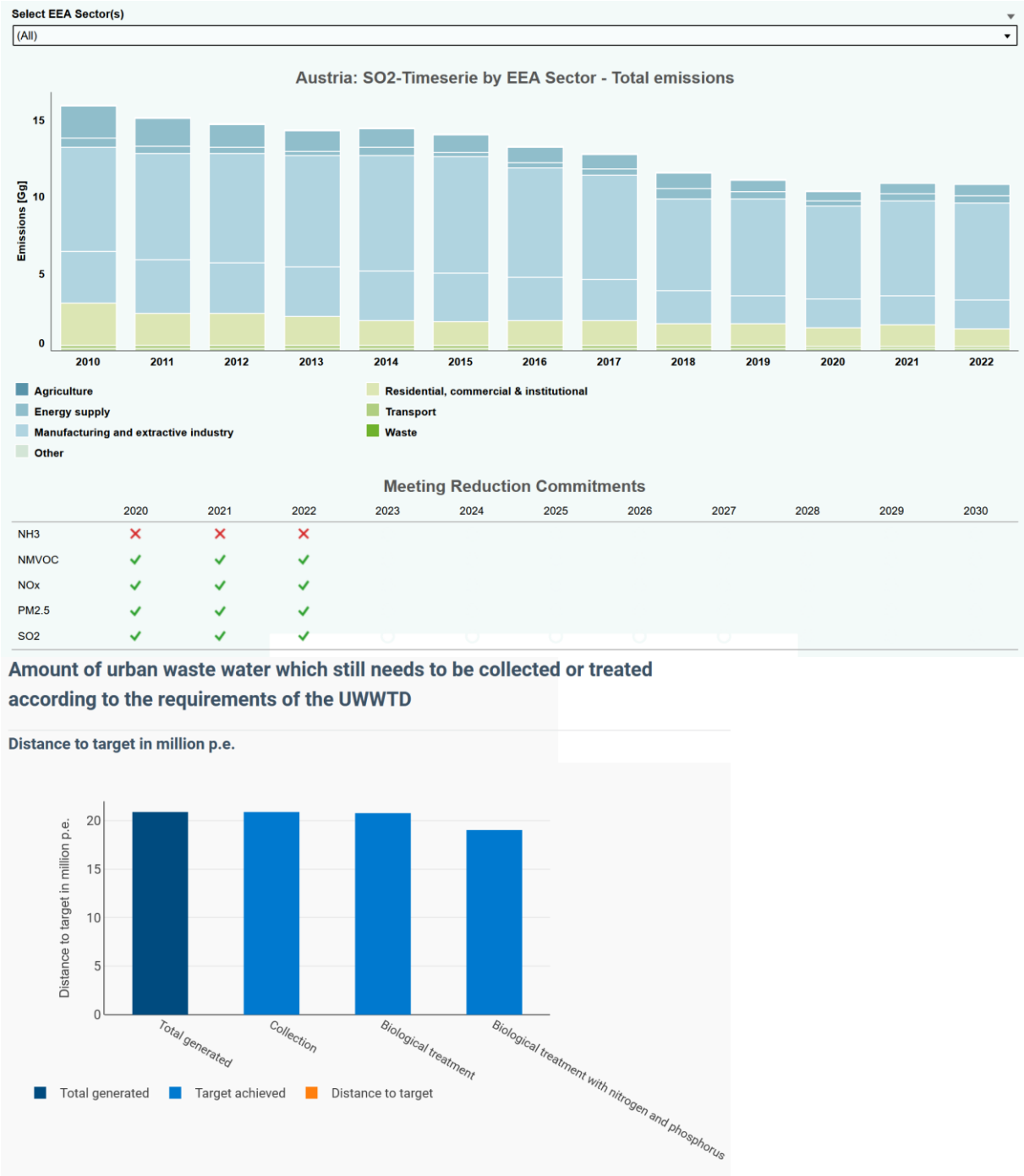
Source: European Commission, 2025a.



Source: European Commission, 2025a.

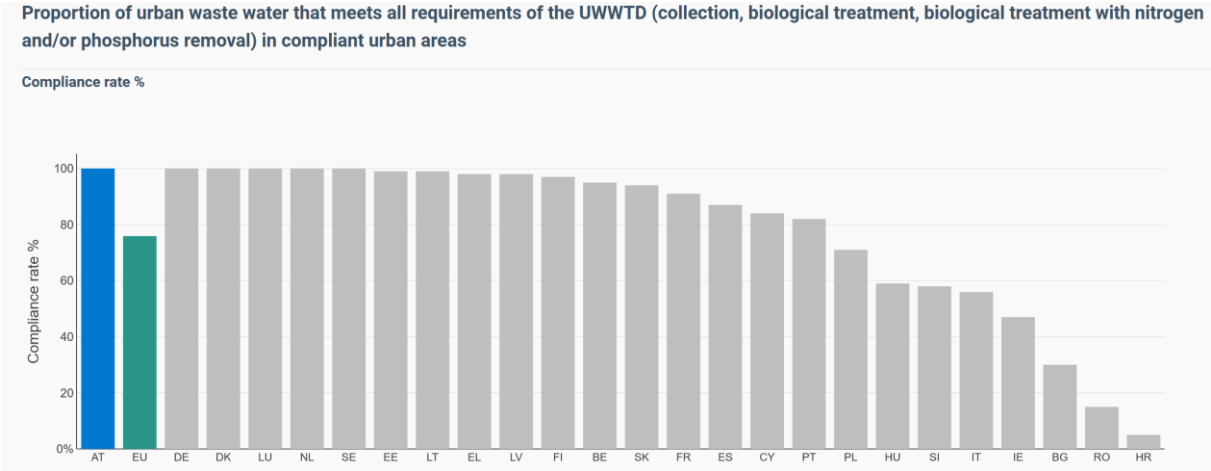


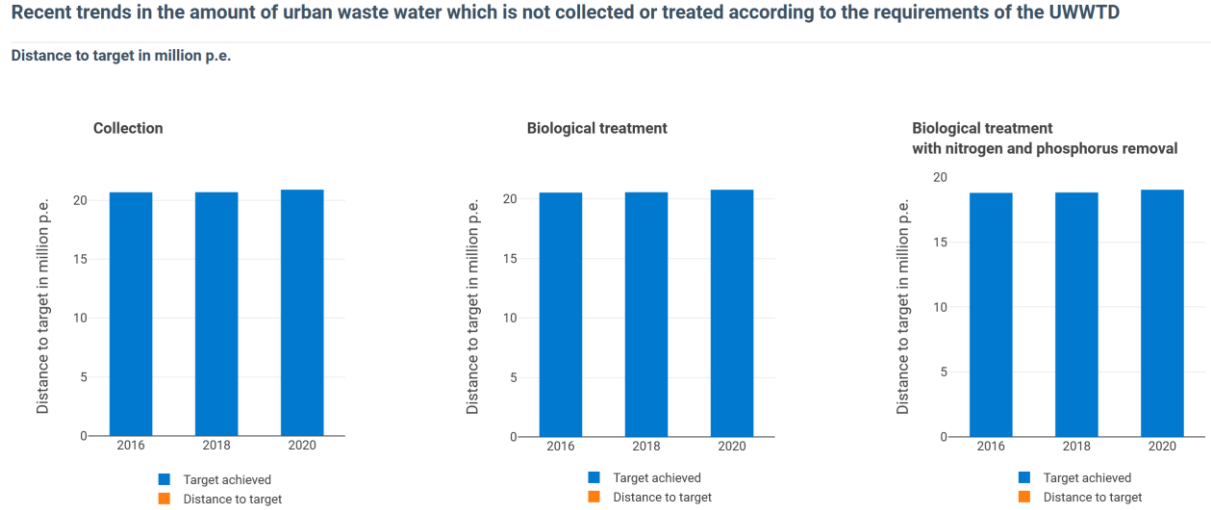
Source: European Commission, 2025a.



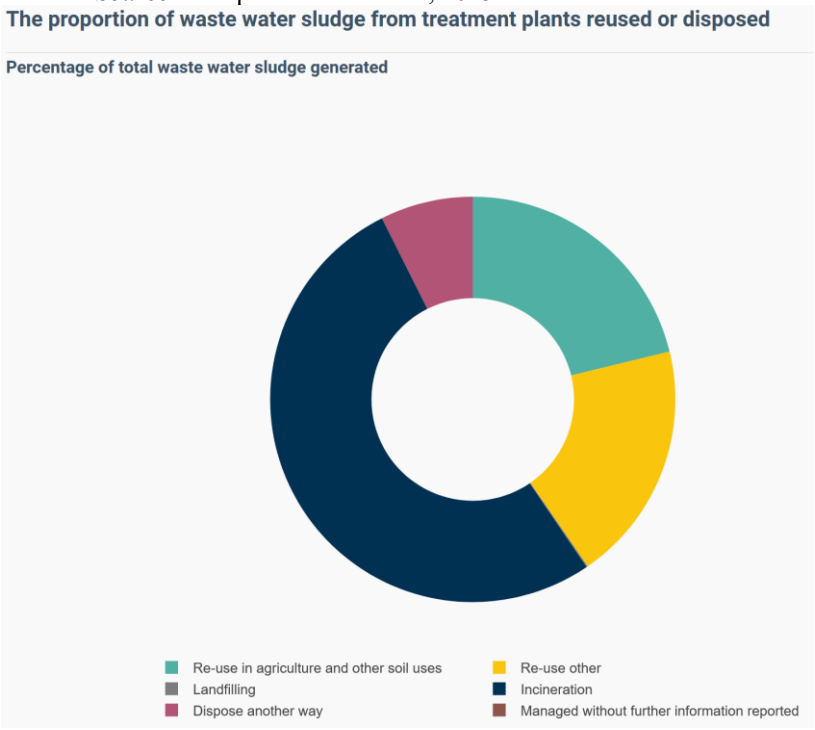
Source: European Commission, 2025a.

Austria has met the targets for: (1) Collection of urban waste water; (2) Biological treatment of urban waste water; and (3) Biological treatment of urban waste water with nitrogen and phosphorus removal. Overall, 100% of the urban waste water in Austria is treated according to the requirements of the UWWTD. This is above the EU average of 75.9% (European Commission, 2025a).





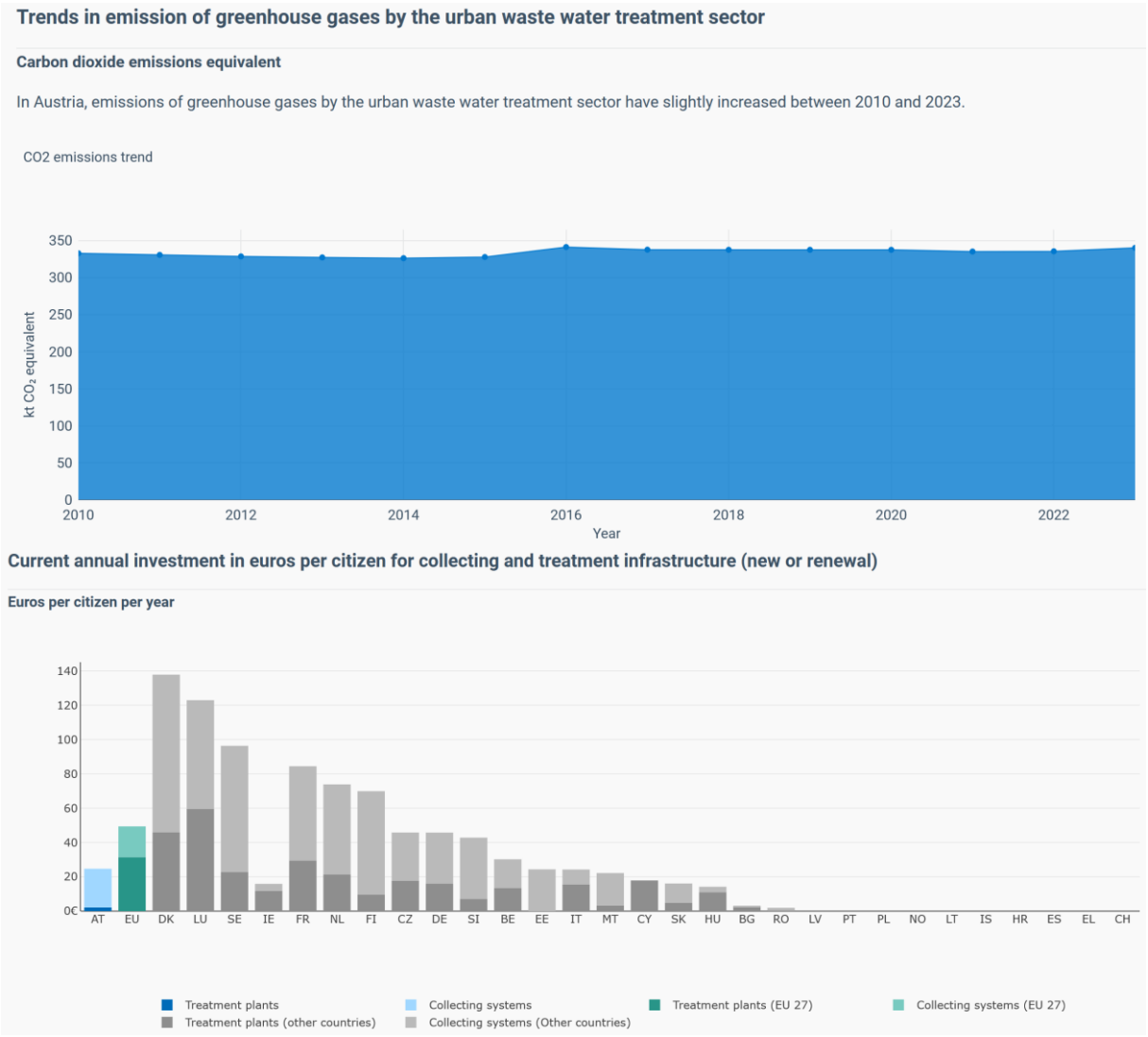
Source: European Commission, 2025a.



Source: European Commission, 2025a.

Austria generated 228,009 tonnes of waste water sludge in 2020:

- 21.200001% was reused in agriculture and other soil uses
- 19.200001% was reused in other uses
- 0.1% was landfilled
- 52.099998% was incinerated
- 7.4000001% was disposed in another way



In Austria, emissions of greenhouse gases by the urban waste water treatment sector have slightly increased between 2010 and 2023. Austria currently invests 25 euros per citizen per year for new collecting and treatment infrastructure, as well as for the renewal of ageing infrastructure. This is below the EU average of 49 euros per citizen every year.

(2) <u>DENMARK</u>

Country benchmark towards 2030 targets/objectives

- **Achieved**: current levels have already reached the 2030 target/objective
- **On track:** target/objective will be reached following the historic trend
- **Acceleration needed:** target/objective will not be reached following the historical trend
- **Wrong direction:** the historical trend is not in the direction of the target/objective
- **Not assessed:** benchmark not applicable

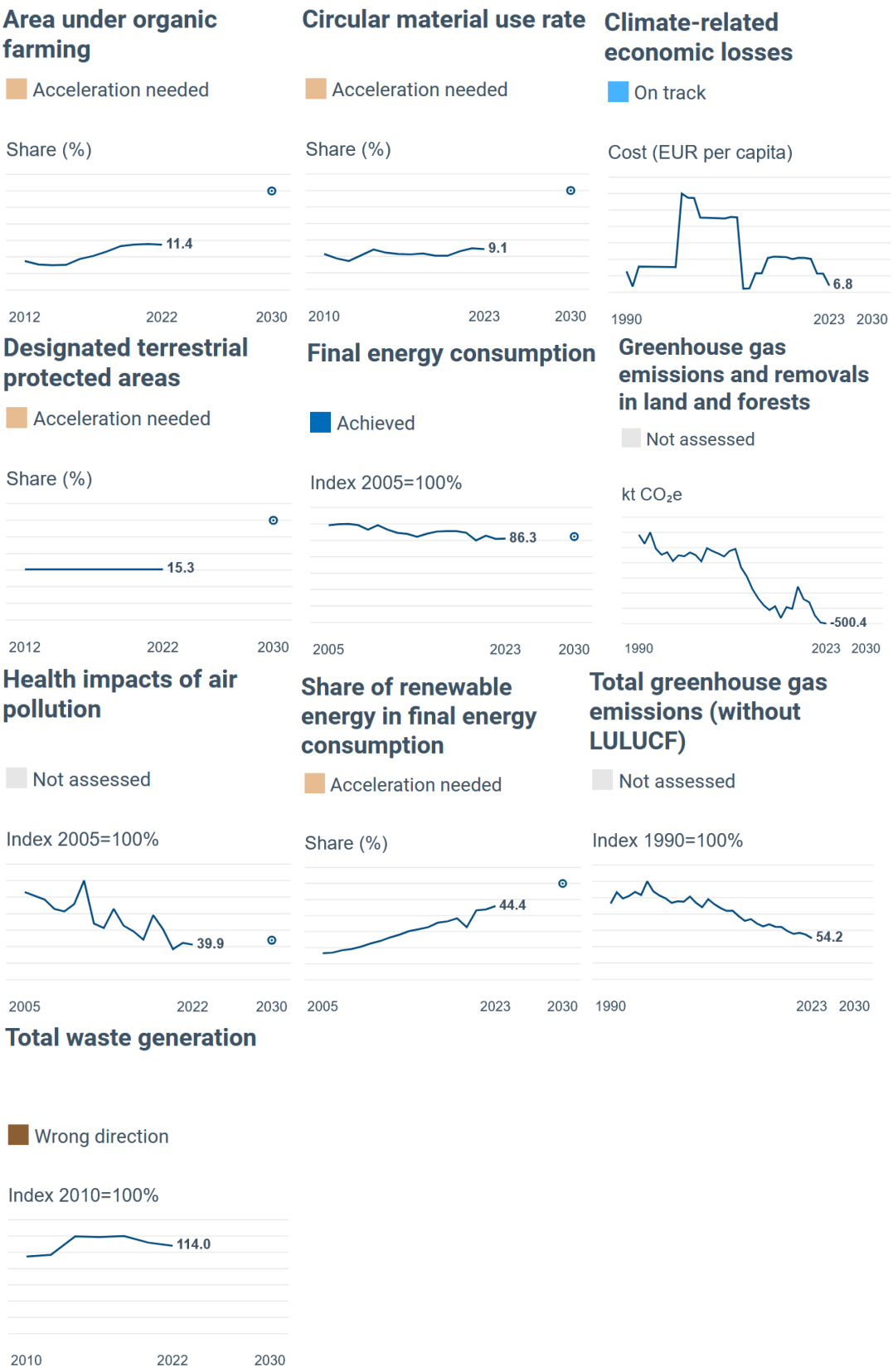


Figure 37. Denmark: Environment and climate trends and assessments
Source: EEA, 2025u

Denmark has a small terrestrial area that is intensively used: 59% of the area is used for farming. Denmark also faces challenges with a high level of material resource use and increasing levels of waste generation. In 2020, the Danish government and a majority in the Danish parliament passed the Climate

Act, legally committing future governments to reducing greenhouse gas emissions by 70% by 2030 (compared with 1990 levels) and achieving net zero by 2050 (EEA, 2025u).

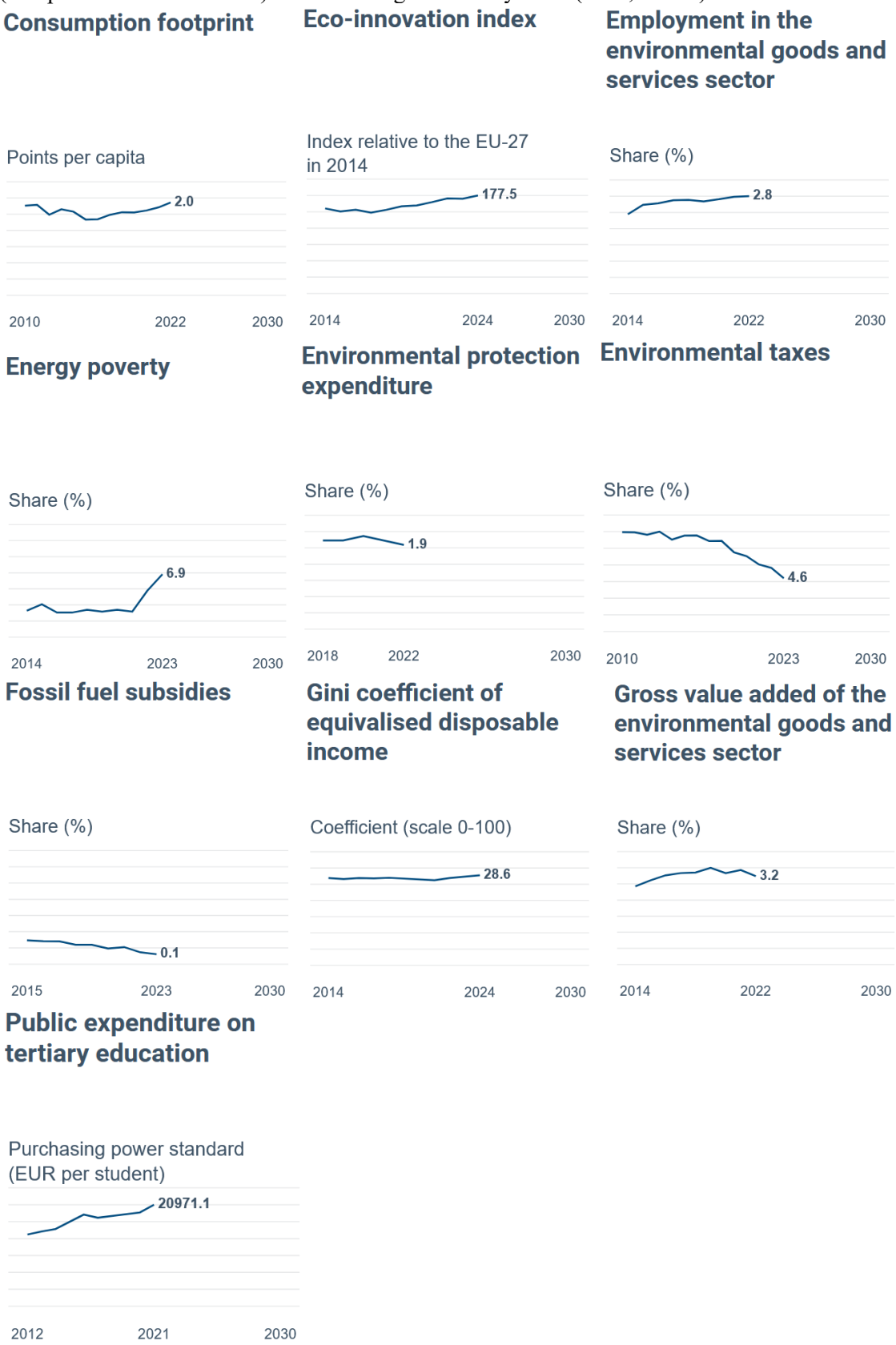


Figure 38. Denmark: Socio-economic change trends and assessments
Source: EEA, 2025u

In 2024, the Danish government convened the leading labour union and industry, agriculture and environmental groups to sign a historic green tripartite agreement for a long-term transformation of Danish food and agricultural production, which included a target share of at least 20% for protected natural area and reduce non-energy GHG emissions from agriculture by 1.8–2.6 Mt of carbon dioxide equivalent by 2030 (EEA, 2025u).

Air pollution country profile

Exposure - Denmark

The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

		2018	2019	2020	2021	2022
BaP	annual mean	0.0	0.0	0.0	0.0	0.0
NO2	annual mean	0.0	0.0	0.0	0.0	0.0
O3	percentile 93.15	0.0	0.0	0.0	0.0	0.0
PM2.5	annual mean	0.0	0.0	0.0	0.0	0.0
PM10	annual mean	0.0	0.0	0.0	0.0	0.0
	percentile 90.41	0.0	0.0	0.0	0.0	0.0

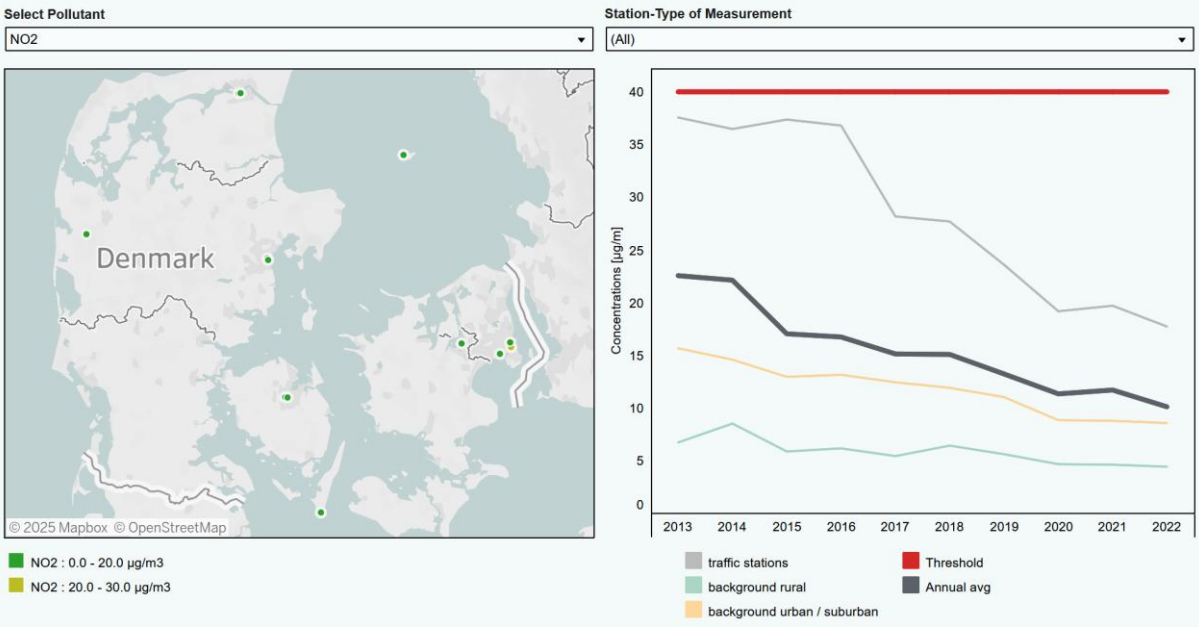
Health impacts

Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Denmark	7.8	1,200	7.4	50	80	540
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

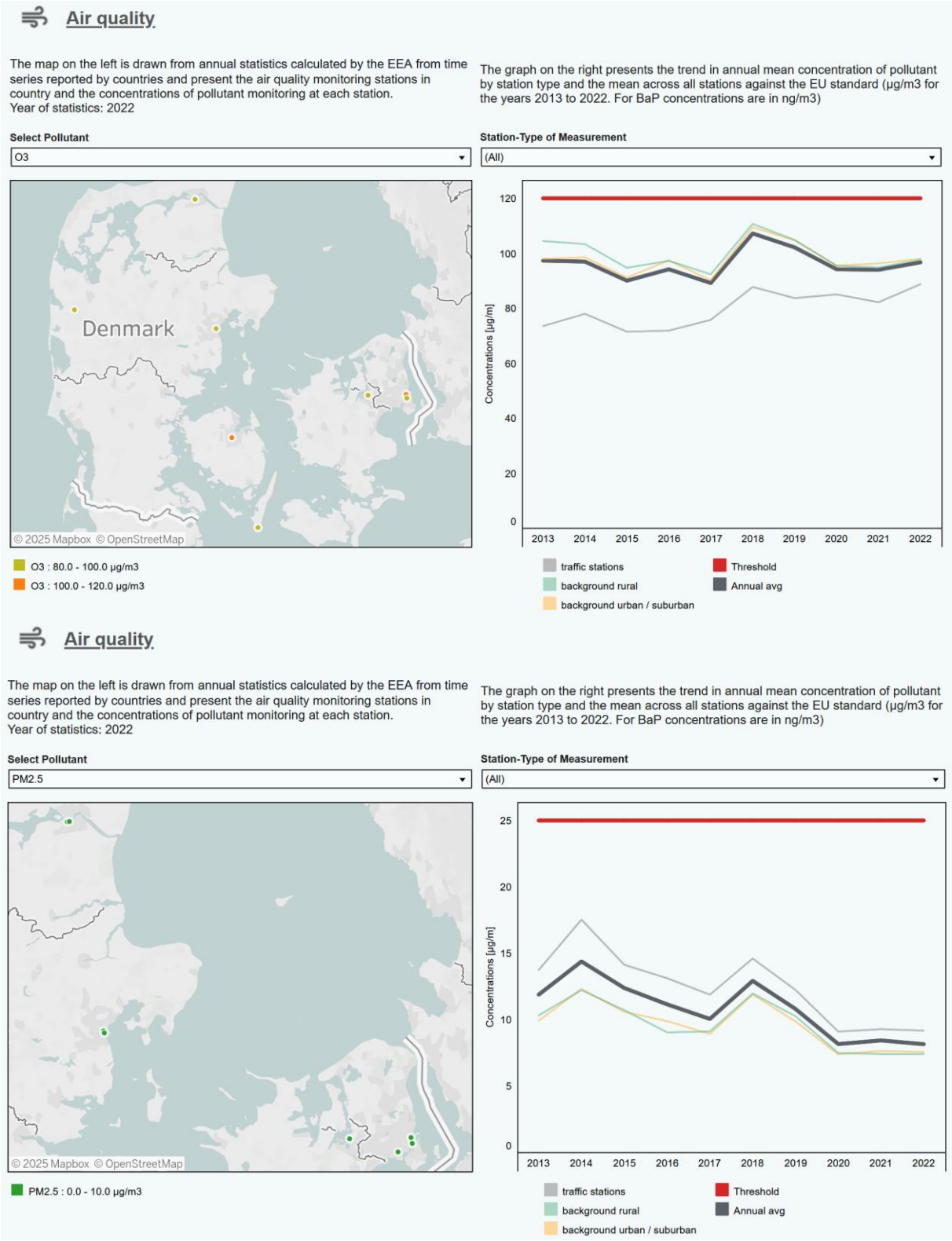
Air quality

The map on the left is drawn from annual statistics calculated by the EEA from time series reported by countries and present the air quality monitoring stations in country and the concentrations of pollutant monitoring at each station.
Year of statistics: 2022

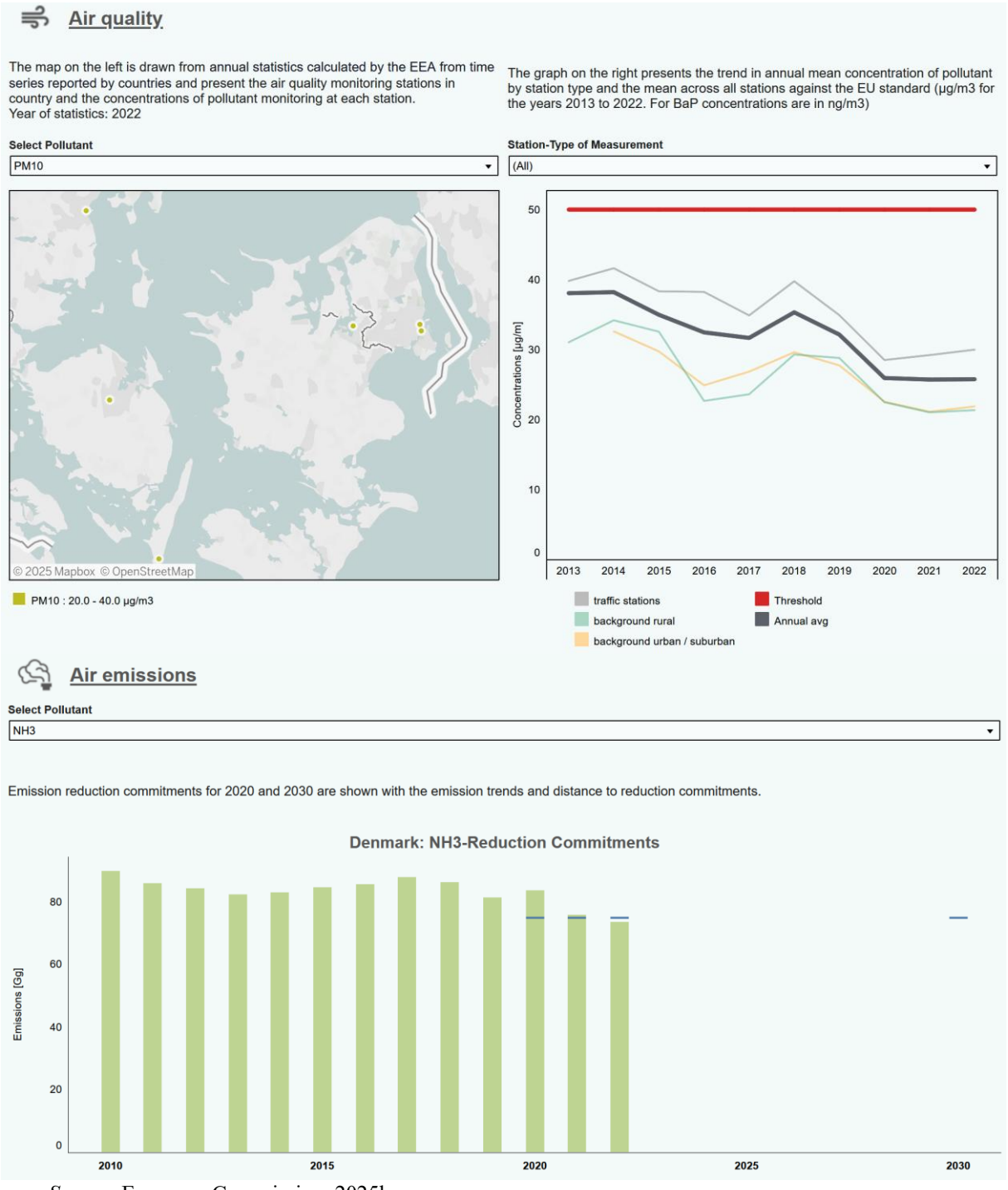
The graph on the right presents the trend in annual mean concentration of pollutant by station type and the mean across all stations against the EU standard (µg/m3 for the years 2013 to 2022. For BaP concentrations are in ng/m3)



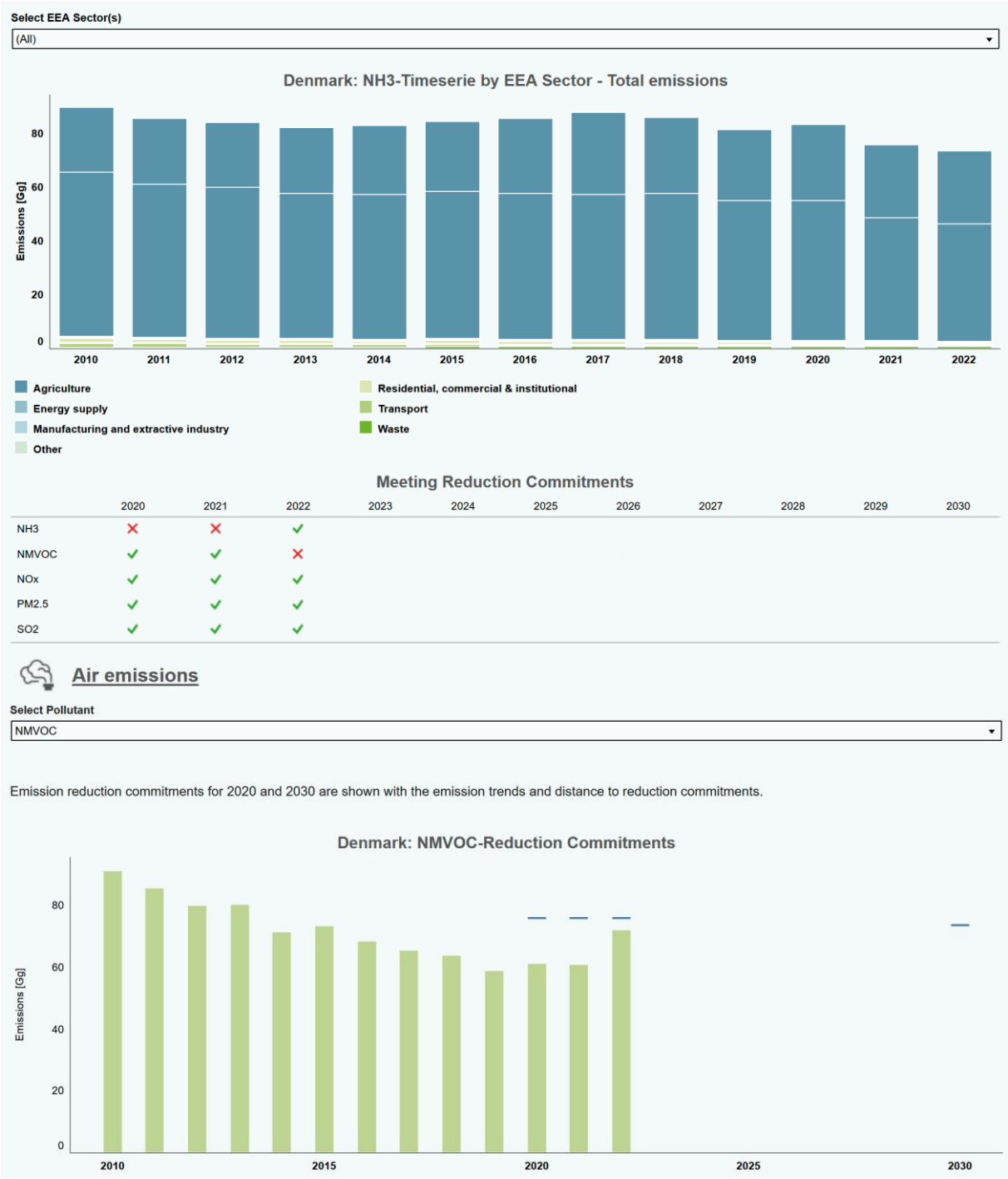
Source: European Commission, 2025b.



Source: European Commission, 2025b.



Source: European Commission, 2025b.



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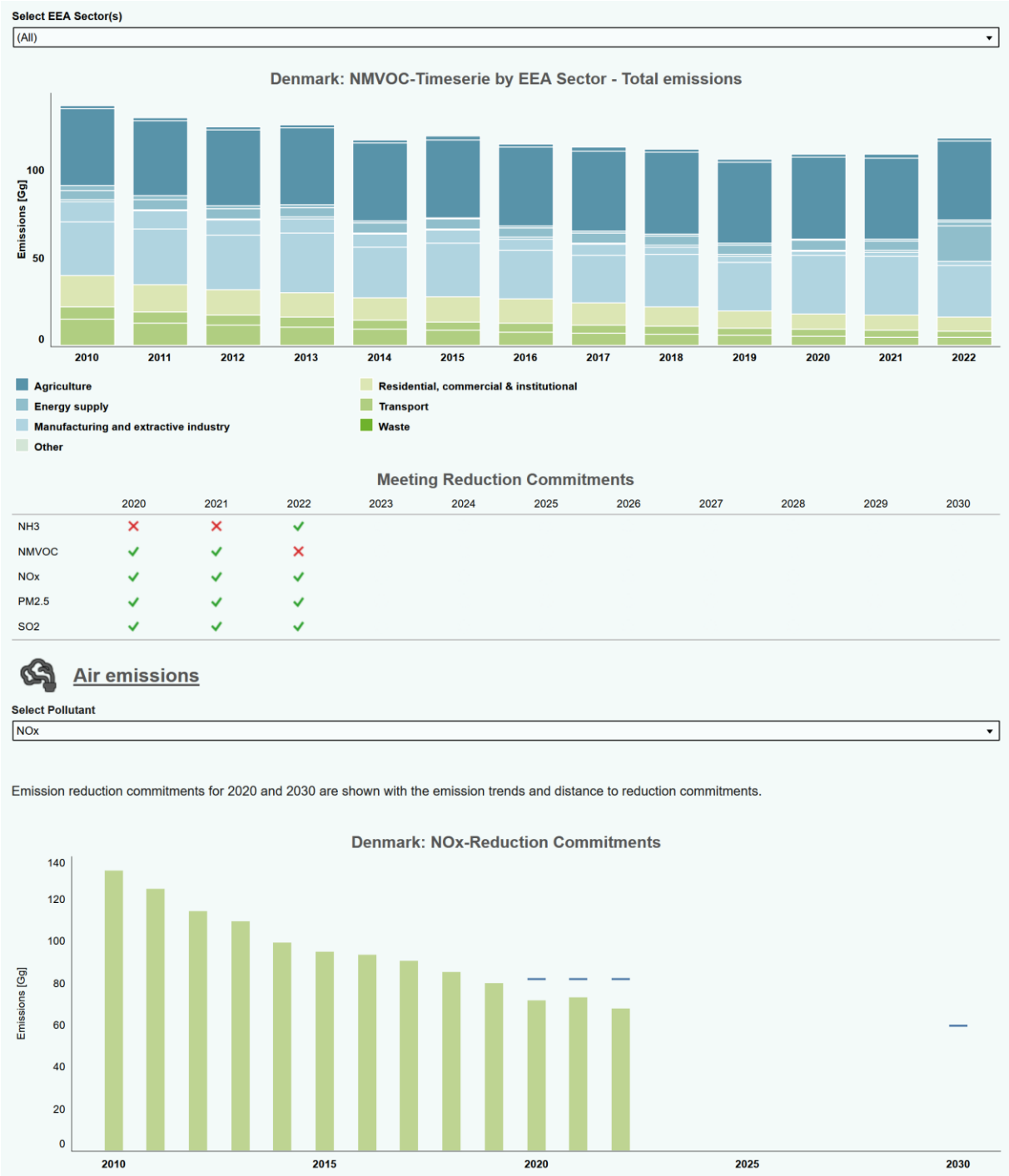
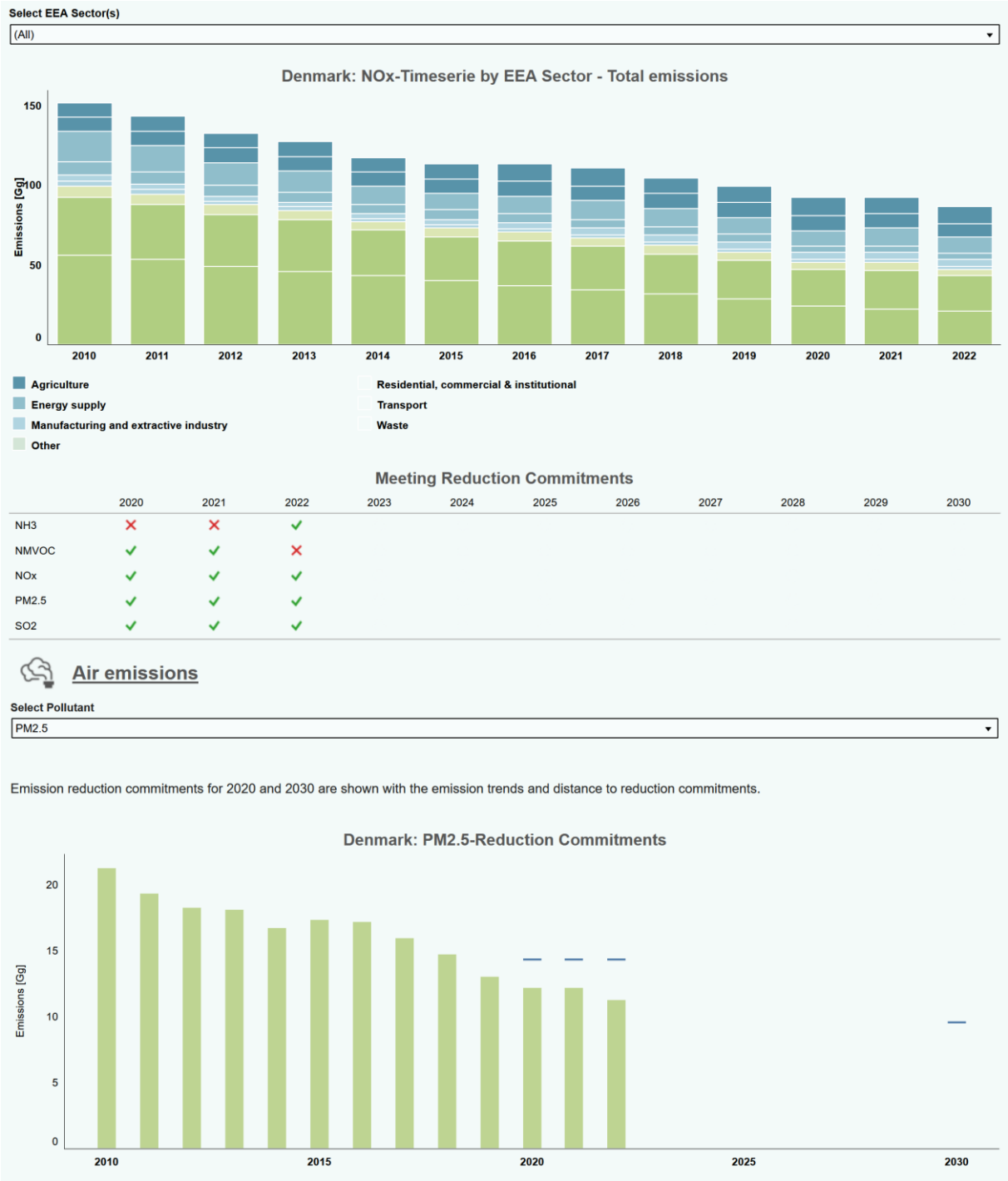
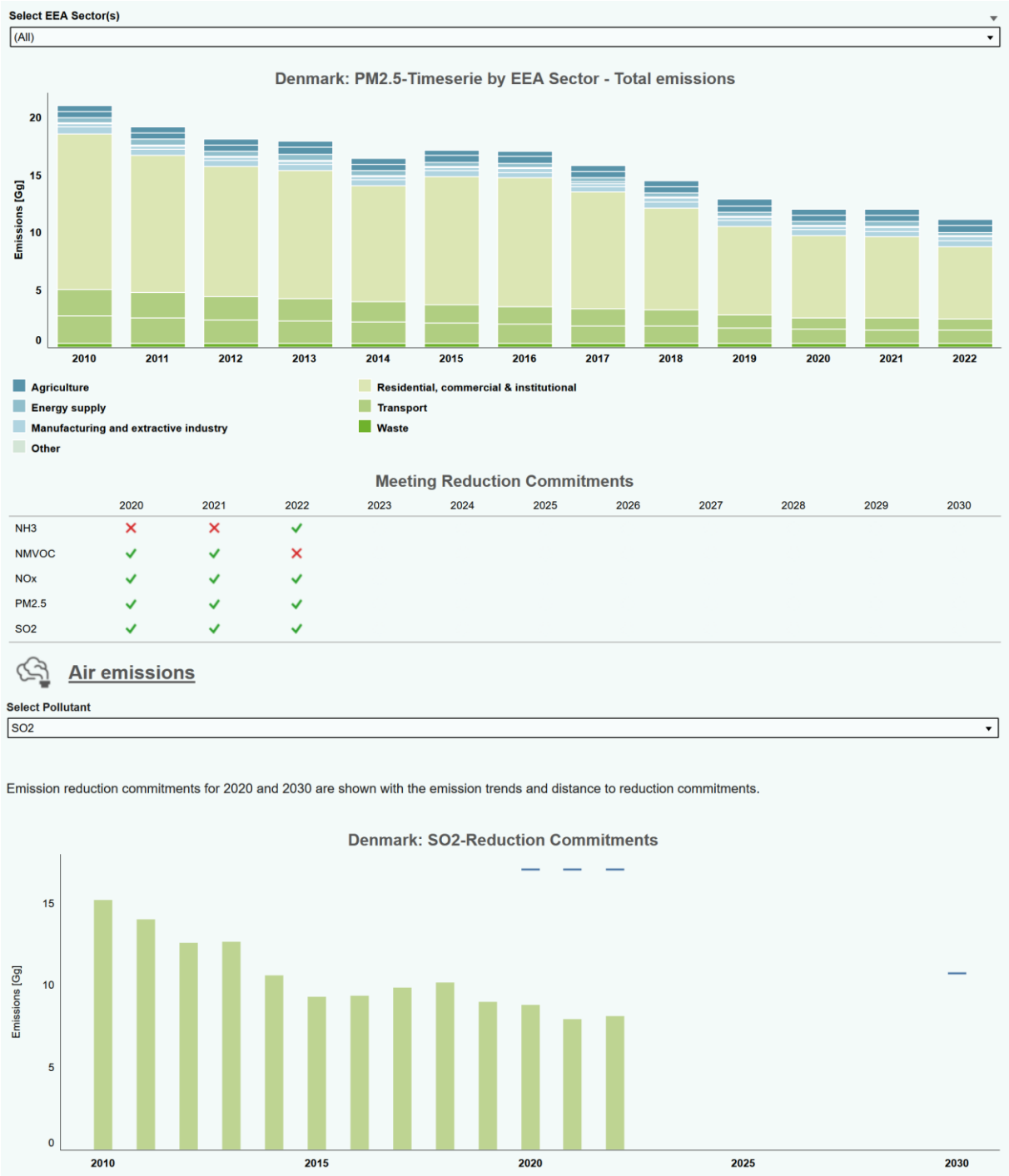


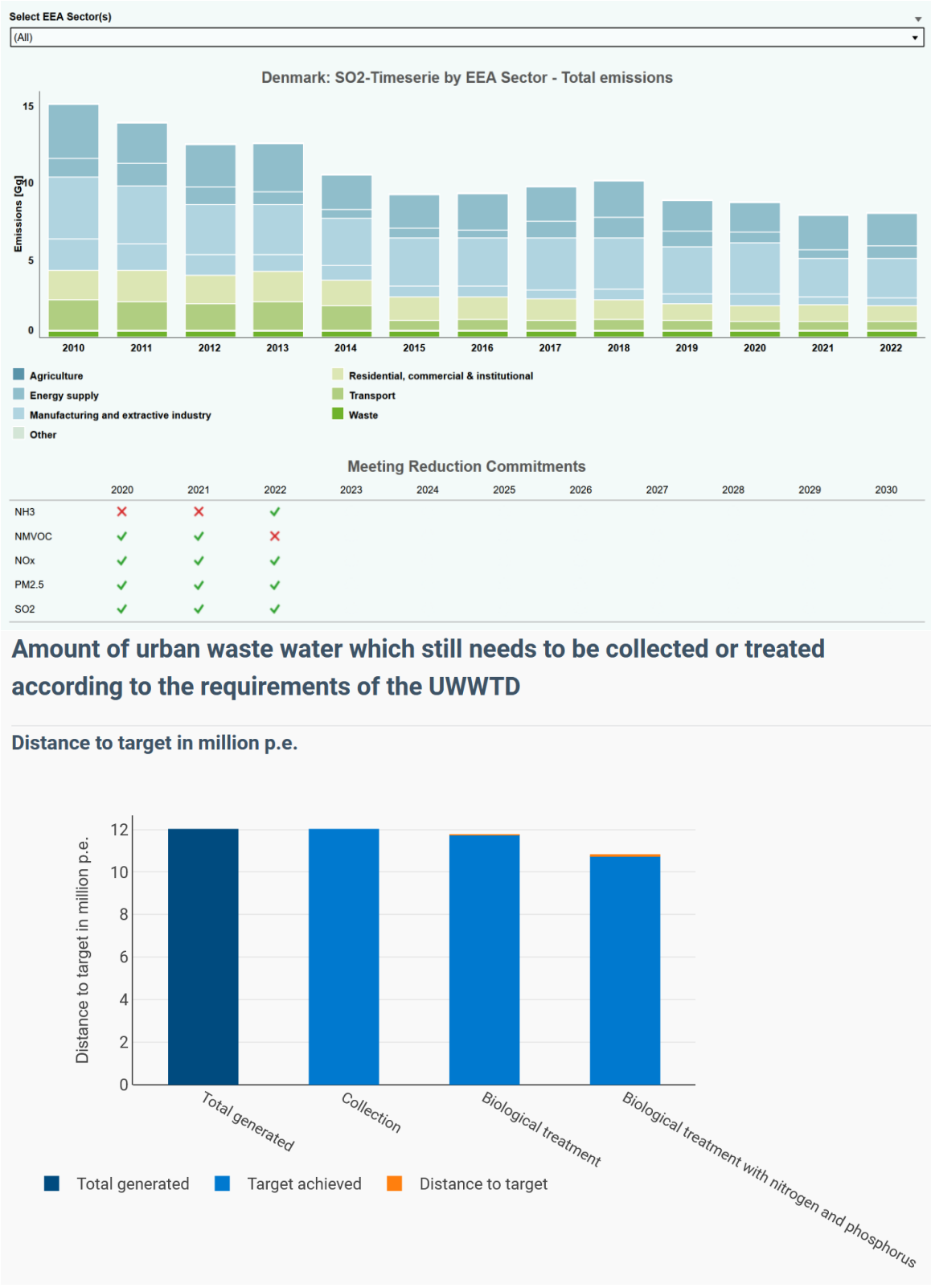
Source: European Commission, 2025b.



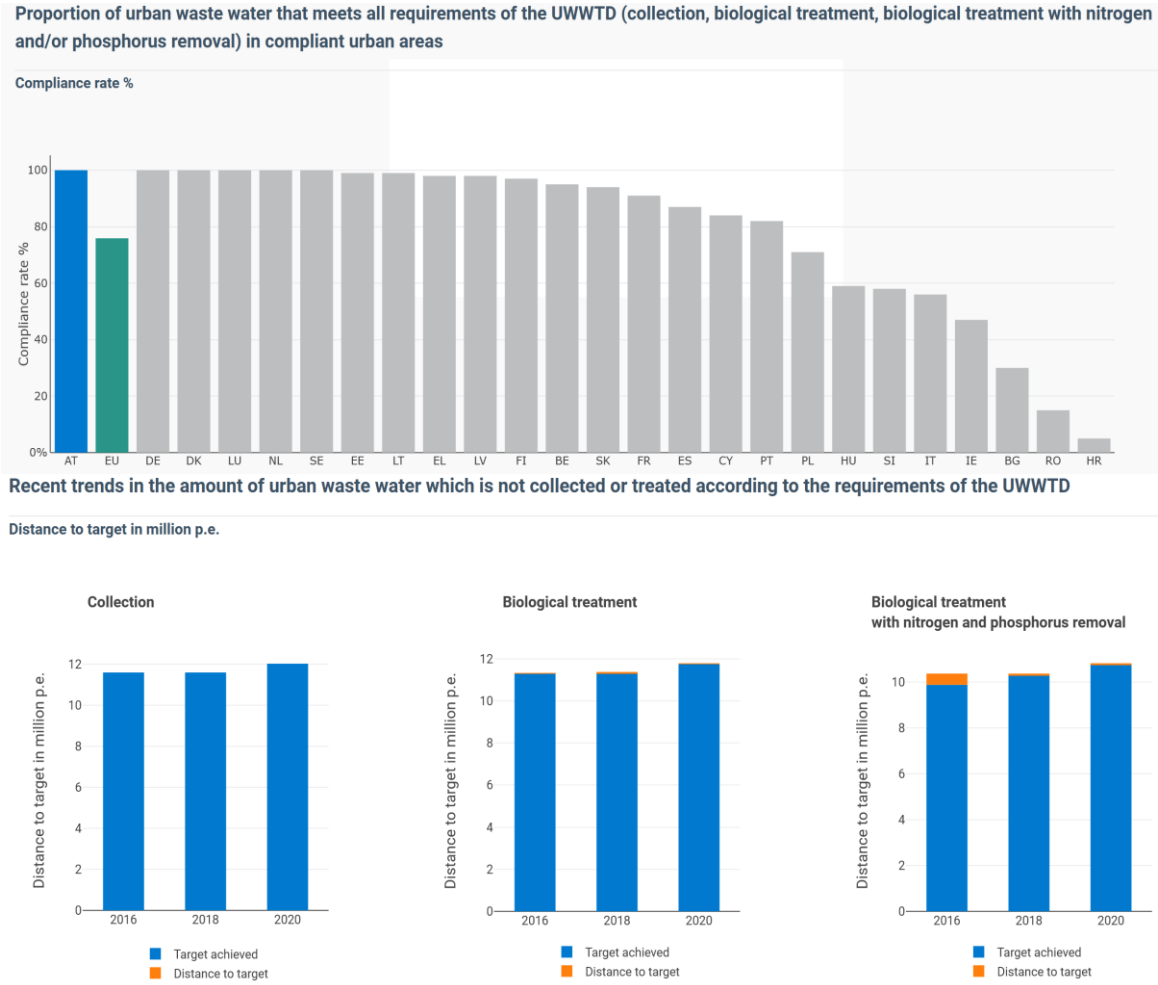
Source: European Commission, 2025b.



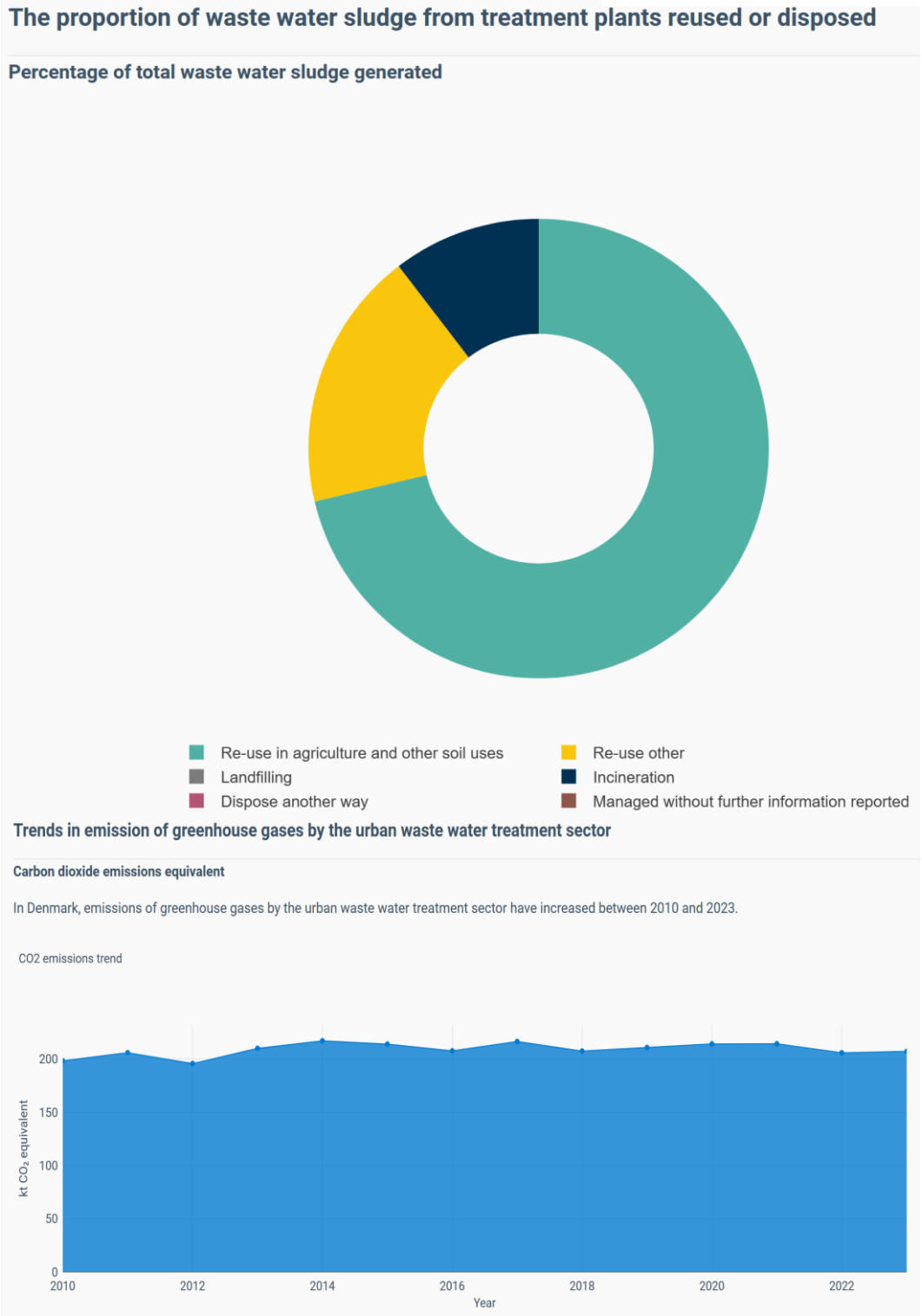
Source: European Commission, 2025b.



Source: European Commission, 2025b.



Source: European Commission, 2025b.

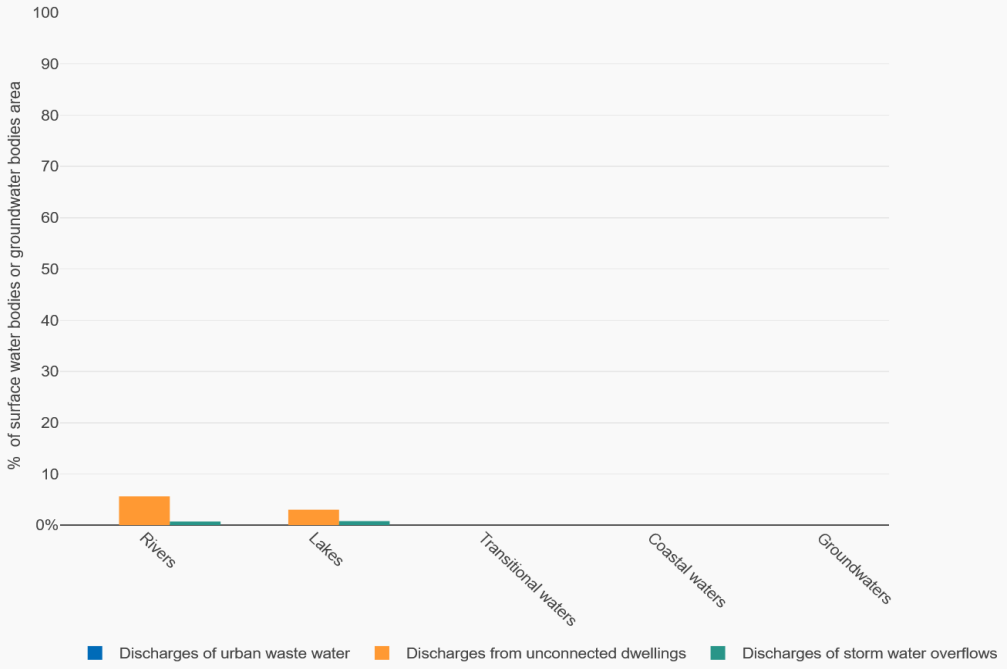


Source: European Commission, 2025b.

Percentage of different water body types having less than good water quality, and being affected significantly by discharges of urban waste water, discharges from unconnected dwellings and storm water overflows in the latest RBMPs

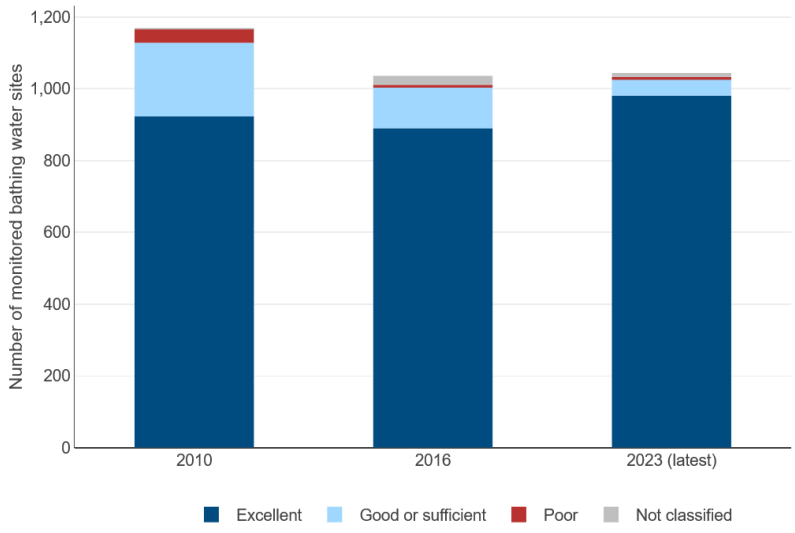
Percentage of surface water bodies or groundwater bodies area

Hover over the bars to see the number of surface water bodies and areas (Km^2) of groundwaters affected by urban waste water.

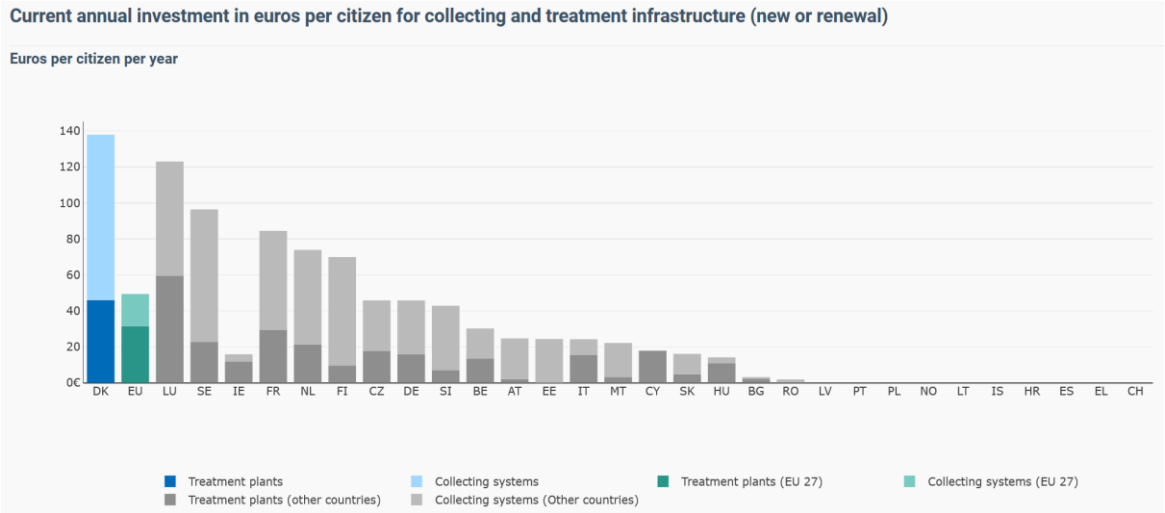


Progress in the number of monitored bathing water sites having excellent water quality in recent years

Number of monitored bathing water sites

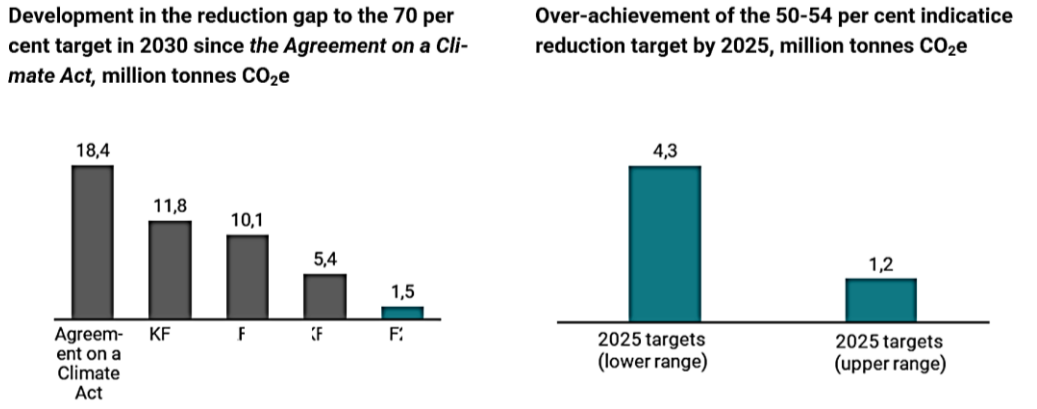


Source: European Commission, 2025b.



Source: European Commission, 2025b.

In Denmark, households and certain industries in 426 urban areas generate 12.0 million p.e. of waste water every day, which is an amount equivalent to around 24 million bathtubs or 2.4100001 million m3. According to the UWWTD, Denmark is required to provide in urban areas: (1) Collection of 12.0 million p.e. of waste water; (2) Biological treatment to 11.8 million p.e. of waste water; and (3) Biological treatment with nitrogen and phosphorus removal to 10.8 million p.e. of waste water. Denmark has met the targets for: (1) Collection of urban waste water and (2) nitrogen and phosphorus removal. Denmark generated 115,000 tonnes of waste water sludge in 2020. Emissions of greenhouse gases by the urban waste water treatment sector have increased between 2010 and 2023. Denmark currently invests 138 euros per citizen per year for new collecting and treatment infrastructure, as well as for the renewal of ageing infrastructure. This is above the EU average of 49 euros per citizen every year (European Commission, 2025b).



Note: The gap in the agreement on the climate act is based on CSO19 adjusted for the agreement on the 2020 Finance Act. Each CSO contains the effects of policies up to 31 December of the previous year. *CSO24 in the figure includes the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.

Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Diagram: Denmark's Climate and Energy Model - the integrated model and data platform. Some of the detailed assumptions and methods behind CSO24 are described in reports from the Danish Centre for Environment and Energy (DCE), the Department of Food and Resource Economics (IFRO), the Danish Centre for Food and Agriculture (DCA) and the Department of Geosciences and Natural Resource Management (IGN).

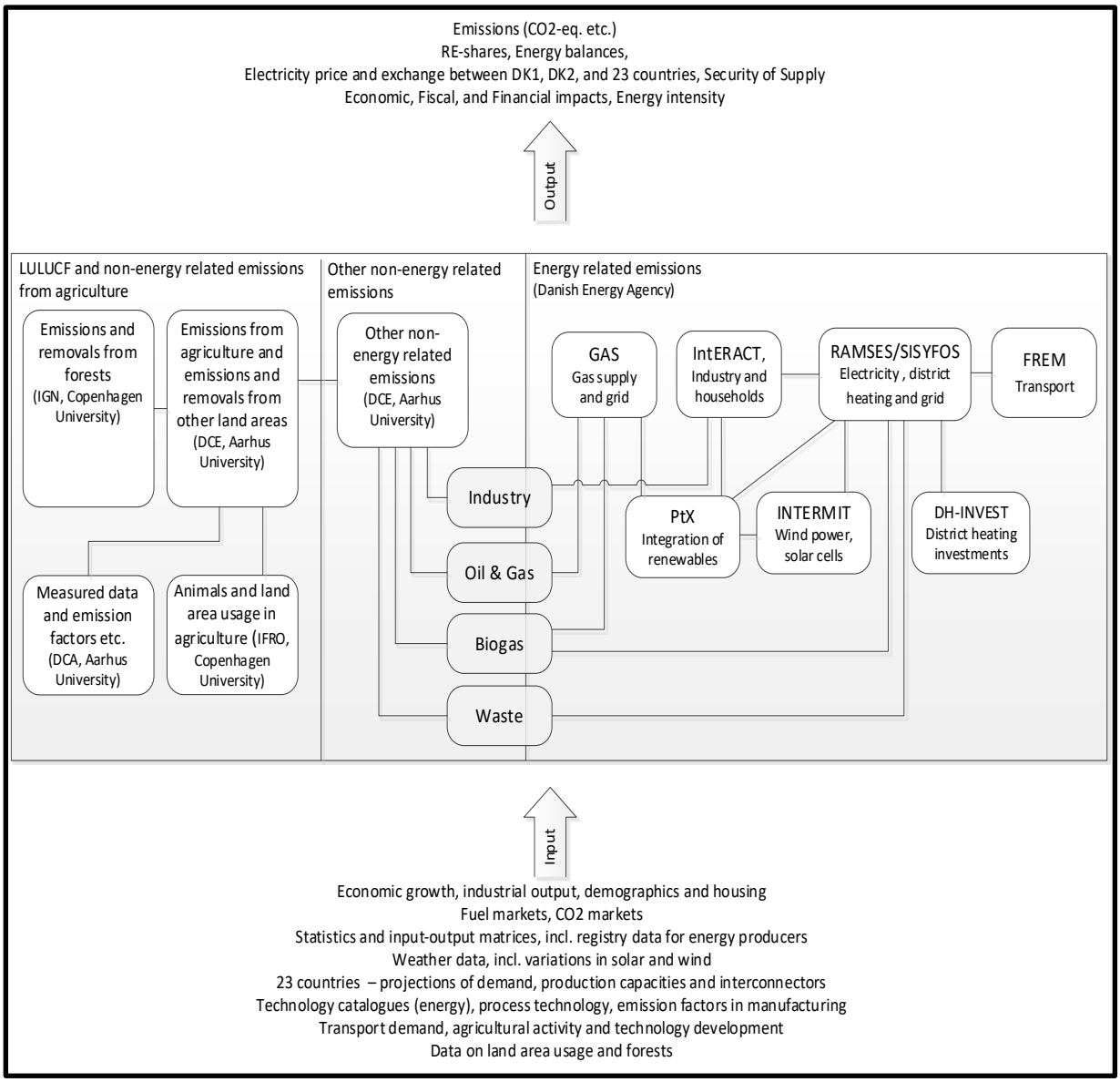


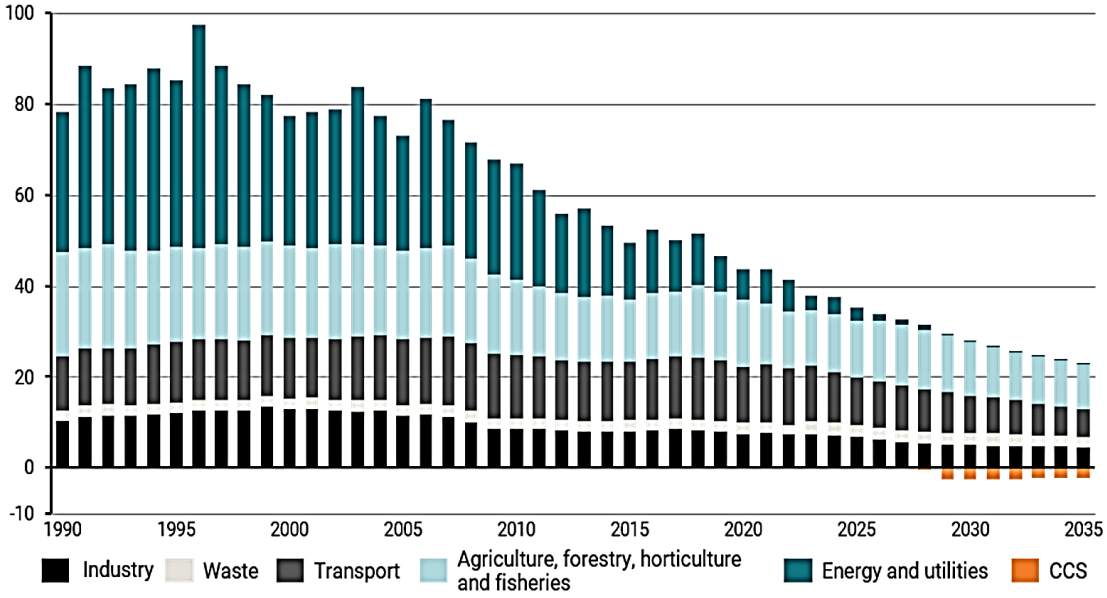
Figure 34. Climate Status and Outlook 2024 (CSO24)
Source: Danish Ministry of Climate, Energy and Utilities, 2025

Estimated gaps for Denmark's EU commitments, million tonnes CO_2e

Commitments	CSO23	CSO24
Burden-sharing agreement (2021-2030)	16.1	0.1*
LULUCF budget target (2021-2025)	-12.7	-30.6
LULUCF budget target (2026-2029)	8.8	3.8
LULUCF reduction target 2030	2.0	-0.2

Note: *The CSO24 gap under the burden-sharing agreement includes the partially estimated effect of the diesel and road tax from the Agreement on the partial implementation of the Green Fund.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

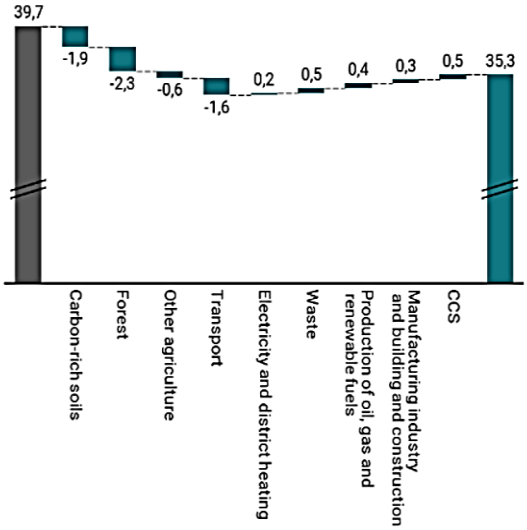
Development in CO_2e emissions and removals across sectors 1990-2035, million tonnes CO_2e



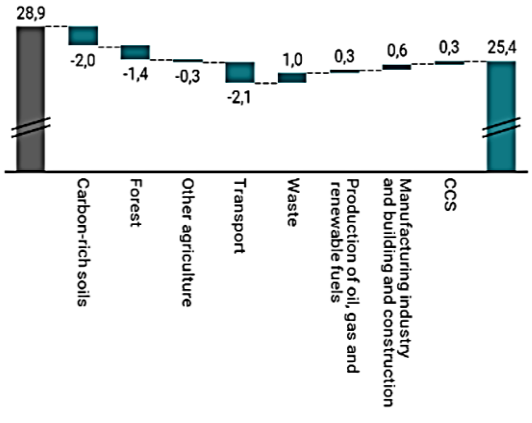
Note: The 'Industry' category covers the manufacturing industry and the building and construction sector as well as the production of oil, gas and renewable fuels. "Energy and utilities" covers the electricity and district heating sectors as well as households and service trades. CSO24 introduces CCS as a non-sectoral, negative emission in addition to the CCUS pool which is recognised in the electricity and district heating sectors. The figure does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.

Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Changes in total emissions in 2025 for CSO24 compared to CSO23, million tonnes CO_2e



Changes in total emissions in 2030 for CSO24 compared to CSO23, million tonnes CO_2e



Note: Rounding may cause numbers to not add up to the total. The figure does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc. Changes in households and service trades between CSO23 and CSO24 are less than 0.1 million tonnes CO2e and are therefore not included in the figure.

Source: Danish Ministry of Climate, Energy and Utilities, 2025.

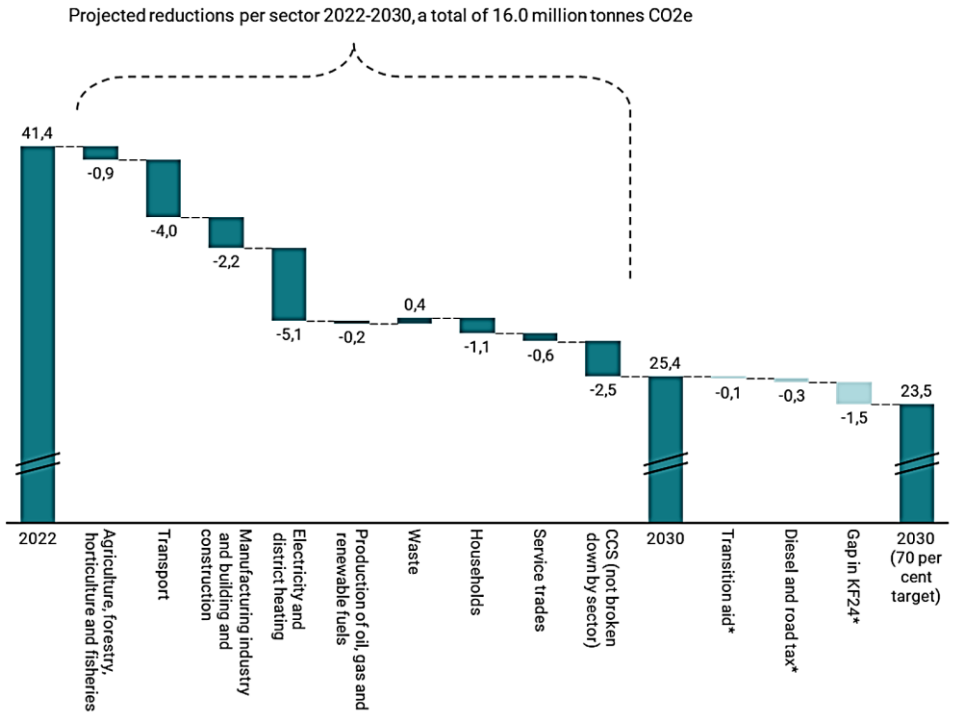
Development in emissions across sectors in selected years, million tonnes CO_2e

	1990	2022	2025	2030	2035
Agriculture, forestry, horticulture and fisheries (incl. energy)	22.9	12.6	12.6	11.7	9.9
Transport	11.7	12.4	10.6	8.4	6.0
Manufacturing industry and building and construction	8.0	4.8	4.2	2.7	2.5
Electricity and district heating	24.4	4.8	1.4	-0.3	-0.3
Production of oil, gas and renewable fuels	2.2	2.4	2.5	2.2	2.1
Waste (incl. waste incineration)	2.5	2.3	2.7	2.7	2.2
Households	5.1	1.4	0.9	0.4	0.3
Service trades	1.4	0.7	0.5	0.2	0.1
CCS (not broken down by sector)	0.0	0.0	0.0	-2.5	-2.3
In total	**78.3**	**41.7**	**35.3**	**25.4**	**20.4**

Note: The table includes statistical difference compared to DCE in historical years, specifically for 1990 and 2022. The table does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc. CSO24 introduces CCS as a non-sectoral, negative emission in addition to the CCUS pool, which is recognized in the electricity and district heating sector.

Source: Danish Ministry of Climate, Energy and Utilities, 2025.

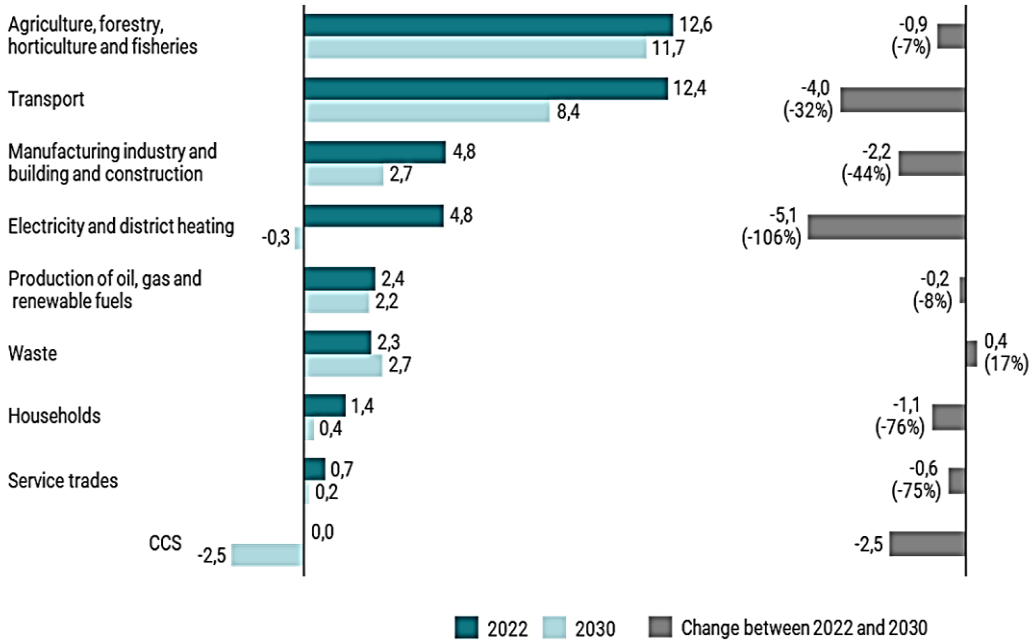
Breakdown of estimated reductions from 2022 to 2030, million tonnes CO_2e



Note: Rounding may cause numbers to not add up to the total. The figure excludes adjustment for statistical difference compared to DCE in 2022. The figure includes the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.

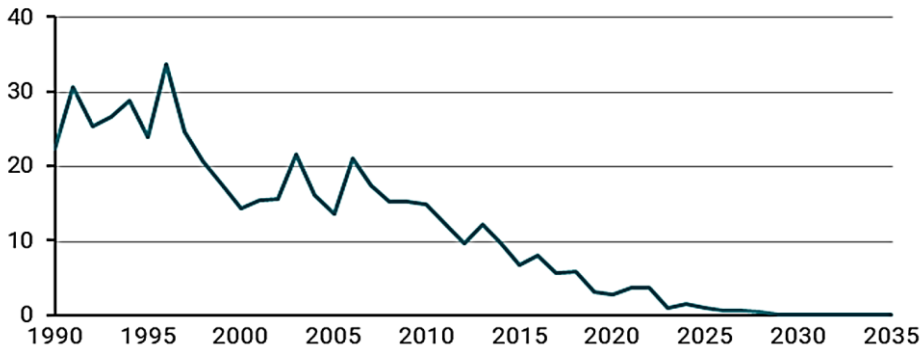
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2022 and 2030 and expected reductions 2022-2030 per sector, million tonnes CO_2e



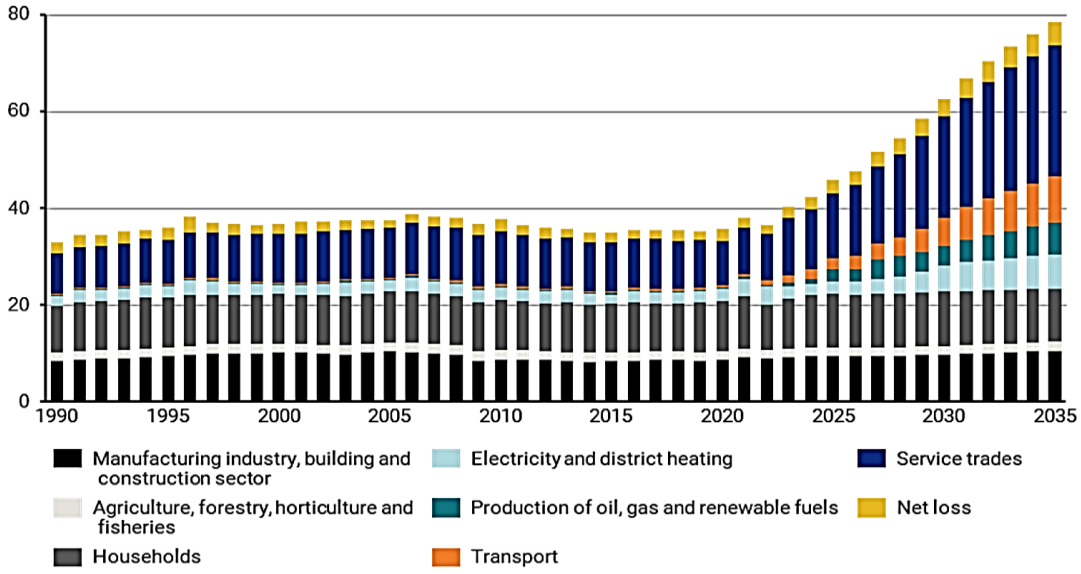
Note: Rounding may cause changes to not add up to the total.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions from the production of coal power heat 1990-2035, million tonnes CO_2e



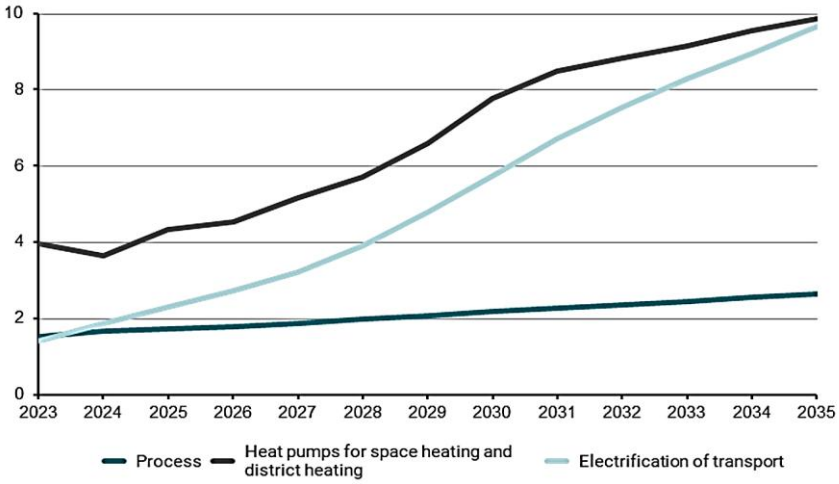
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Total electricity consumption by sector 1990-2035, TWh



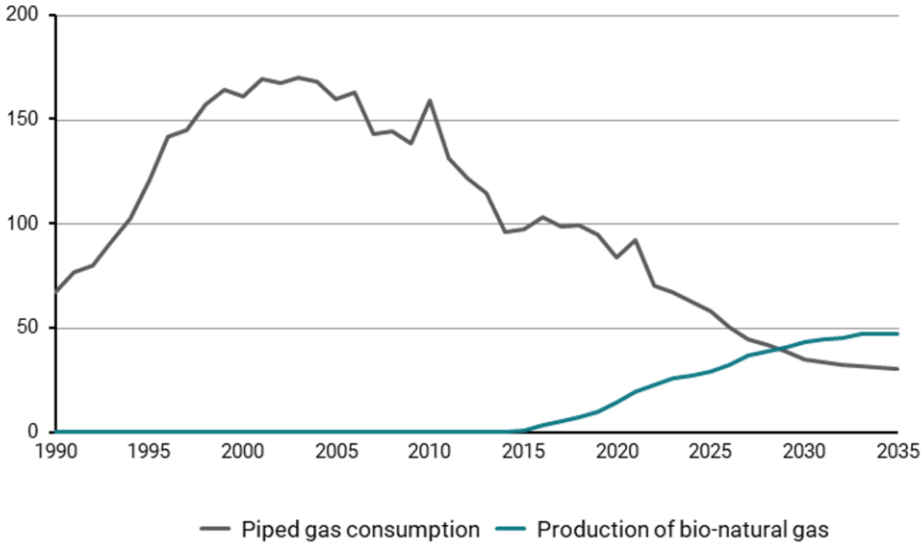
Source: Danish Ministry of Climate, Energy and Utilities, 2025

Estimated electricity consumption for space heating, process energy and transport, TWh



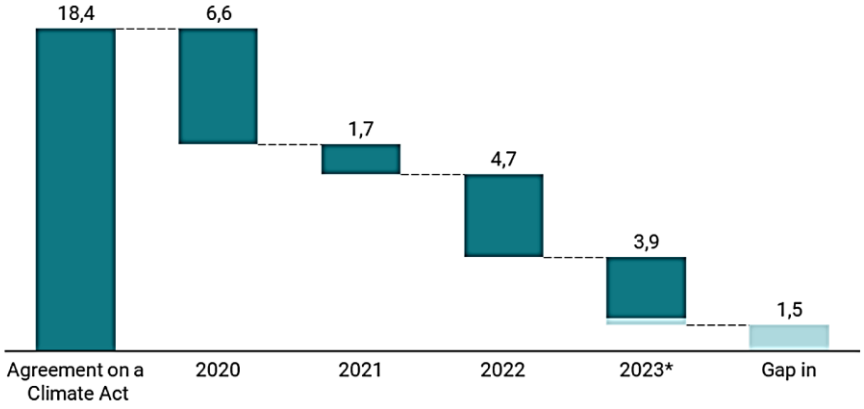
Note: Electricity consumption in transport covers electrification of road transport, shipping, rail transport etc.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Piped gas consumption and production of bio-natural gas 1990-2035, PJ



Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Development in the reduction gap in 2030 since the *Agreement on a Climate Act* in 2019, million tonnes CO_2e



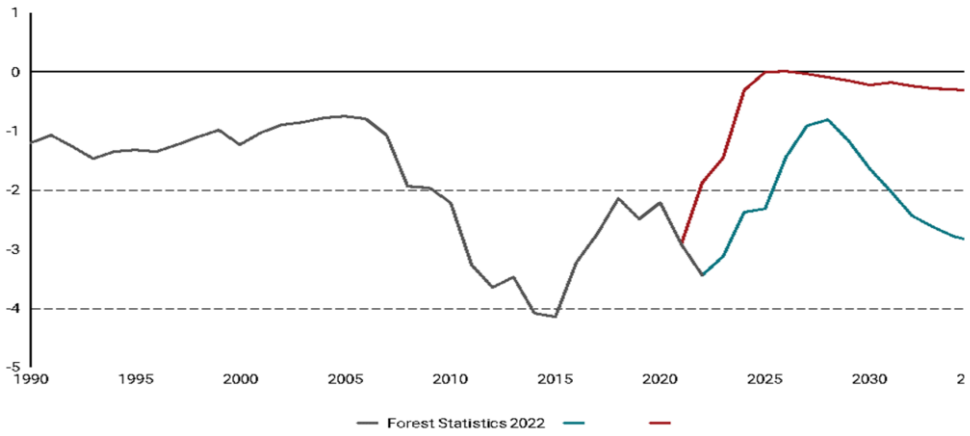
Note: The year indicates the year of publication of the relevant climate projection. For example, "2022" shows the change in the reduction gap estimate between CSO21 and CSO22. The reduction gap estimate in the agreement on the climate act is based on the 2019 Basic projection (CSO19) adjusted for the agreement on the 2020 Finance Act. The gap change for each CSO contains the effects of policies up to 31 December of the previous year. *Change from CSO23 to CSO24 includes the partially estimated effect of the diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.
Source: Danish Ministry of Climate, Energy and Utilities.

Changes in total emissions in 2025 and 2030 for CSO24 compared to CSO23, million tonnes CO_2e

	2025	2030
Total emissions (CSO23)	**39.7**	**28.9**
Carbon-rich soils	-1.9	-2.0
Forest	-2.3	-1.4
Other agriculture	-0.6	-0.3
Transport	-1.6	-2.1
Electricity and district heating	0.2	0.0
Waste	0.5	1.0
Production of oil, gas and renewable fuels	0.4	0.3
Manufacturing industry and building and construction	0.3	0.6
CCS (not broken down by sector)	0.5	0.3
Total emissions (CSO24)	**35.3**	**25.4**

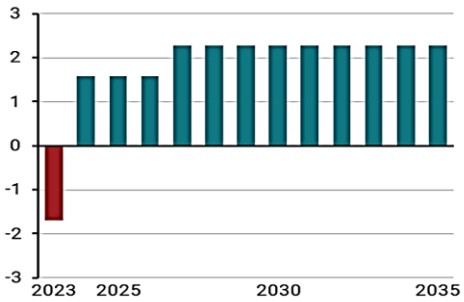
Note: Rounding may cause numbers to not add up to the total. Changes in the household and service trade sectors are less than 0.1 million tonnes CO2e and are not included in the table.
Source: Danish Ministry of Climate, Energy and Utilities.

Emissions and removal from forests and harvested wood products in CSO23 and CSO24, million tonnes CO_2e

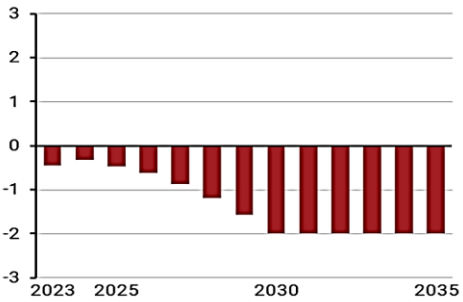


Note: Negative values indicate removal, and positive values indicate carbon emissions.
Source: The Ministry of Climate, Energy and Utilities, 2025.

Price difference on diesel between Denmark and Sweden, DKK

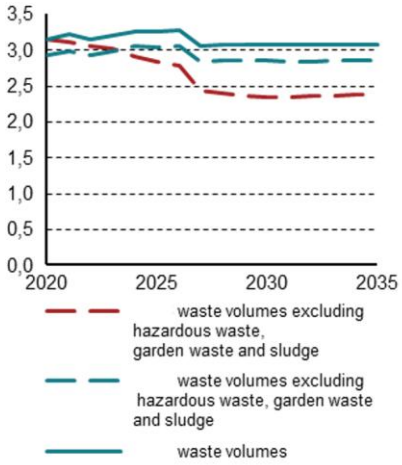


Price difference on diesel between Denmark and Germany, DKK

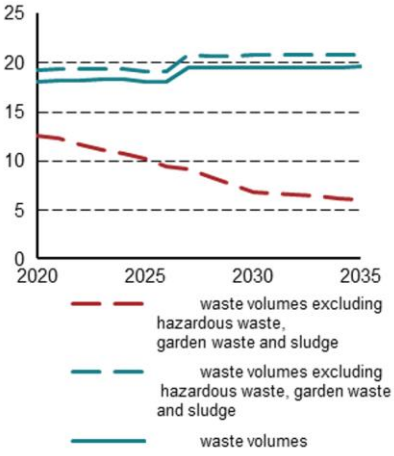


Note: The price difference is shown in DKK relative to Danish diesel prices for the consumer. A positive price difference assumes a higher diesel price in Denmark relative to the neighbouring country. The development of cross-border trade is estimated based on the development of prices and regulation in Denmark, Sweden and Germany.
Source: The Ministry of Climate, Energy and Utilities, 2025.

Development in the volume of Danish waste suitable for incineration, million tonnes of waste

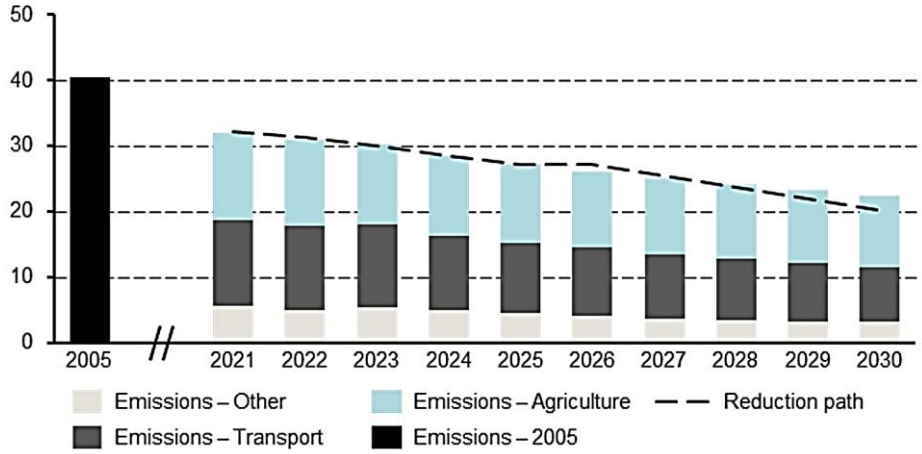


Development in fossil content in Danish waste suitable for incineration, per cent



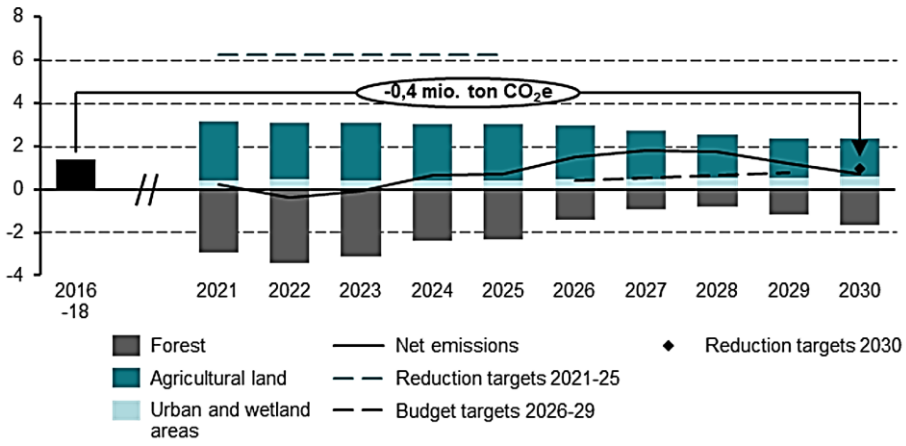
Source: The Ministry of Climate, Energy and Utilities, 2025.

Status of Denmark's fulfilment of the burden-sharing agreement, million tonnes CO_2e



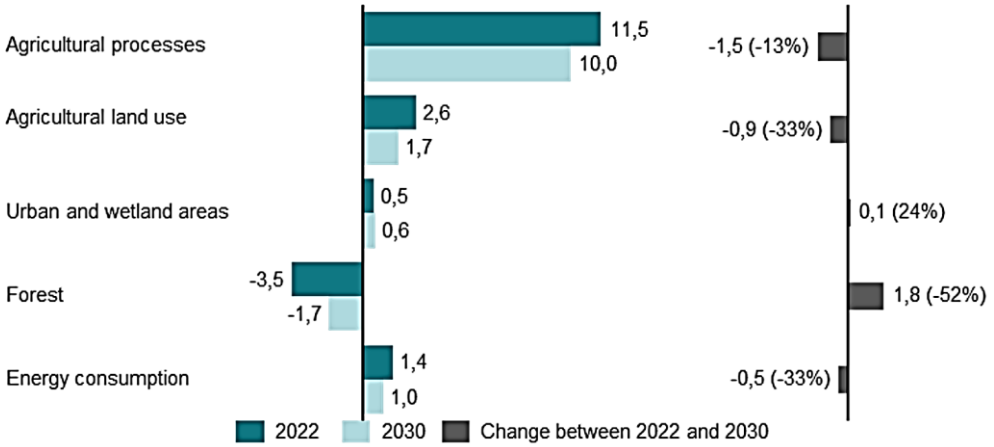
Note: The figure does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Status of Denmark's fulfilment of the LULUCF Regulation, million tonnes CO_2e



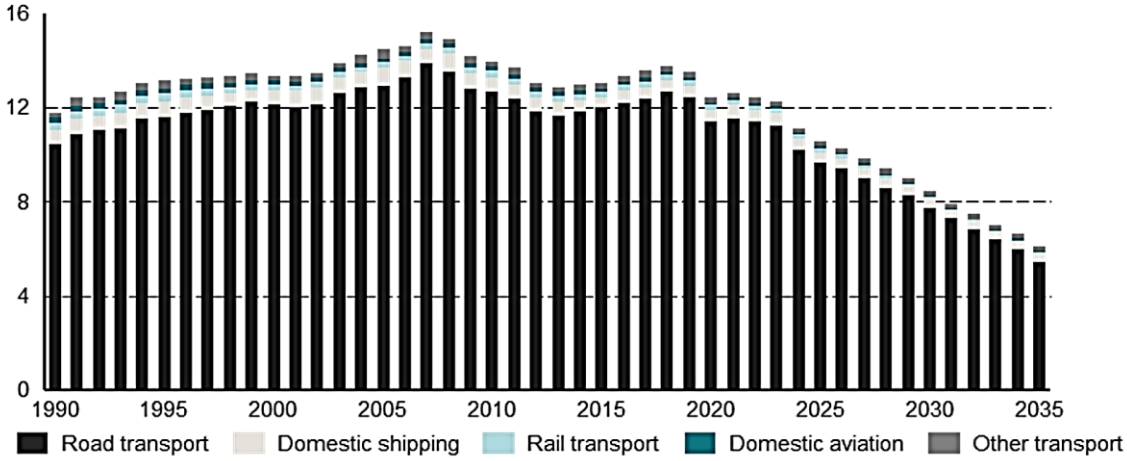
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Distribution of emissions in 2022 and 2030 across subsectors, million tonnes CO_2e



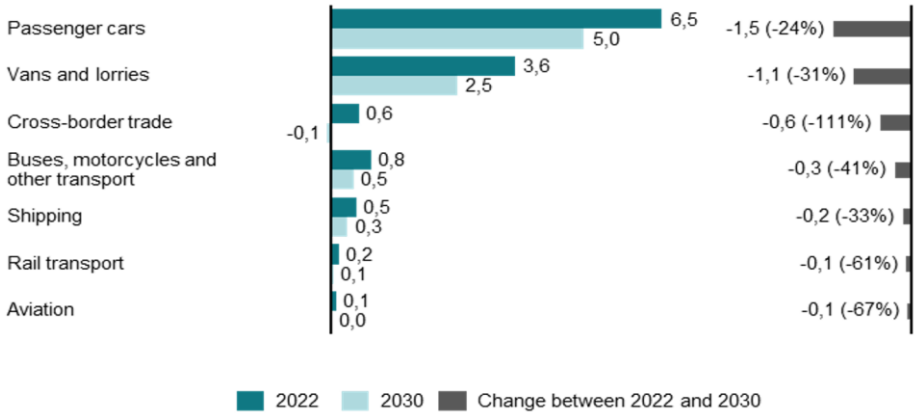
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Transport sector emissions and removals 1990-2035 by subsector, million tonnes CO_2e



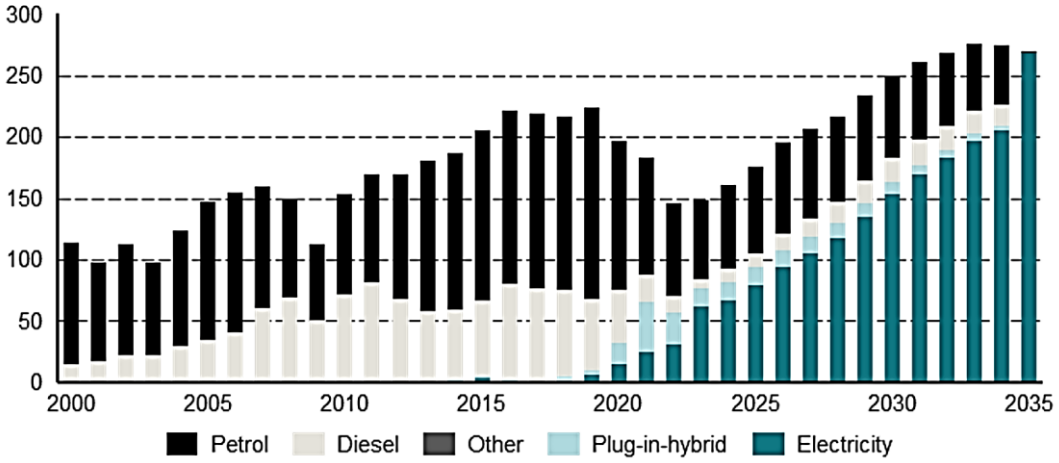
Note: The figure does not include partially estimated effects of the diesel and road tax from the Agreement on the partial implementation of the Green Fund.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2022 and 2030 across subsectors in transport, million tonnes CO_2e



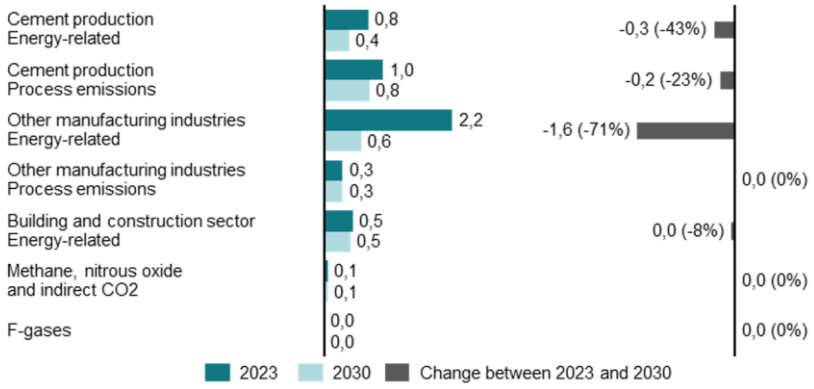
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Sales of new cars, thousands



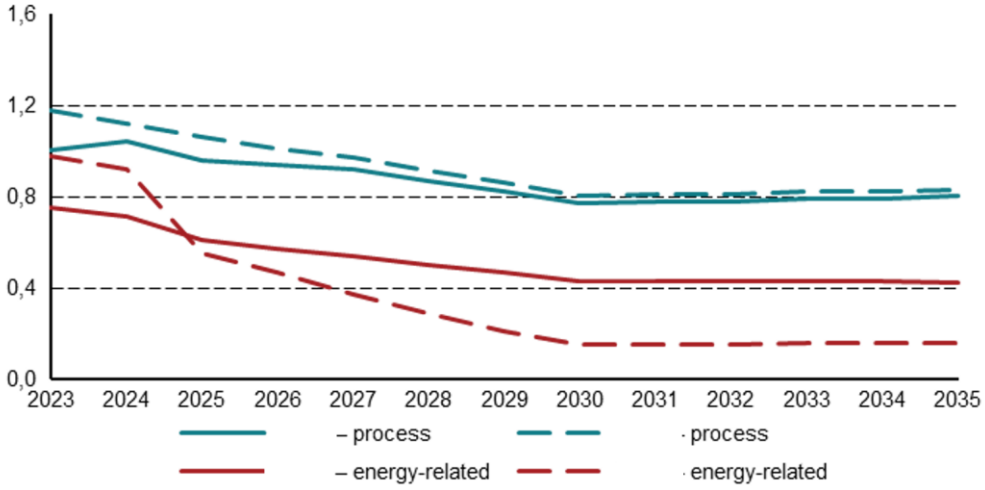
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2023 and 2030 across emission types in the manufacturing industry and in the building and construction sector, million tonnes CO_2e

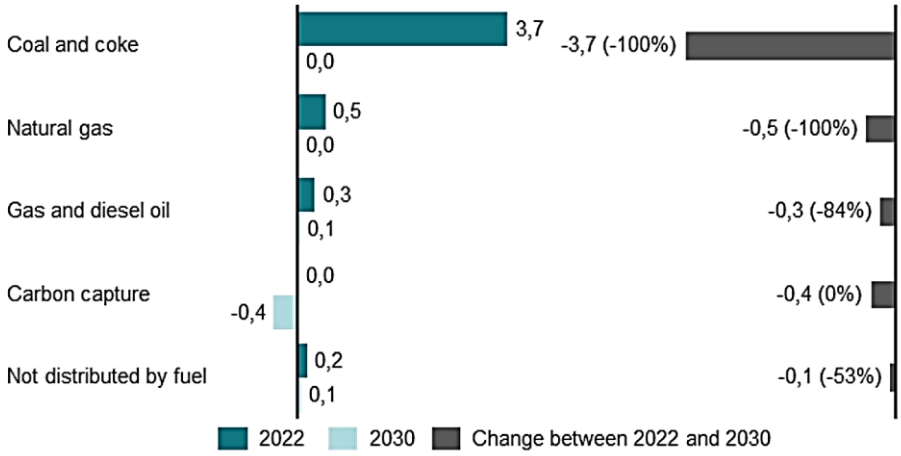


Note: Energy statistics do not break down emissions at detailed industry level, and estimated values for 2023 are therefore used as a reference to calculate energy-related emissions from the cement industry separately from manufacturing industries
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions from cement production in CSO24 compared to CSO23, million tonnes CO_2e

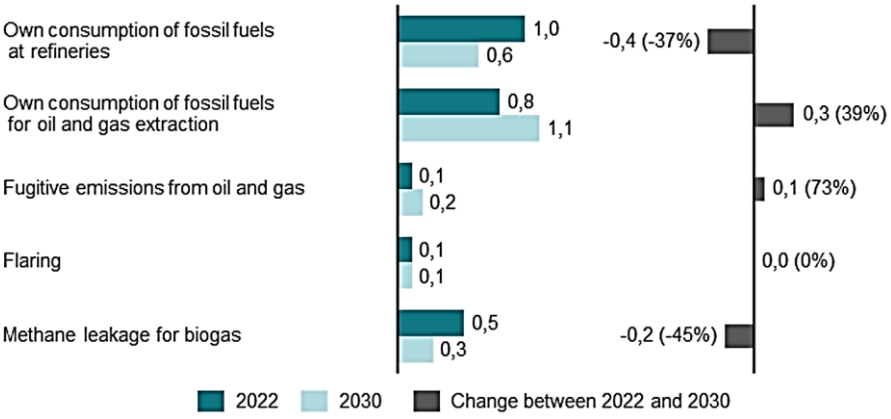


Source: Danish Ministry of Climate, Energy and Utilities, 2025.



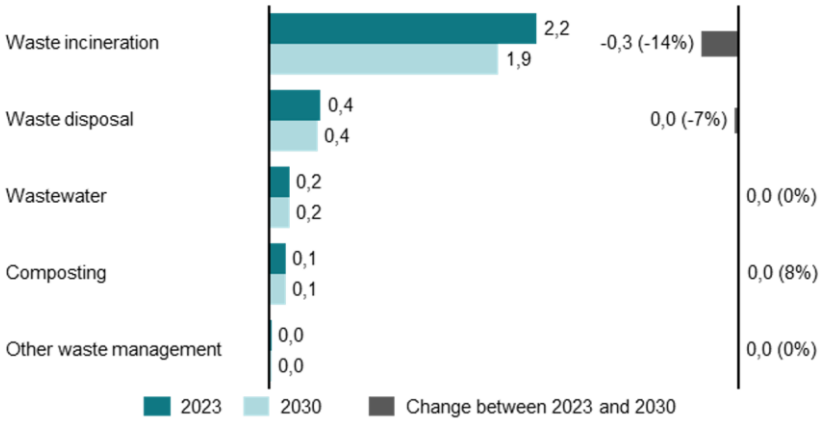
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2022 and 2030 across types in the production of oil, gas and renewable fuels, million tonnes CO_2e



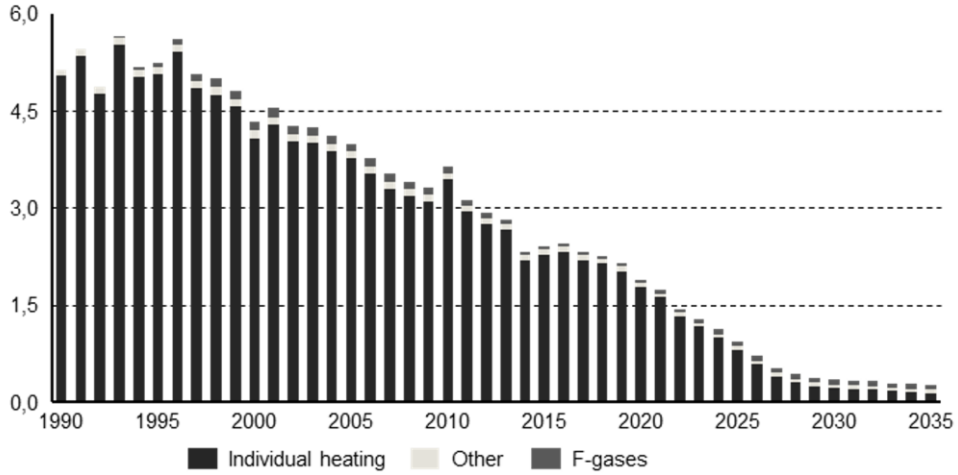
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2023 and 2030 across types in the waste sector, million tonnes CO_2e



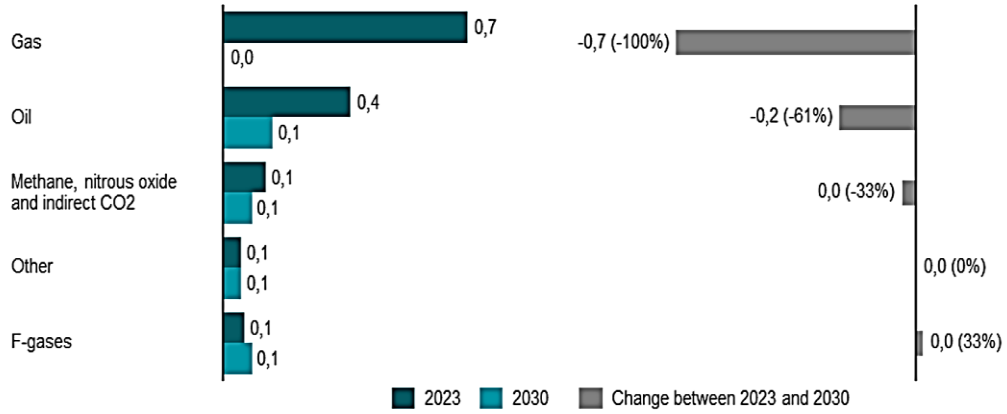
Note: The new waste projection had a data breach between 2022 and 2023. The development towards 2030 is therefore compared to 2023.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Household emissions 1990-2035 by emission source, million tonnes CO_2e



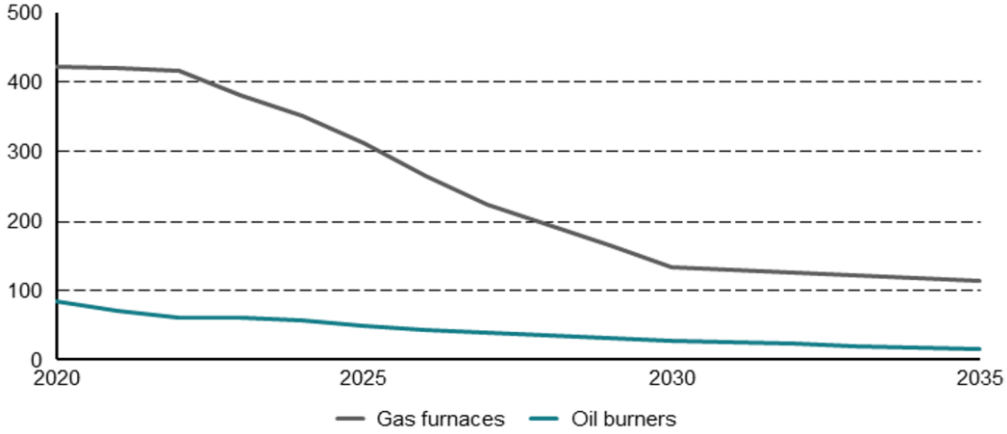
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2023 and 2030 across emission sources in households, million tonnes CO_2e



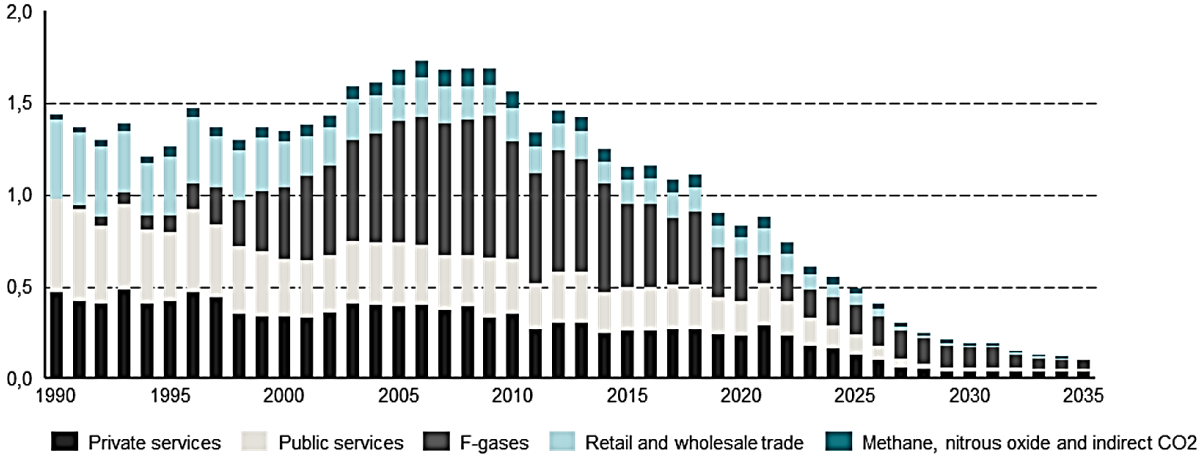
Note: The figure shows the estimated change from 2023 to 2030. Energy consumption in 2022 is estimated to be extraordinarily low due to high energy prices, and 2023 is therefore used as the reference year for households rather than 2022 (cf. chapter 27 Households in Klimastatus og -fremskrivning 2024).
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Households with oil burners and gas furnaces as primary heating, thousands



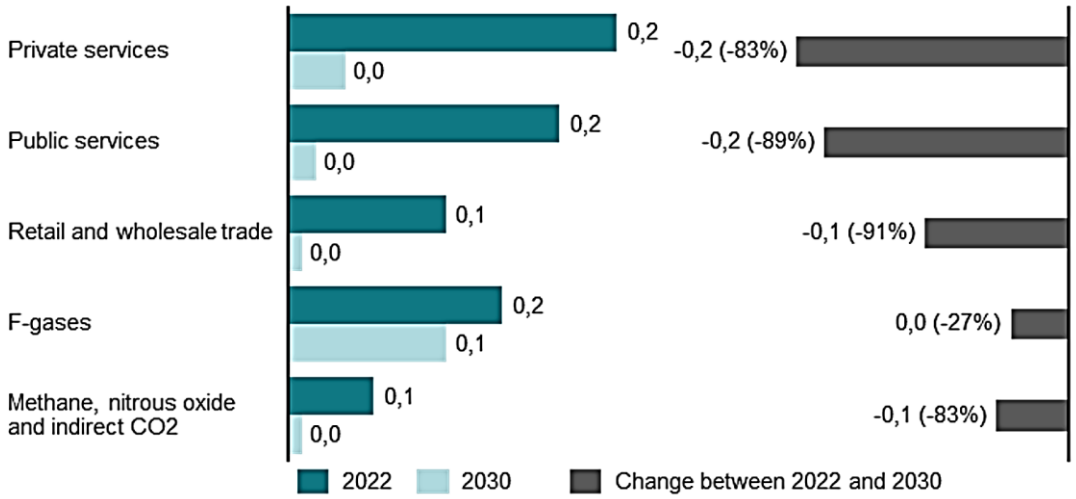
Note: In this context, households are defined as occupied dwellings.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Service trade emissions 1990-2035 by subsector, million tonnes CO_2e



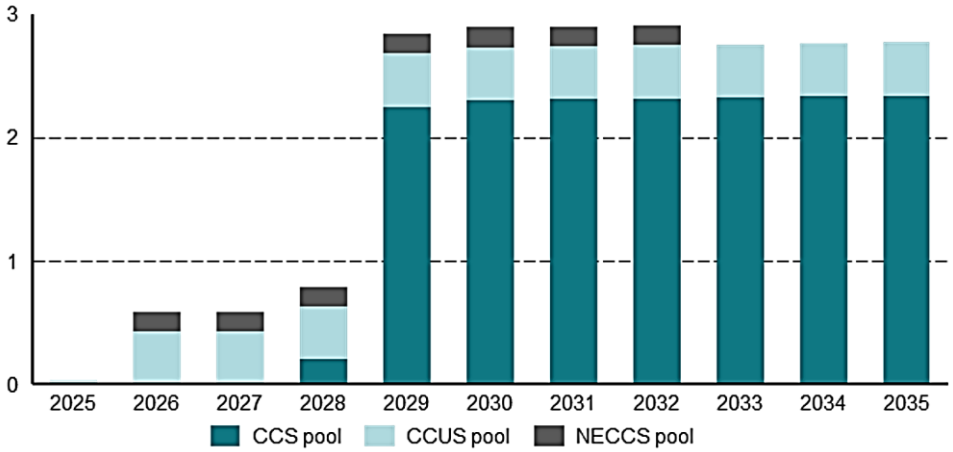
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Emissions in 2022 and 2030 across subsectors in service trades, million tonnes CO_2e



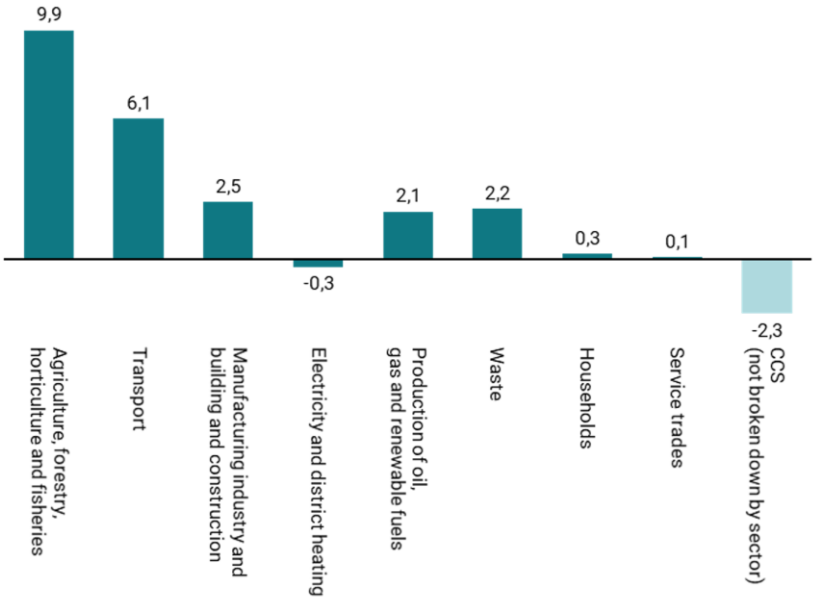
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

CCS sector contribution to carbon reductions in 2025-2035, million tonnes CO_2



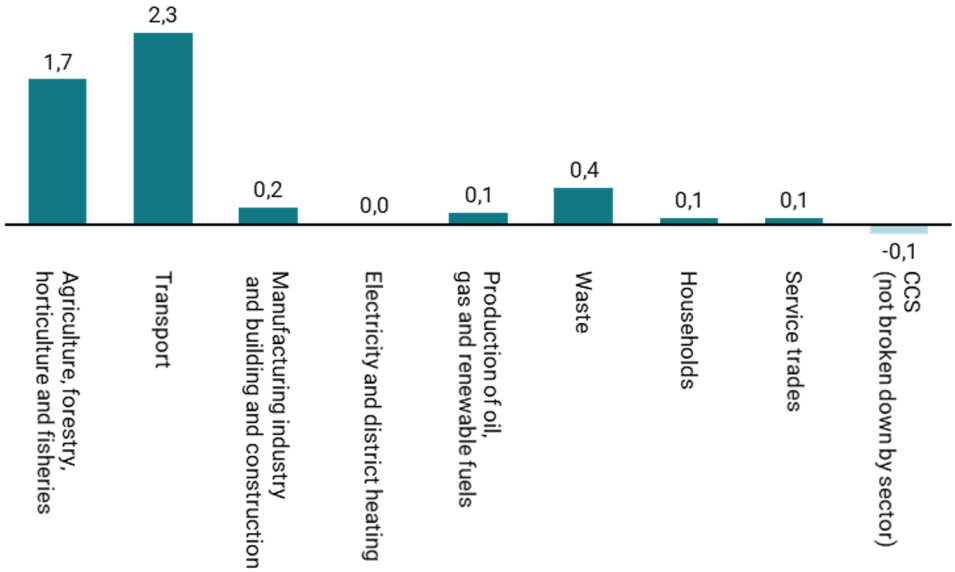
Note: Estimated reductions of the CCUS pool are recognized in the electricity and district heating sector.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Estimated emissions in 2035 by subsector, million tonnes CO_2e



Note: The figure does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

Estimated emission reductions from 2030 to 2035, million tonnes CO_2e



Note: Negative numbers indicate increased emissions. The figure does not include the partially estimated effect of diesel and road tax from the Agreement on the partial implementation of the Green Fund and the partially estimated effect of the transition aid from the Agreement on the implementation of the transition aid from the Green tax reform for industry etc.
Source: Danish Ministry of Climate, Energy and Utilities, 2025.

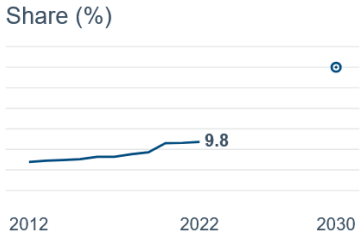
(3) GERMANY

Country benchmark towards 2030 targets/objectives

- **Achieved**: current levels have already reached the 2030 target/objective
- **On track:** target/objective will be reached following the historic trend
- **Acceleration needed:** target/objective will not be reached following the historical trend
- **Wrong direction:** the historical trend is not in the direction of the target/objective
- **Not assessed:** benchmark not applicable

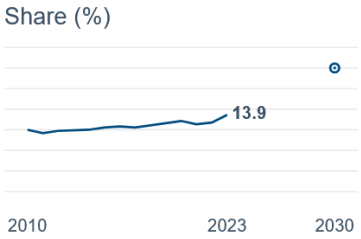
Area under organic farming

Acceleration needed



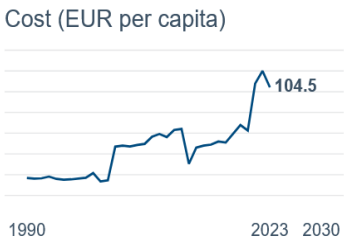
Circular material use rate

Acceleration needed



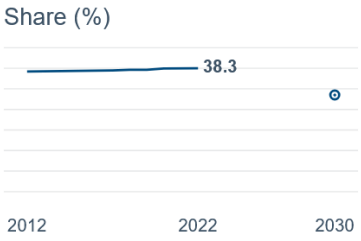
Climate-related economic losses

Wrong direction



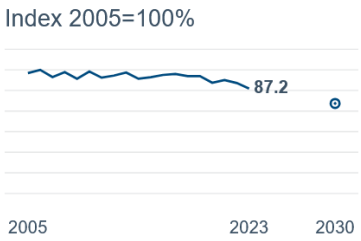
Designated terrestrial protected areas

Achieved



Final energy consumption

Acceleration needed



Greenhouse gas emissions and removals in land and forests

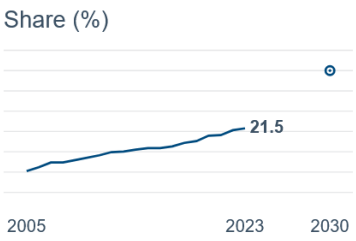
Not assessed

Health impacts of air pollution

Not assessed

Share of renewable energy in final energy consumption

Acceleration needed



Total greenhouse gas emissions (without LULUCF)

Not assessed

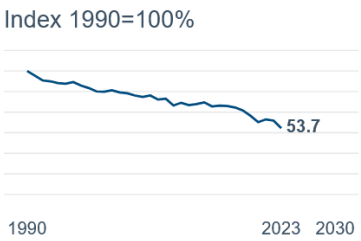
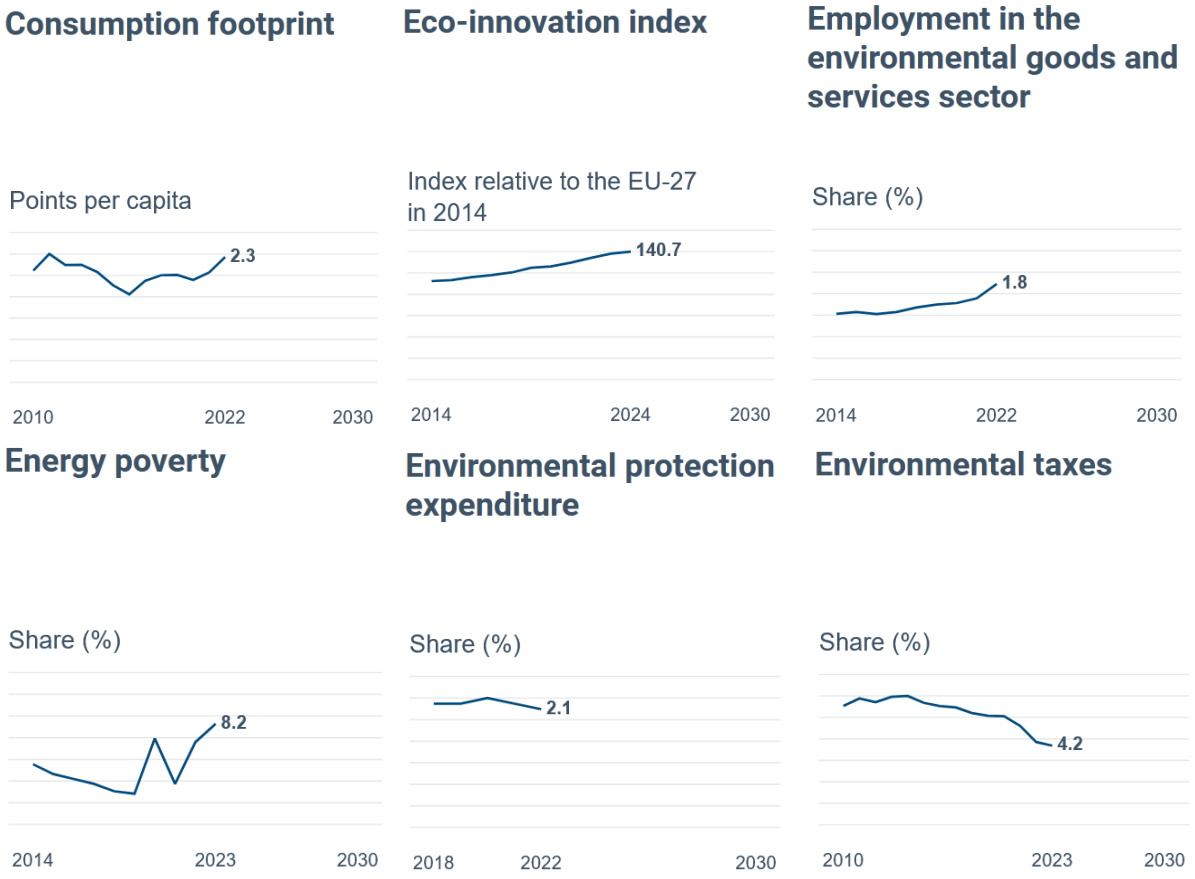


Figure 39. Germany: Environment and climate trends and assessments
Source: EEA, 2025v

The German government has prioritized renewable energy and biodiversity protection, phasing out nuclear power in 2023 and advancing its coal phase-out plan. Groundwater quality remains a concern, with 32.7% of bodies failing to reach chemical standards, primarily due to nitrate and phosphorus pollution. Only 9% of surface water meets the 'good ecological status' requirement under the EU Water Framework Directive. Average temperatures in Germany have risen by 1.7 °C since 1881, with the past five years featuring extreme heat and droughts (EEA, 2025v).



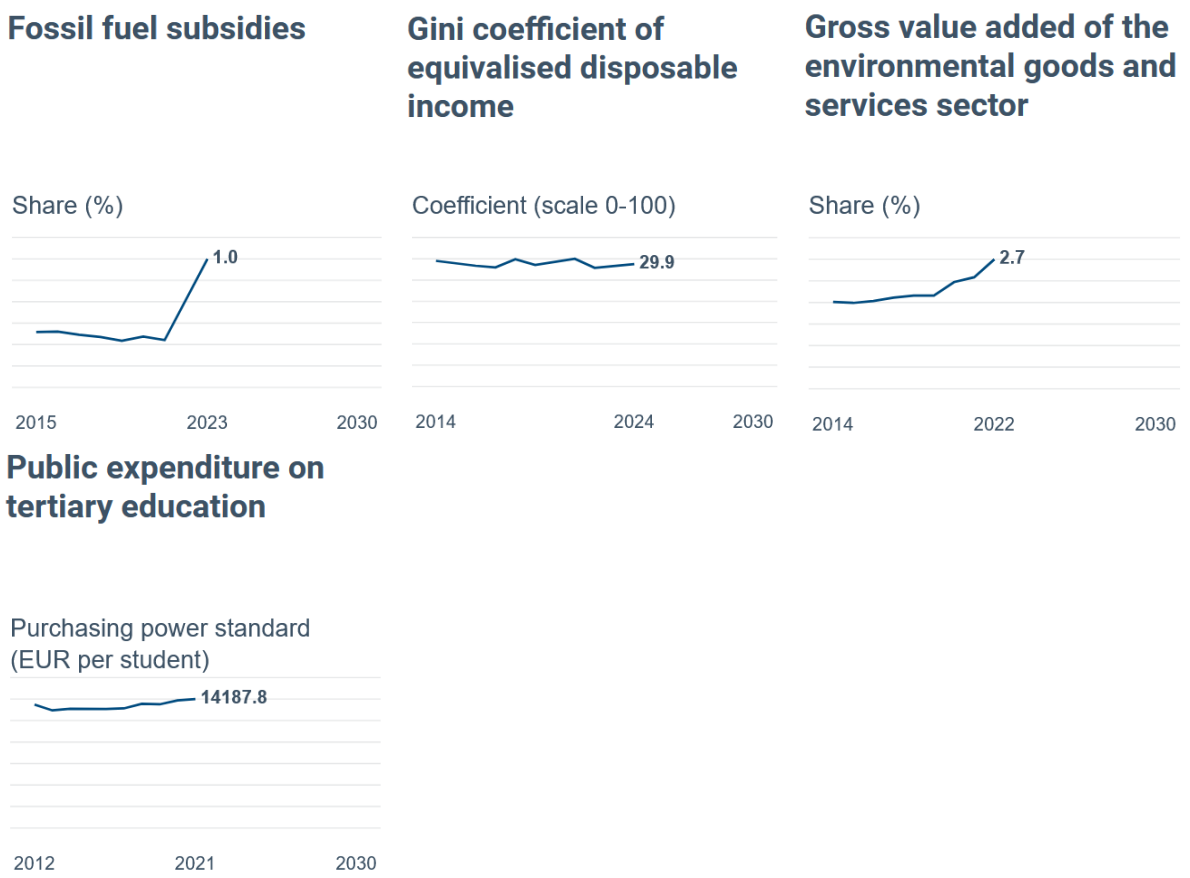


Figure 40. Germany: Socio-economic change trends and assessments
Source: EEA, 2025v

Up to 3 million people work in 'green economy sectors', contributing up to 7% of gross added value. An estimate of around 10% of households in Germany will be severely negatively affected by increased prices for energy and mobility due to carbon prices in the next decade. With the 2023 Heating Law, low-income households can receive additional financial support for changing heating systems. Germany will implement measures through the EU Social Climate Fund to support households and small and medium-sized enterprises particularly affected by increasing carbon prices (EEA, 2025v).

Air pollution country profile

Exposure - Germany

The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

		2018	2019	2020	2021	2022
BaP	annual mean	0.0	0.0	0.0	0.0	0.0
NO2	annual mean	4.0	2.2	0.4	0.2	0.2
O3	percentile 93.15	74.3	33.7	10.5	0.4	16.9
PM2.5	annual mean	0.0	0.0	0.0	0.0	0.0
PM10	annual mean	0.0	0.0	0.0	0.0	0.0
	percentile 90.41	0.0	0.0	0.0	0.0	0.0

Source: European Commission, 2025c

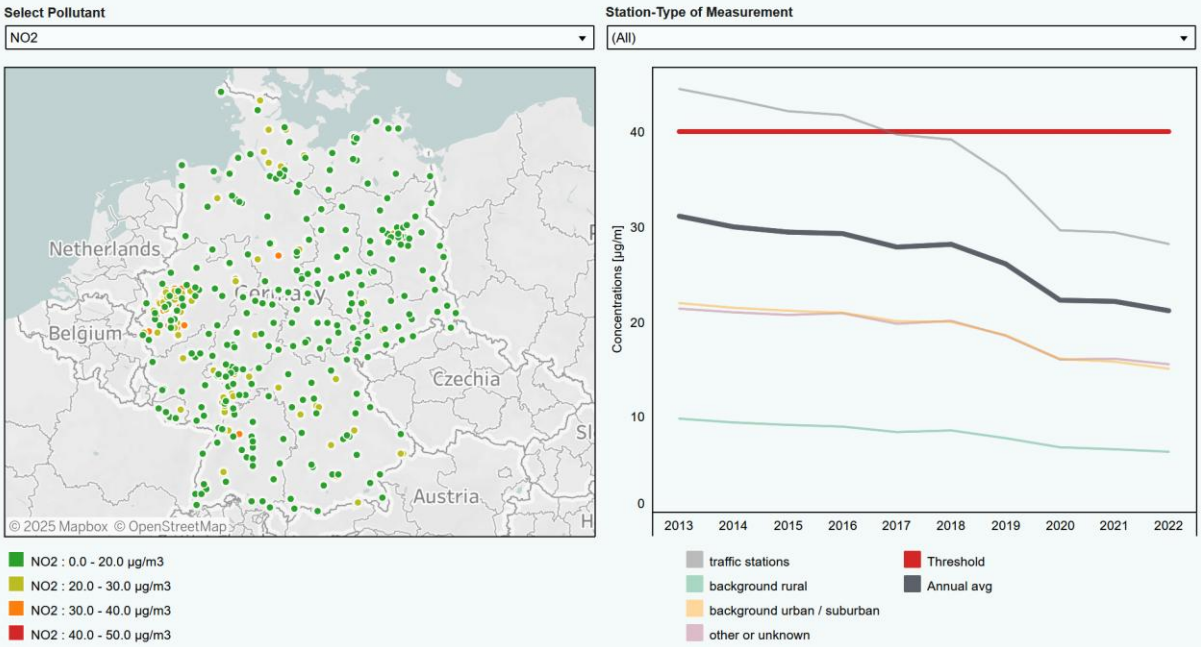
Health impacts

Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Germany	9.2	32,630	14.3	9,440	94	15,190
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

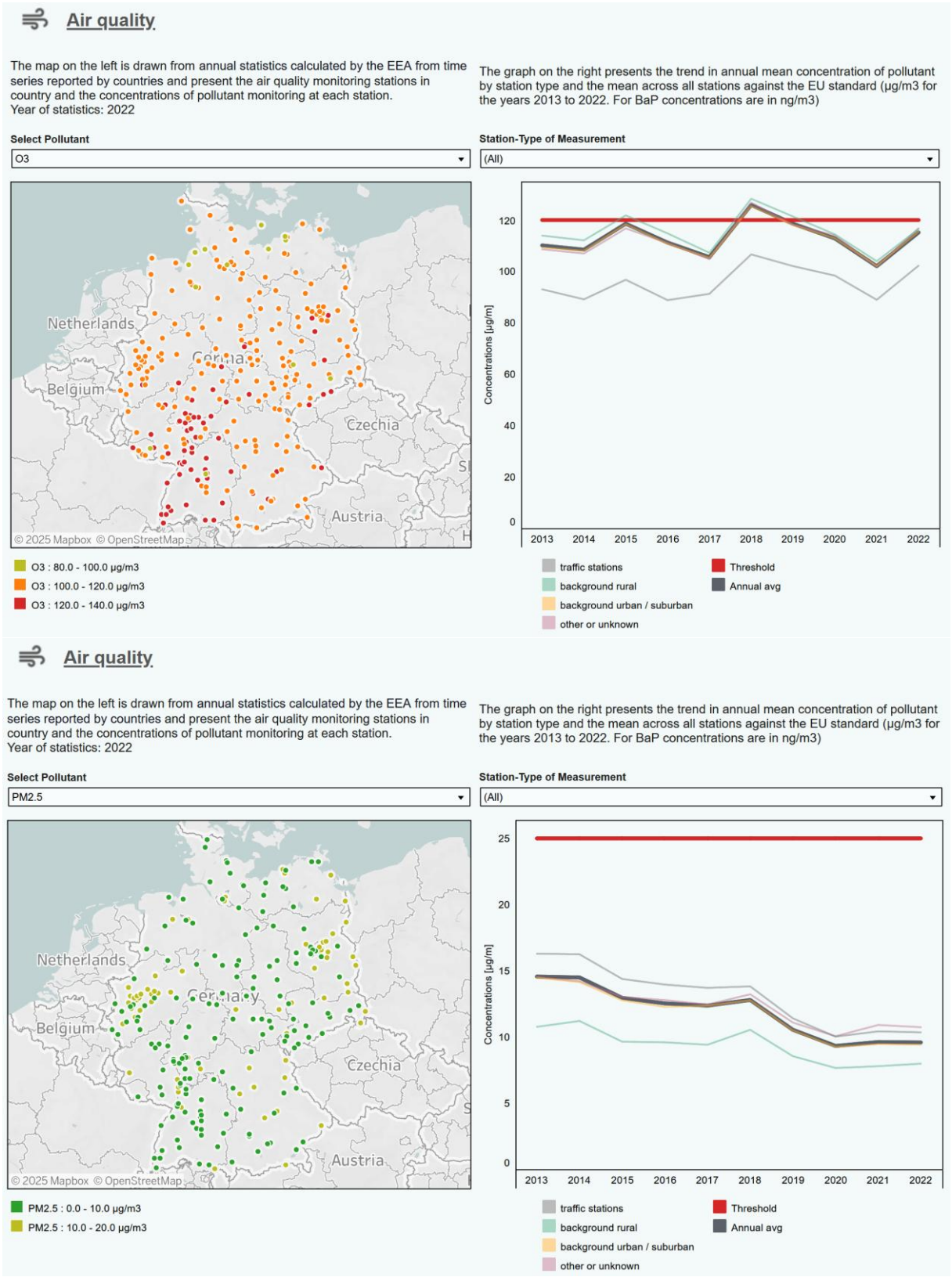
Air quality

The map on the left is drawn from annual statistics calculated by the EEA from time series reported by countries and present the air quality monitoring stations in country and the concentrations of pollutant monitoring at each station.
Year of statistics: 2022

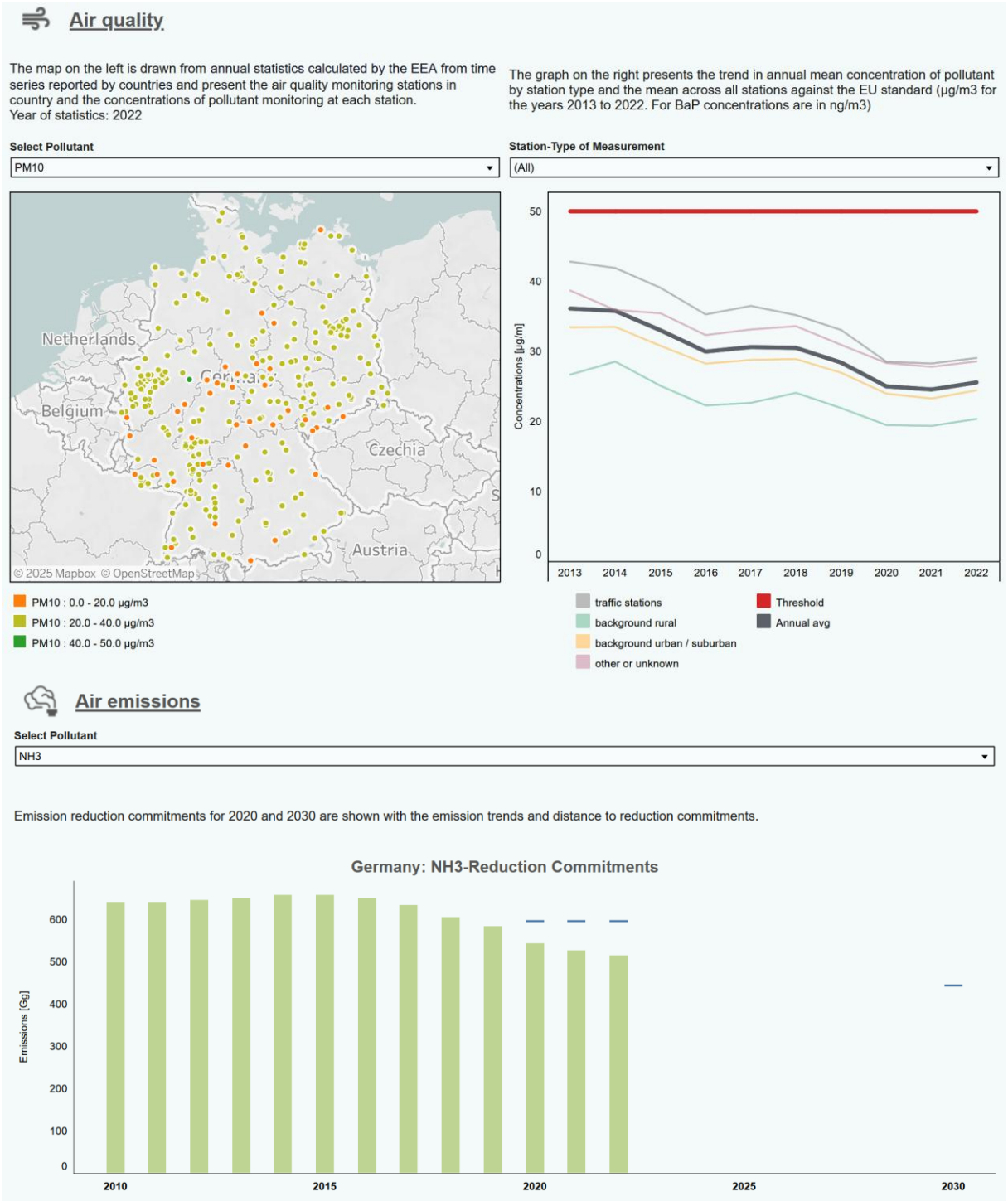
The graph on the right presents the trend in annual mean concentration of pollutant by station type and the mean across all stations against the EU standard (µg/m3 for the years 2013 to 2022. For BaP concentrations are in ng/m3)



Source: European Commission, 2025c



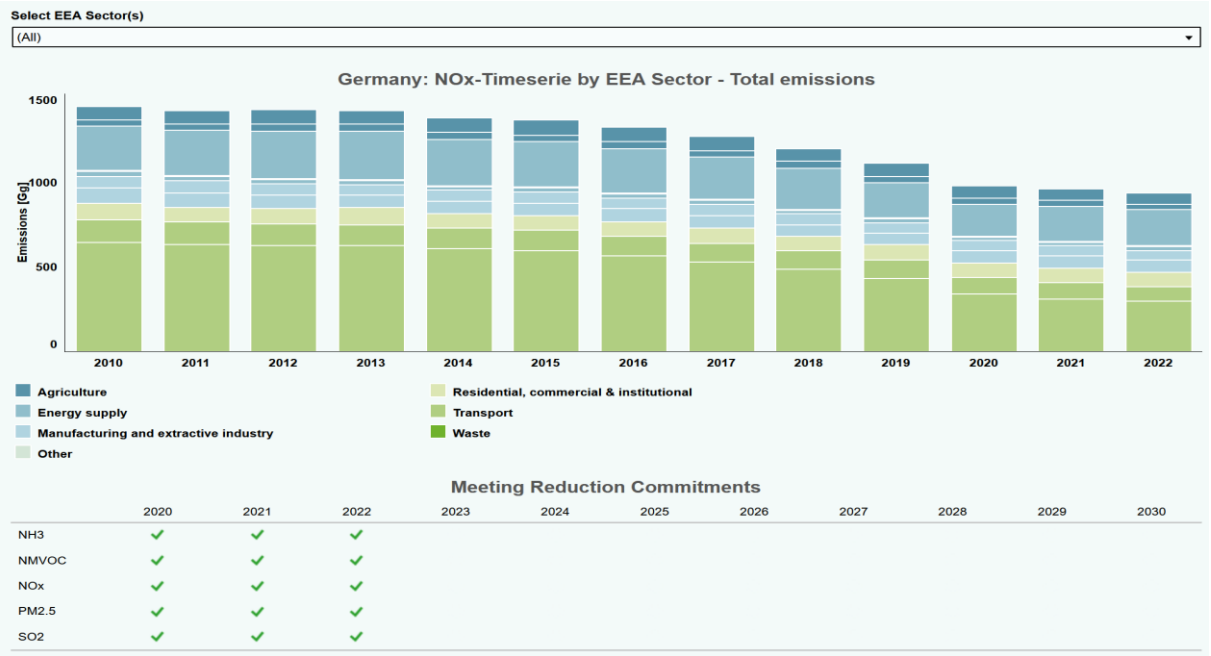
Source: European Commission, 2025c

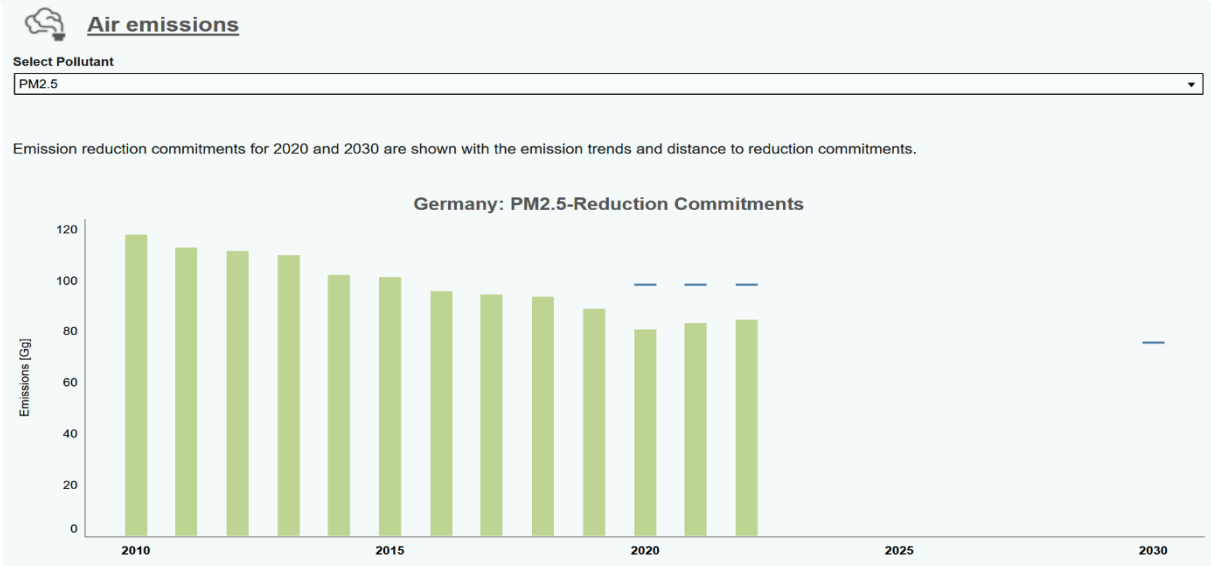


Source: European Commission, 2025c

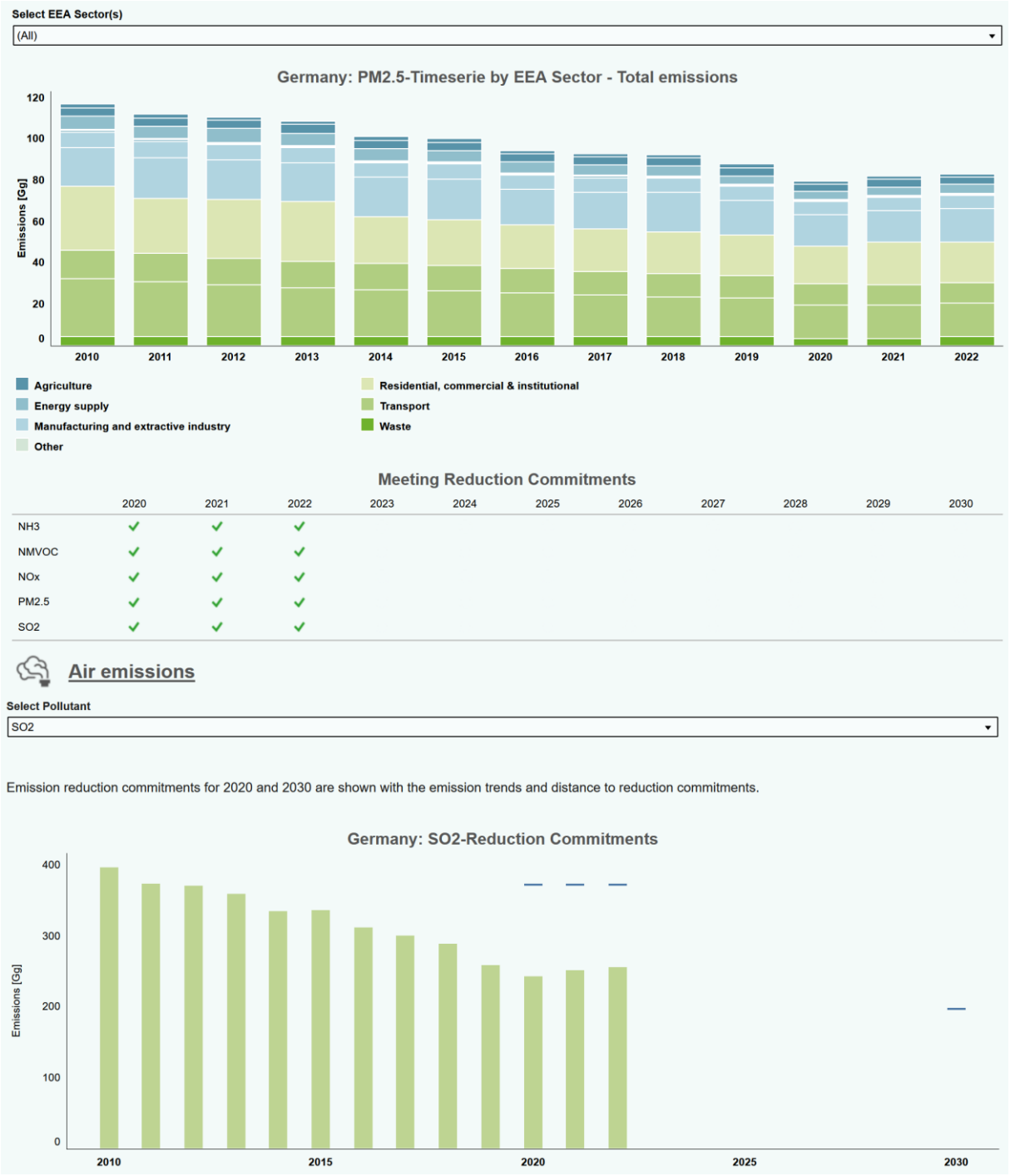
Source: European Commission, 2025c

Source: European Commission, 2025c

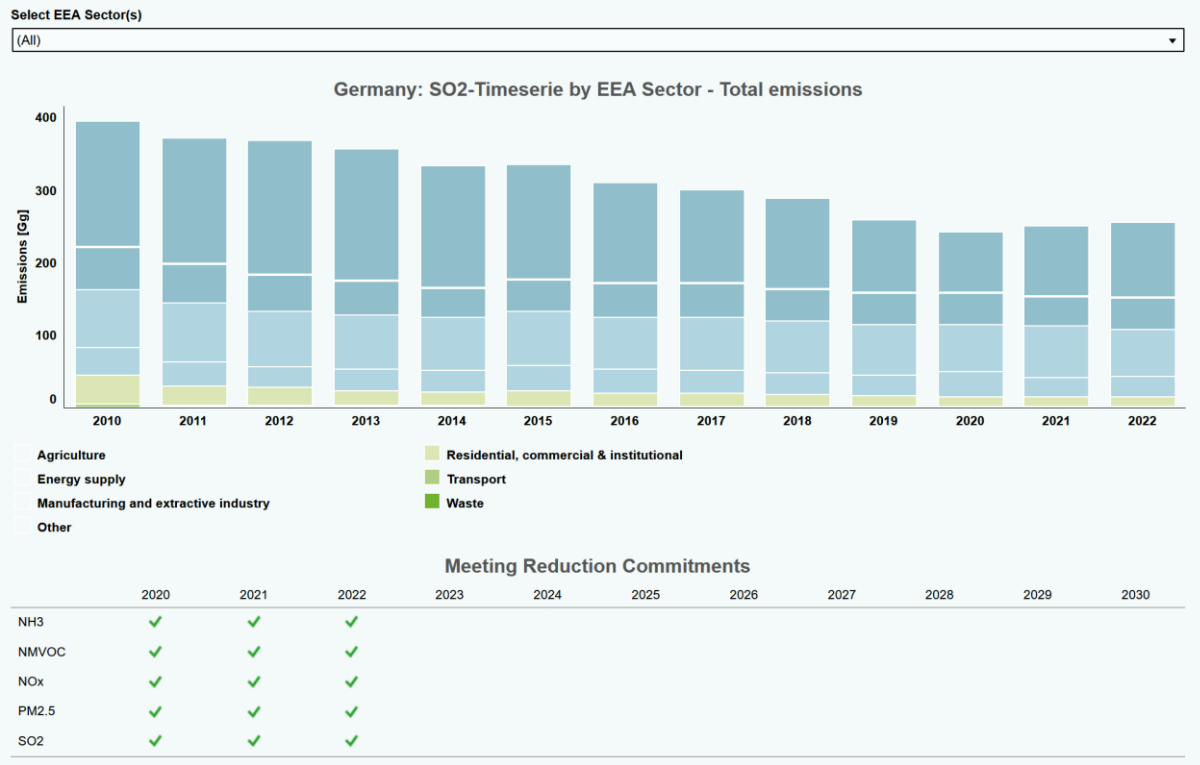




Source: European Commission, 2025c

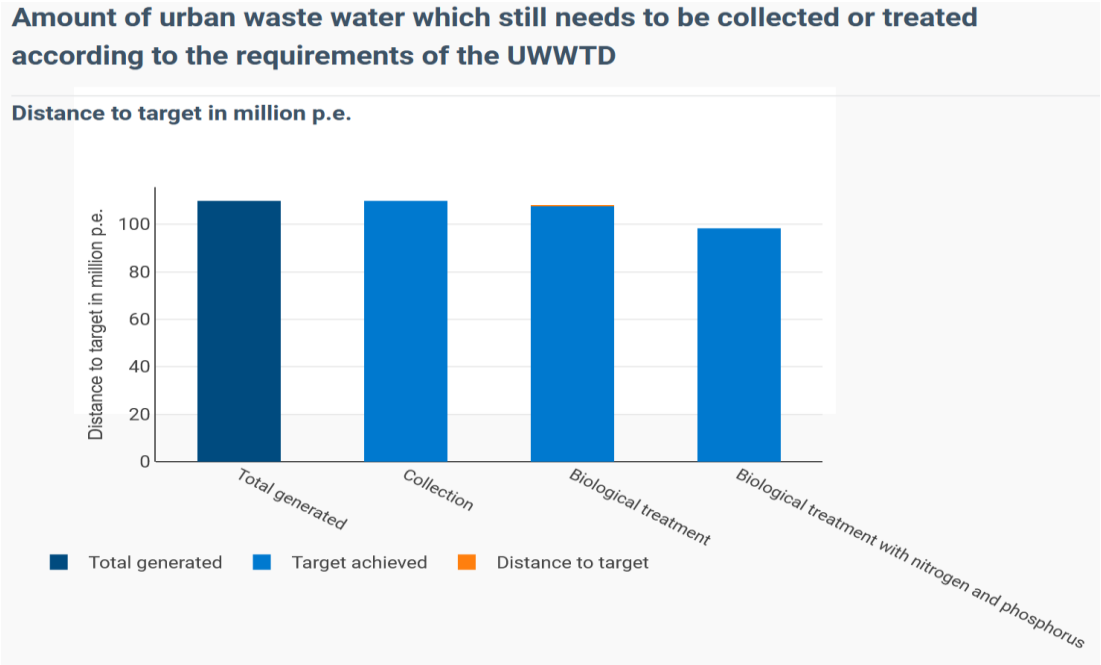


Source: European Commission, 2025c

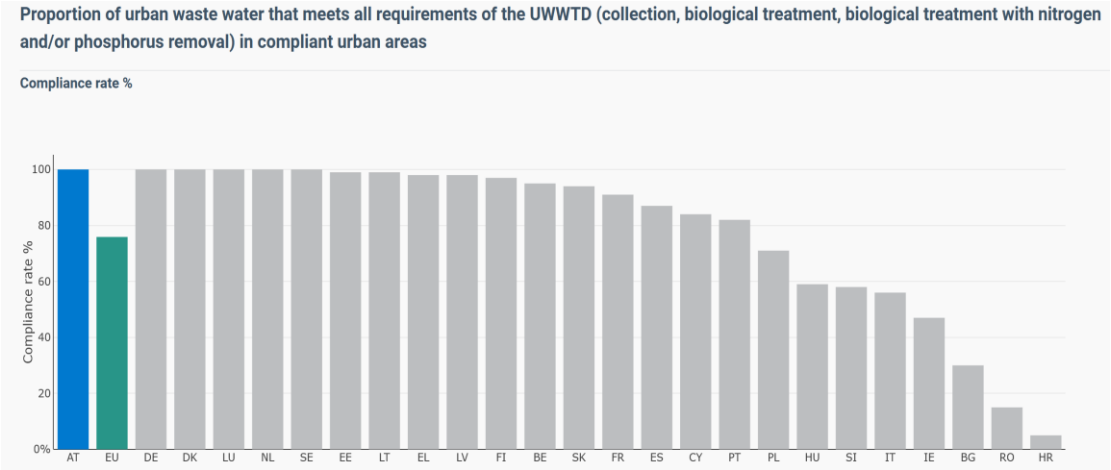


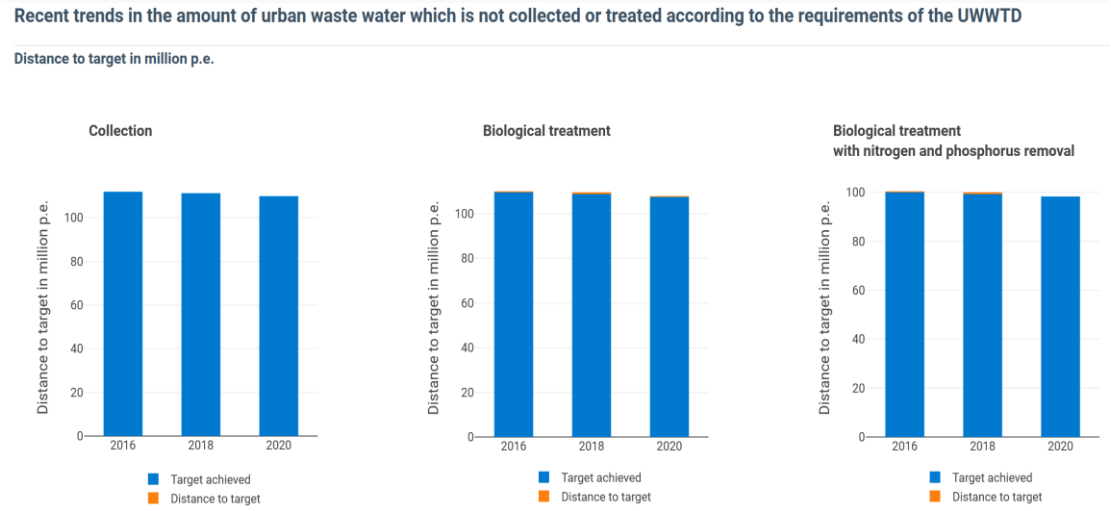
Source: European Commission, 2025c

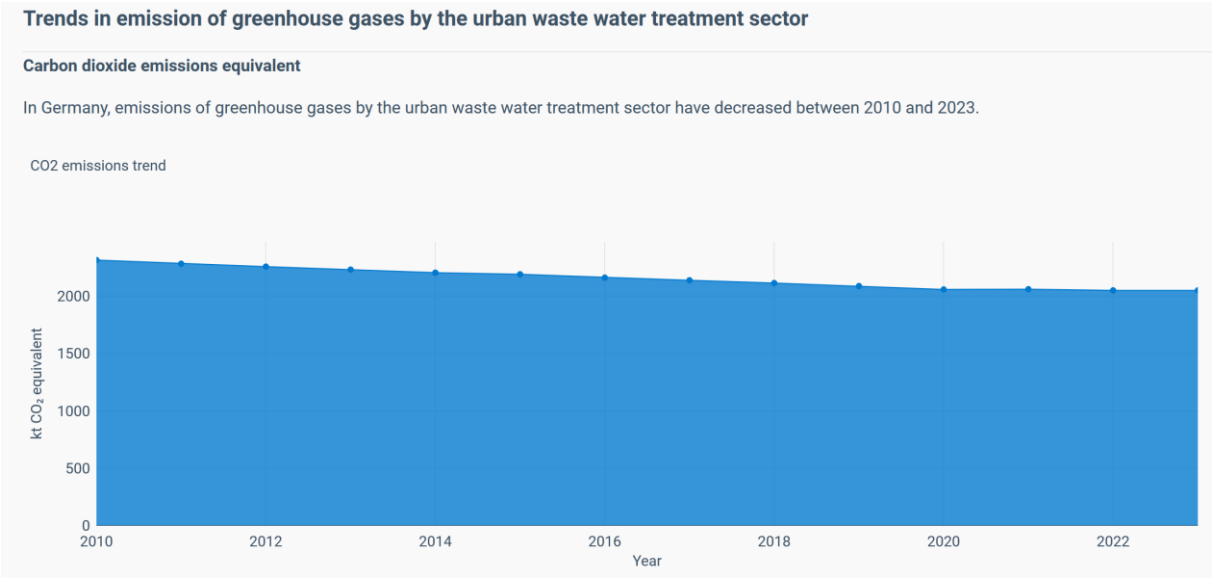
In Germany, households and certain industries in 3,927 urban areas generate 109.9 million p.e. of waste water every day, which is an amount equivalent to around 220 million bathtubs or 21.98 million m3. In Germany, urban waste water is treated in 3,807 plants across the country before it is discharged. According to the UWWTD, Germany is required to provide in urban areas: (1) Collection of 109.9 million p.e. of waste water; (2) Biological treatment to 107.9 million p.e. of waste water; and (3) Biological treatment with nitrogen and phosphorus removal to 98.3 million p.e. of waste water (European Commission, 2025c).



Source: European Commission, 2025c





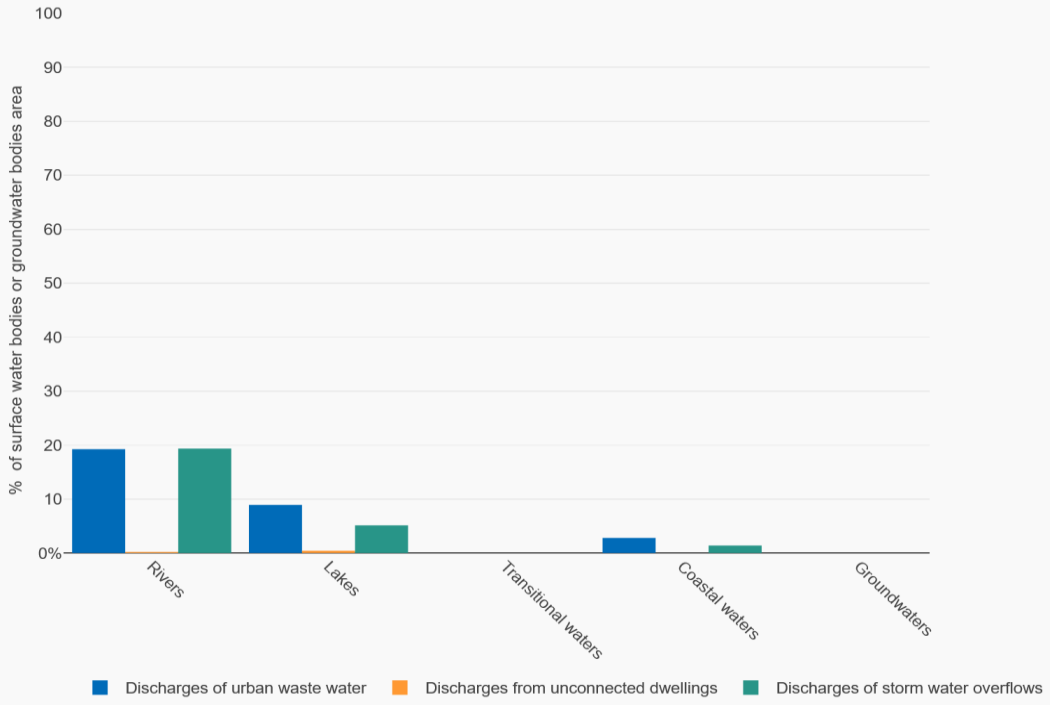


Source: European Commission, 2025c

Percentage of different water body types having less than good water quality, and being affected significantly by discharges of urban waste water, discharges from unconnected dwellings and storm water overflows in the latest RBMPs

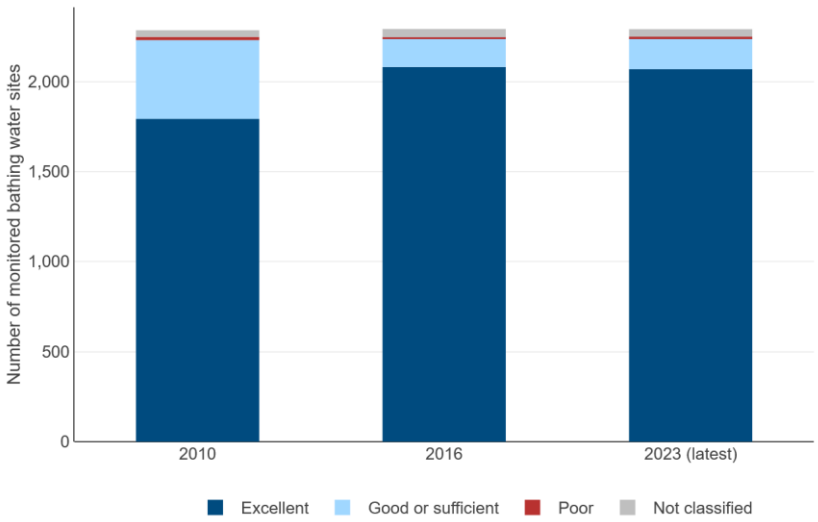
Percentage of surface water bodies or groundwater bodies area

Hover over the bars to see the number of surface water bodies and areas (Km^2) of groundwaters affected by urban waste water.

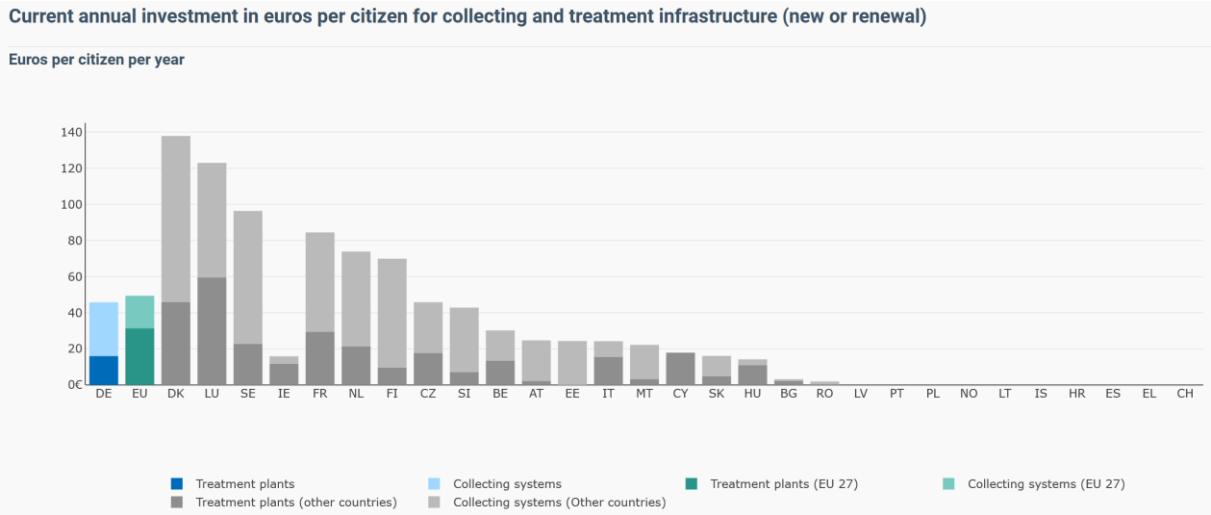


Progress in the number of monitored bathing water sites having excellent water quality in recent years

Number of monitored bathing water sites



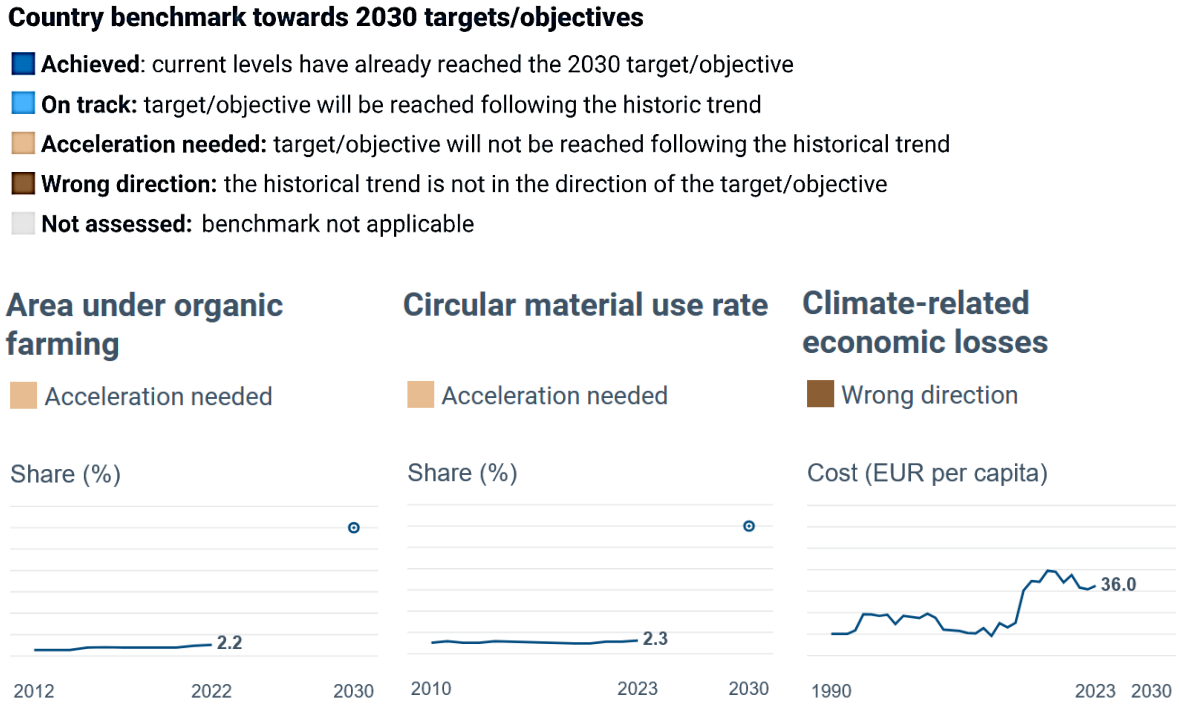
Source: European Commission, 2025c



Source: European Commission, 2025c

Germany has met the targets for collection of urban waste water and nitrogen and phosphorus removal. Overall, 100% of the urban waste water in Germany is treated according to the requirements of the UWWTD. This is above the EU average of 75.9%. In Germany, emissions of greenhouse gases by the urban waste water treatment sector have decreased between 2010 and 2023. Germany currently invests 46 euros per citizen per year for new collecting and treatment infrastructure, as well as for the renewal of ageing infrastructure. This is below the EU average of 49 euros per citizen every year.

(4) IRELAND



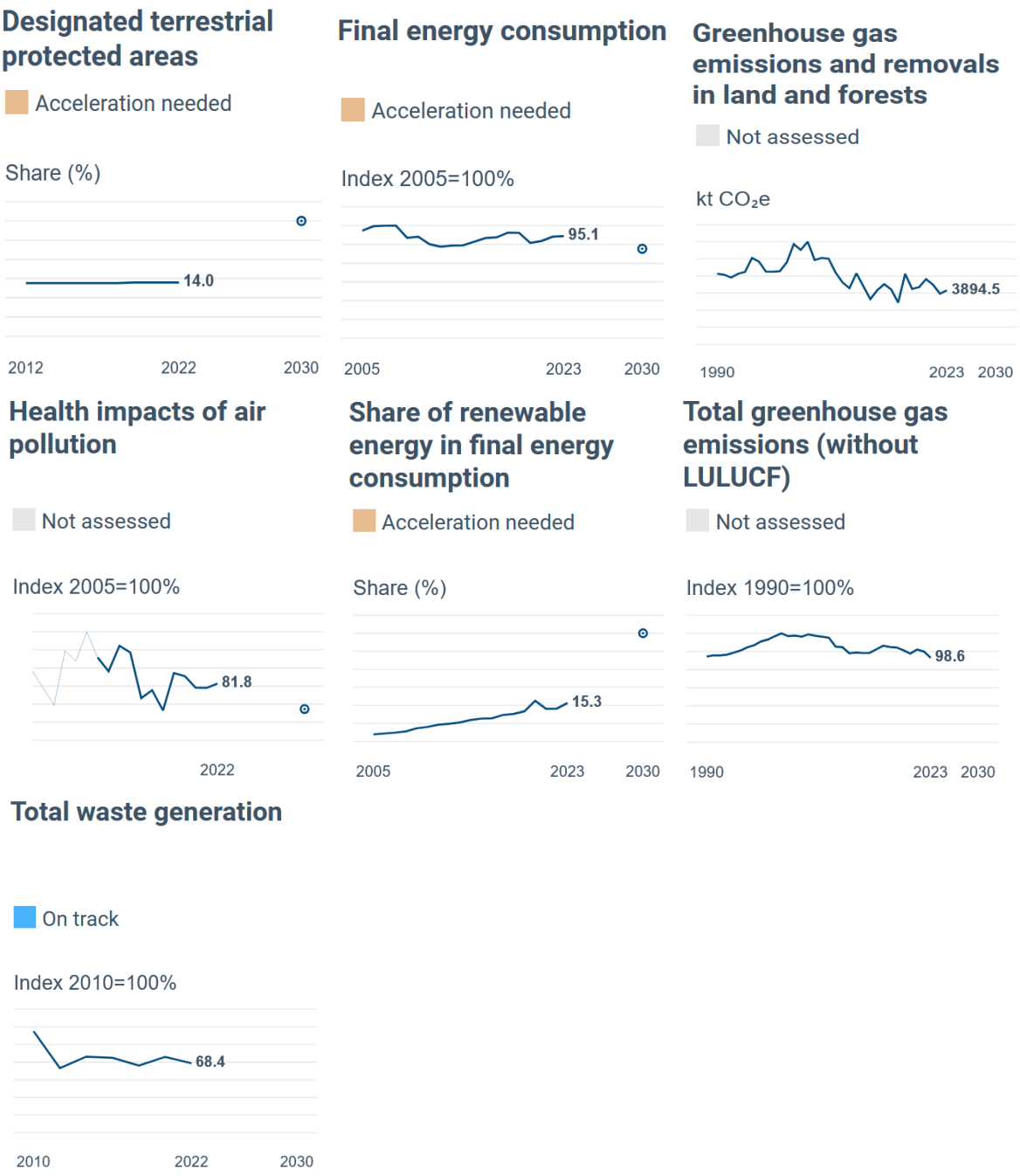


Figure 41. Ireland: Environment and climate trends and assessments
Source: EEA, 2025w

Ireland's air quality is among Europe's best and meets EU standards. In 2023, Greenhouse gas (GHG) emissions were below the 1990 baseline for the first time; however, projections show that Ireland will fall short of its 42% reduction target for 2030. Ireland has set a national objective to transition to a climate-resilient, biodiversity-rich, environmentally sustainable and climate-neutral economy by 2050 (EEA, 2025w).

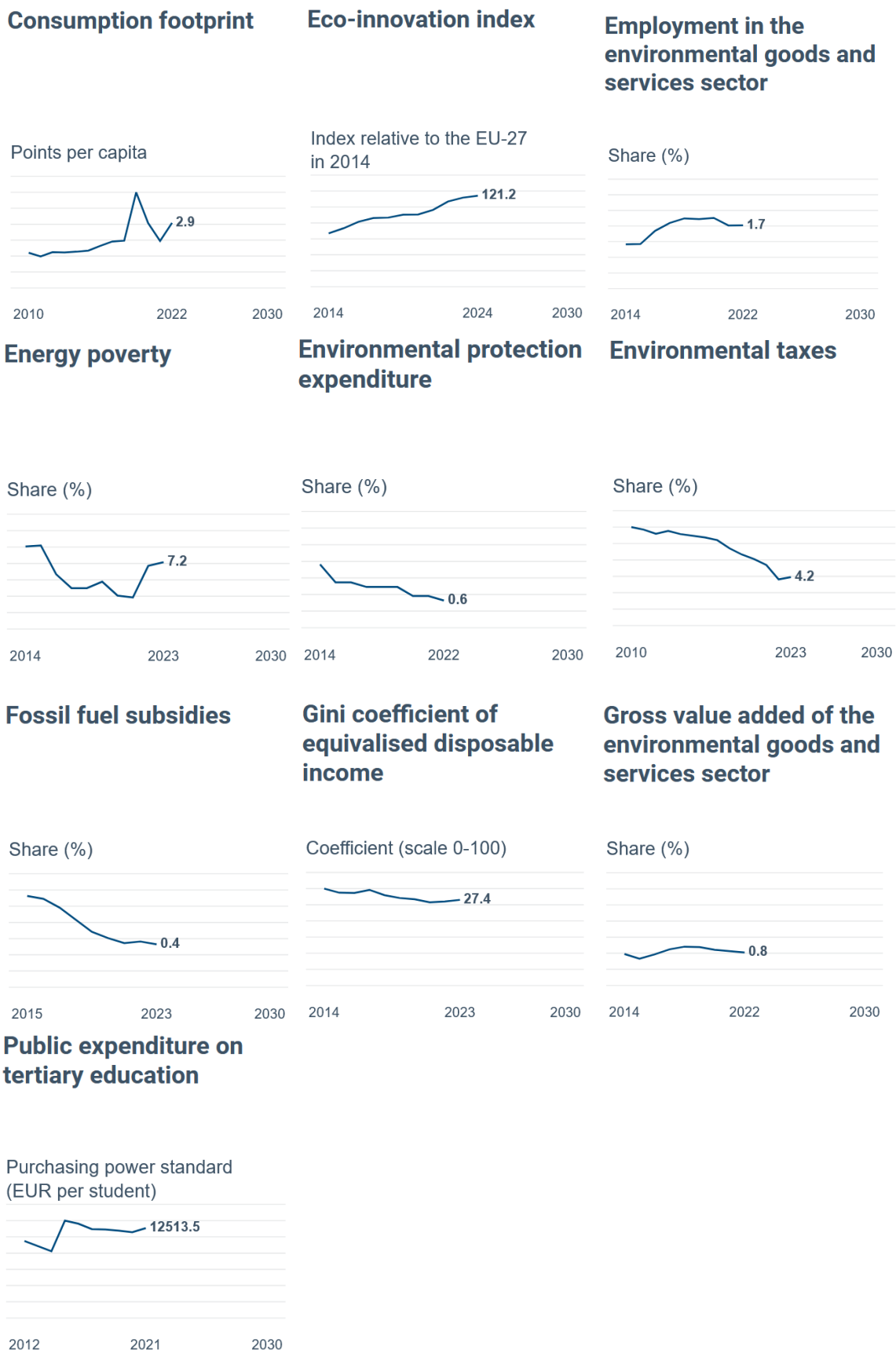


Figure 42. Ireland: Socio-economic change trends and assessments
Source: EEA, 2025w

Direct fossil fuel subsidies were estimated at EUR 300 million/year on average for 2017–2021. While

higher fossil fuel prices have the greatest impact on poor people, the percentage of households experiencing energy poverty in Ireland in 2022 was 7.2%, below the EU average (9.3%). In the 8th Environment Action Programme progress report, Ireland ranked bottom among Member States for expenditure on environmental protection as a percentage of GDP in 2021. The EU average was 2.2 of GDP and Ireland's expenditure was 0.9% of GDP. In a recent climate study, 79% of Irish people said climate change should be a high / very high priority for government. Additionally, Irish people think that climate action will increase economic growth and create jobs (56%) and that actions to reduce climate change will improve quality of life (74%) (EEA, 2025w).

Air pollution country profile

Exposure - Ireland

The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

		2018	2019	2020	2021	2022
BaP	annual mean	0.0	0.0	0.0	0.0	0.0
NO2	annual mean	0.0	1.0	0.0	0.0	0.0
O3	percentile 93.15	0.0	0.0	0.0	0.0	0.0
PM2.5	annual mean	0.0	0.0	0.0	0.0	0.0
PM10	annual mean	0.0	0.0	0.0	0.0	0.0
	percentile 90.41	0.0	0.0	0.0	0.0	0.0

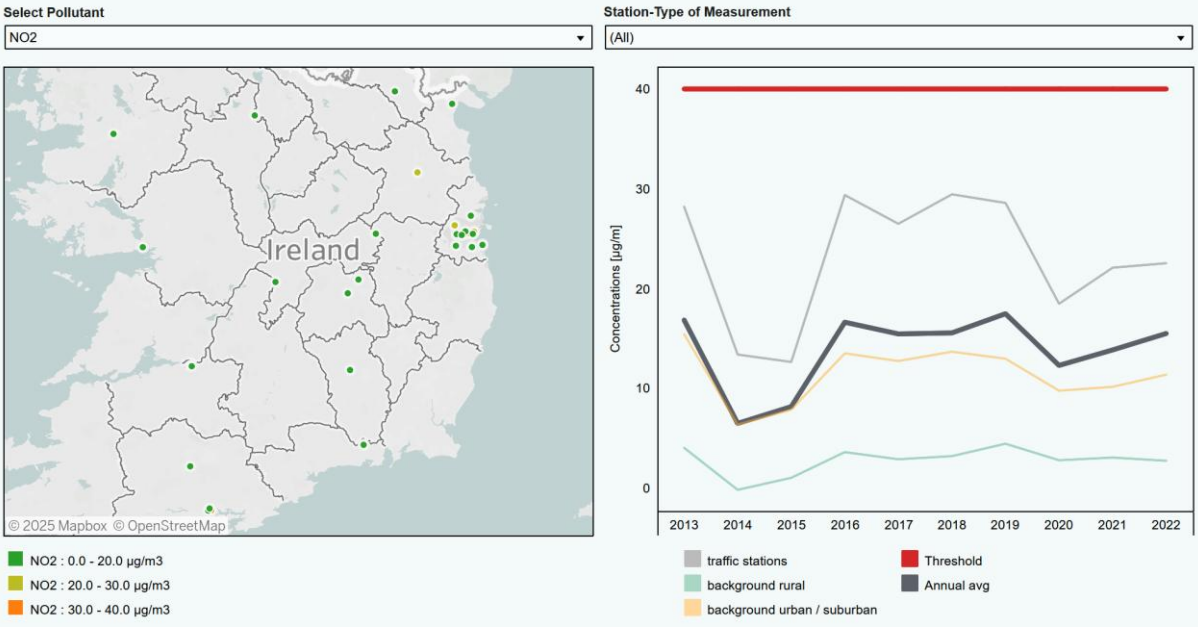
Health impacts

Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Ireland	7.1	530.0	9.1	100.0	76.7	240.0
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

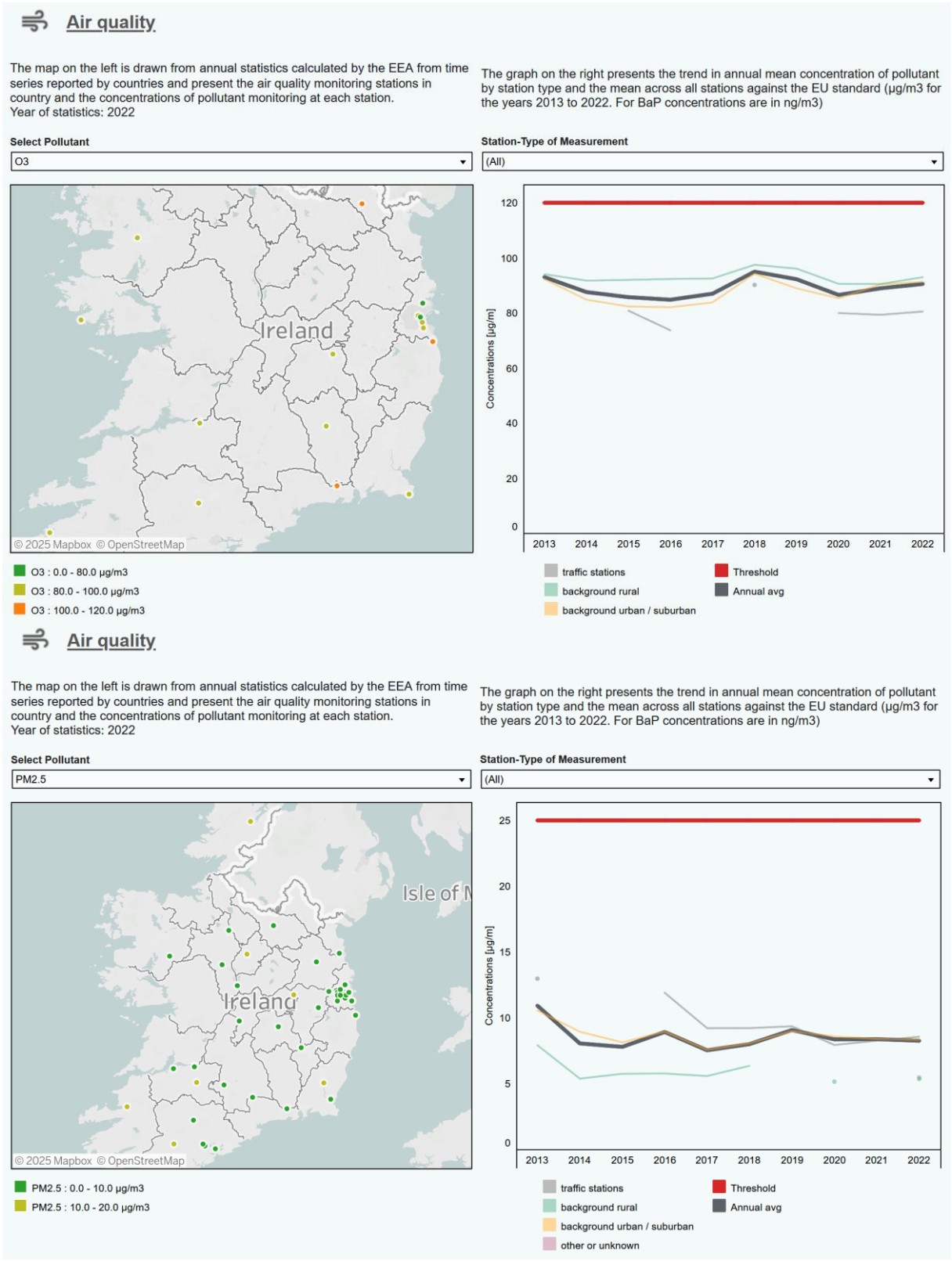
Air quality

The map on the left is drawn from annual statistics calculated by the EEA from time series reported by countries and present the air quality monitoring stations in country and the concentrations of pollutant monitoring at each station.
Year of statistics: 2022

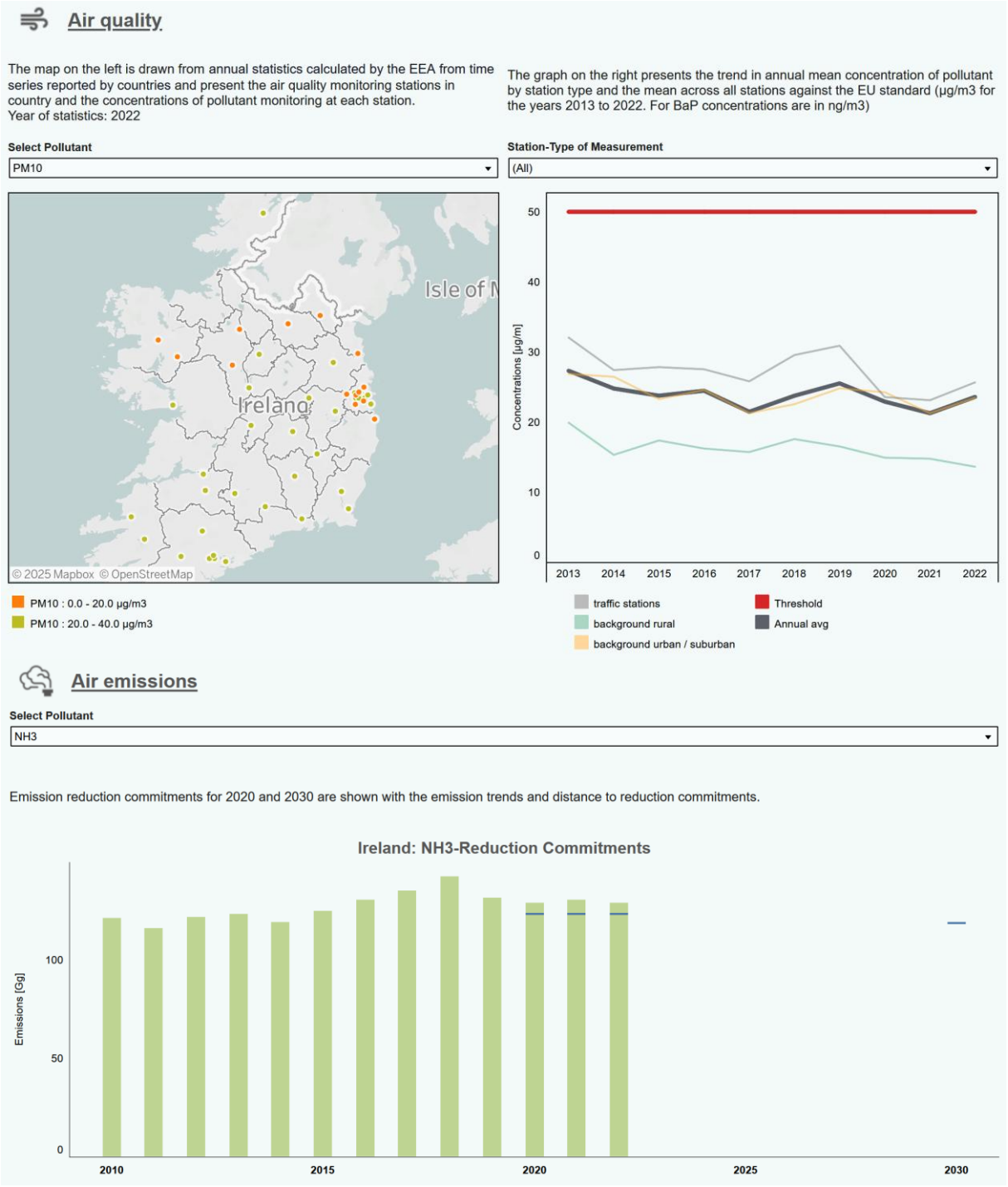
The graph on the right presents the trend in annual mean concentration of pollutant by station type and the mean across all stations against the EU standard (µg/m3 for the years 2013 to 2022. For BaP concentrations are in ng/m3)



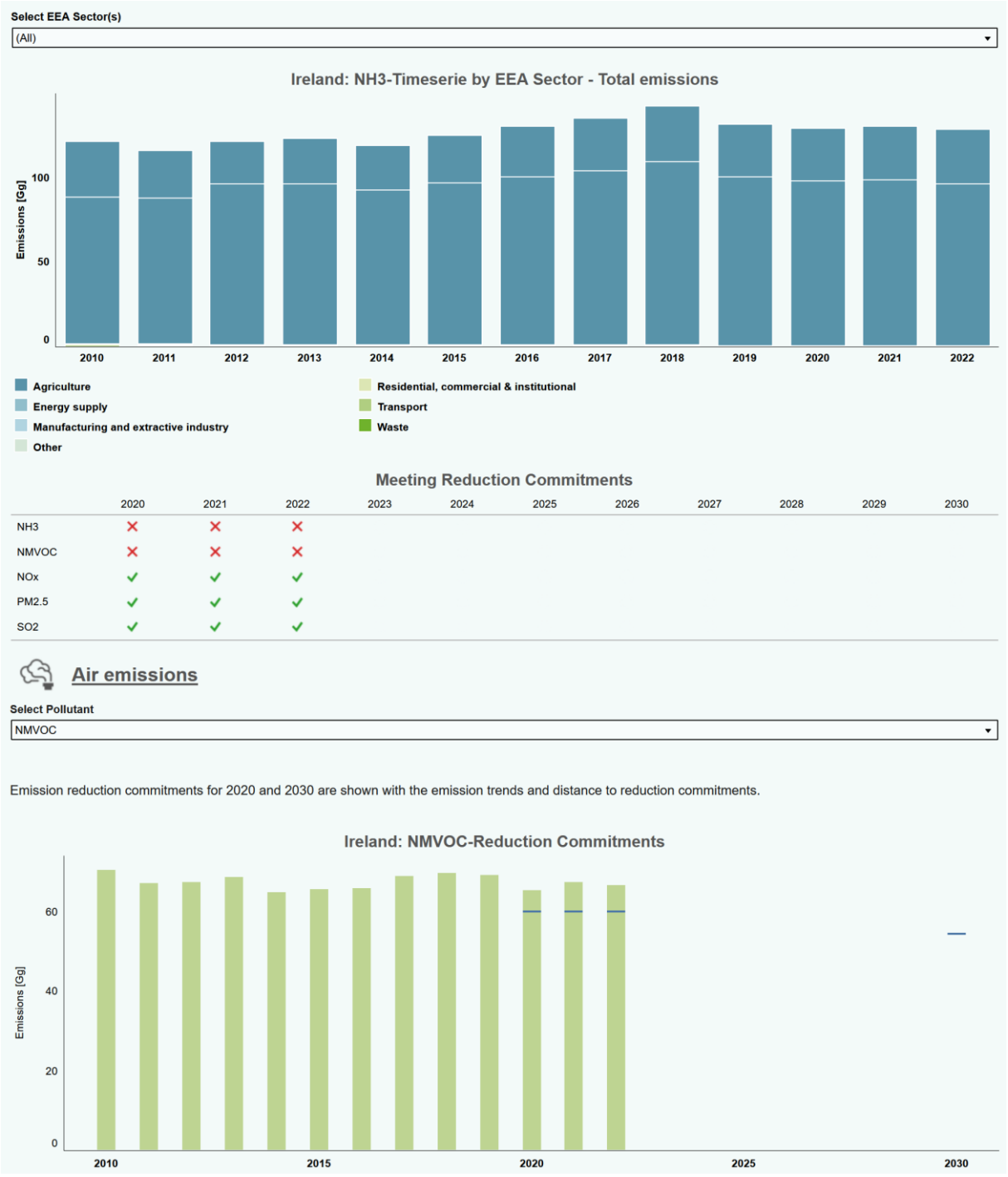
Source: European Commission, 2025d



Source: European Commission, 2025d

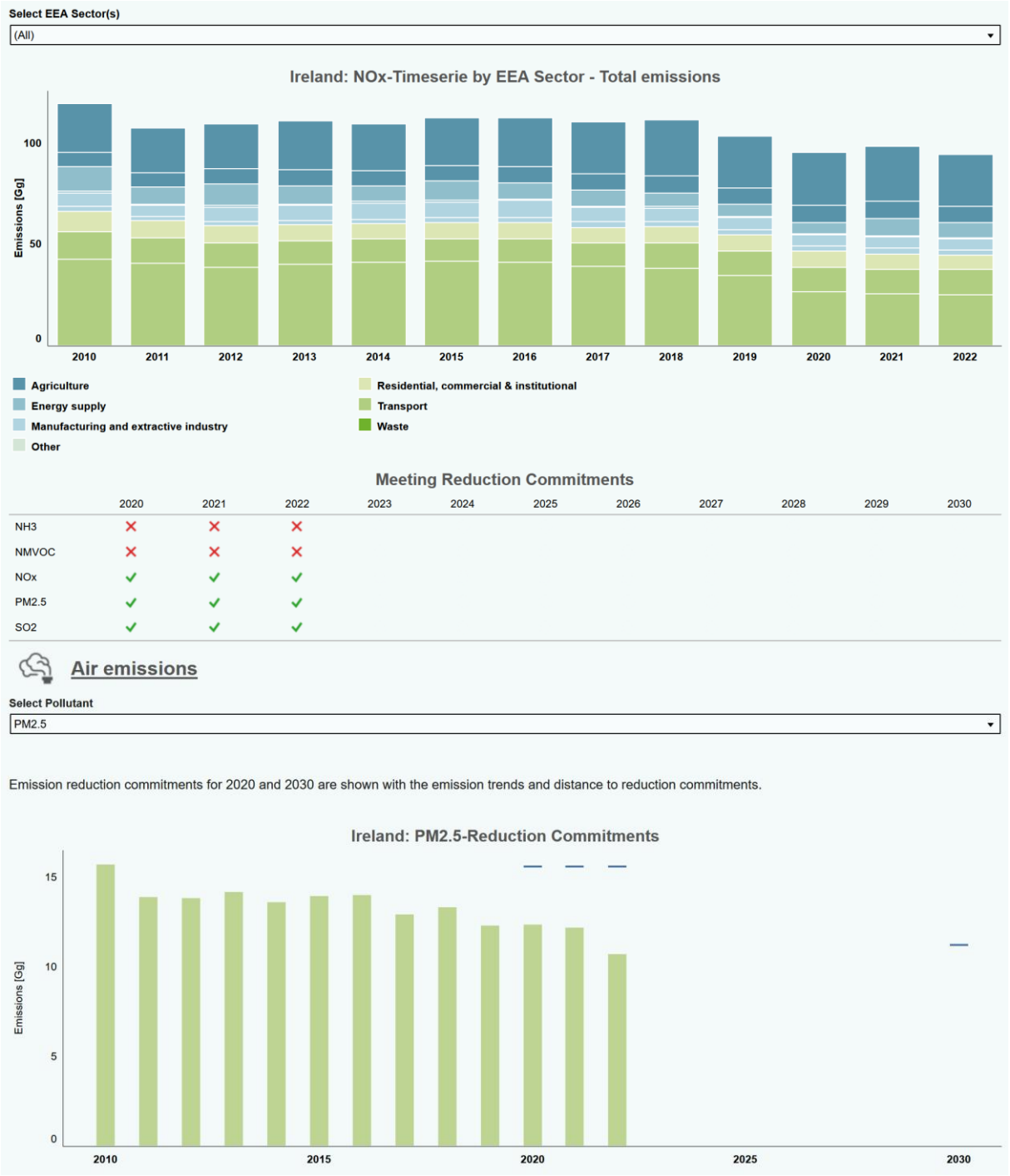


Source: European Commission, 2025d

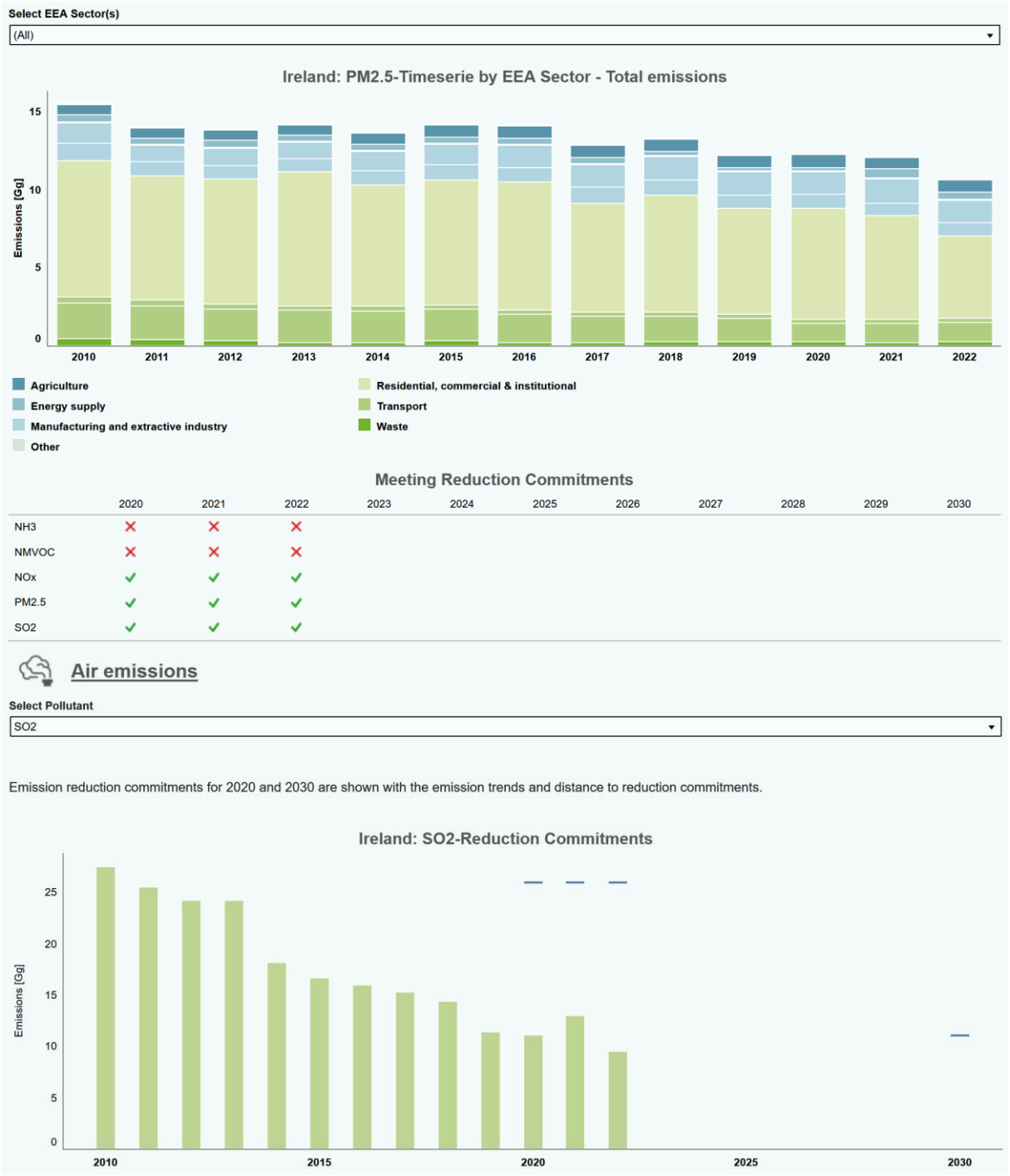


Source: European Commission, 2025d

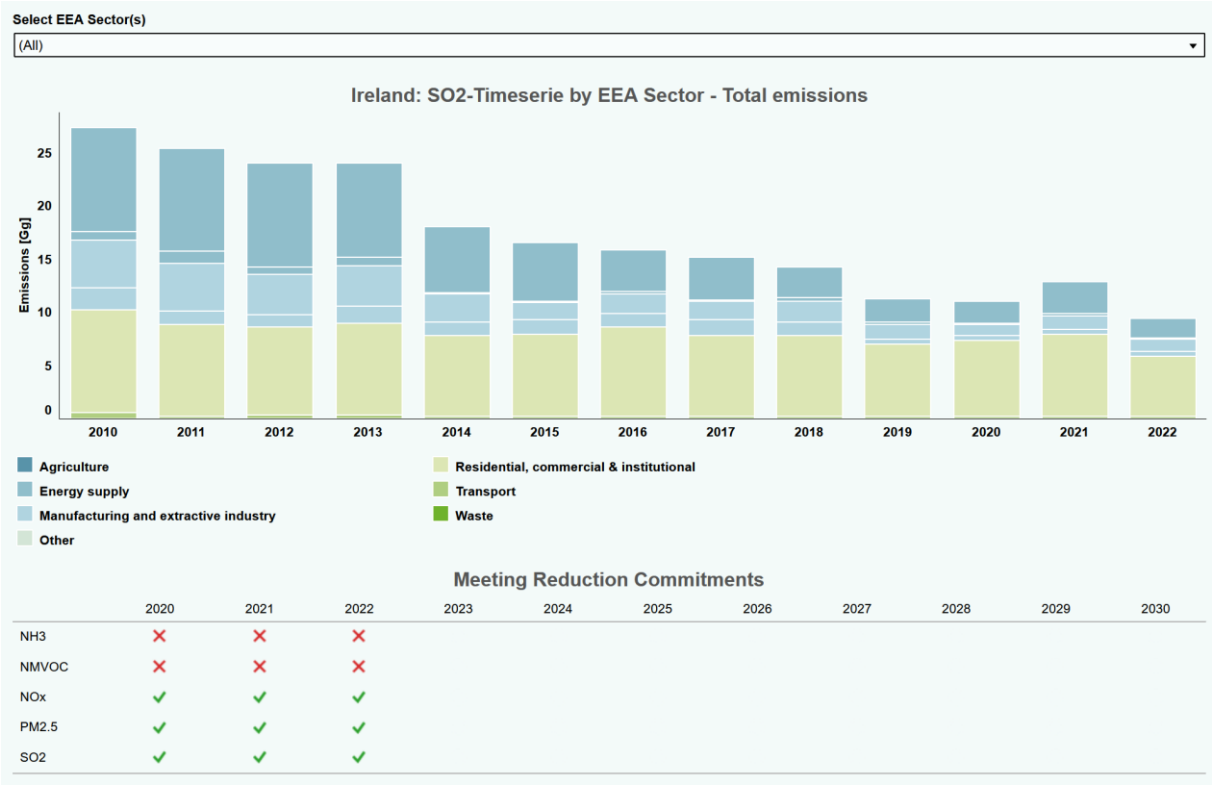
Source: European Commission, 2025d

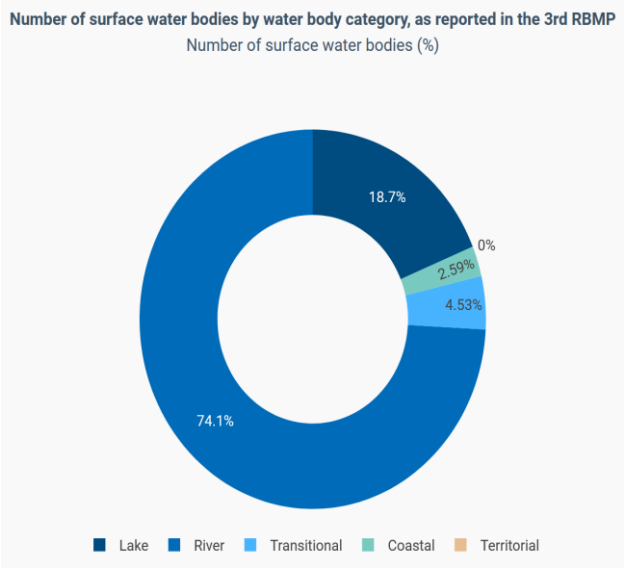


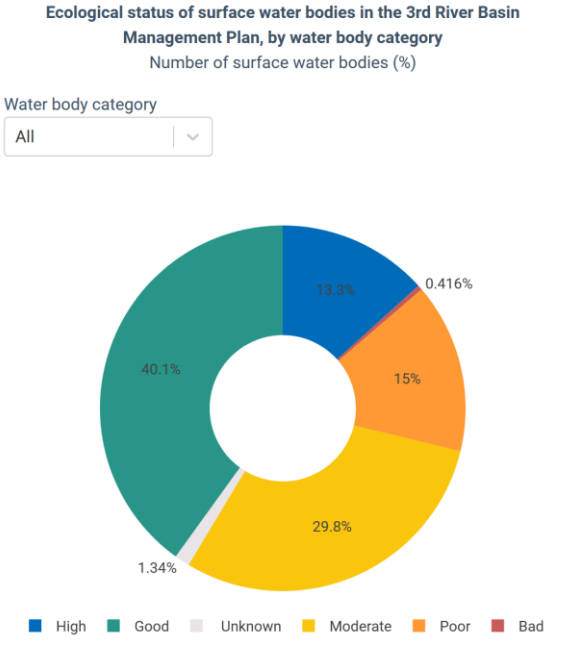
Source: European Commission, 2025d



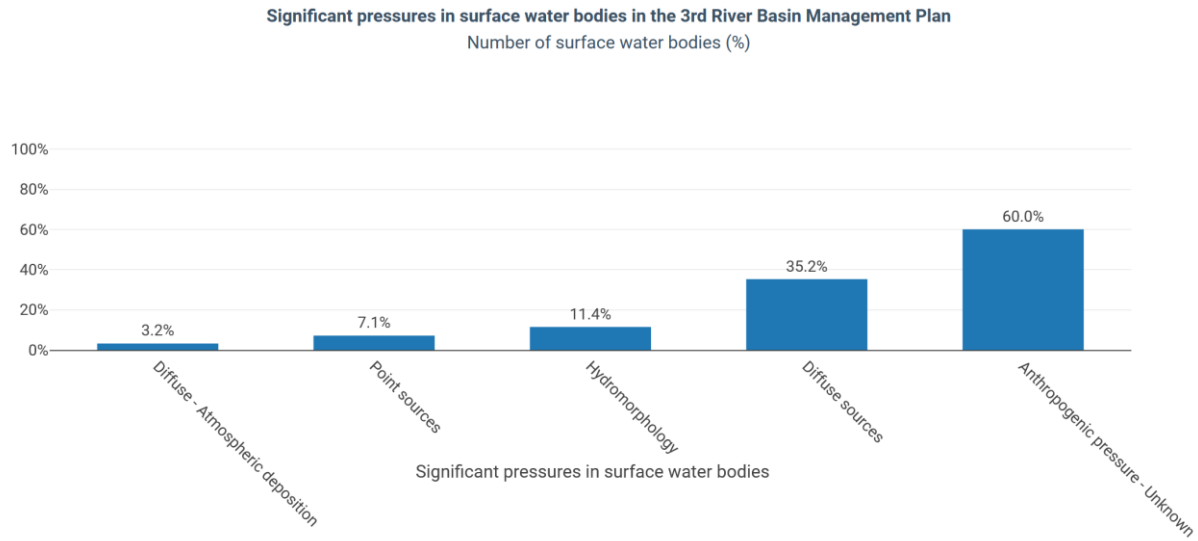
Source: European Commission, 2025d

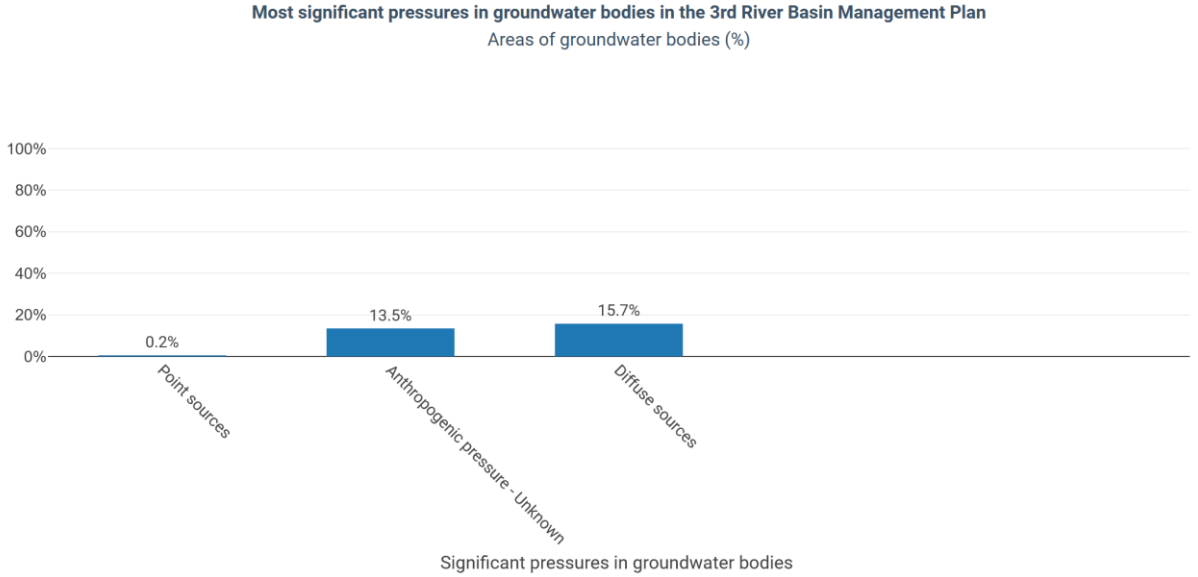


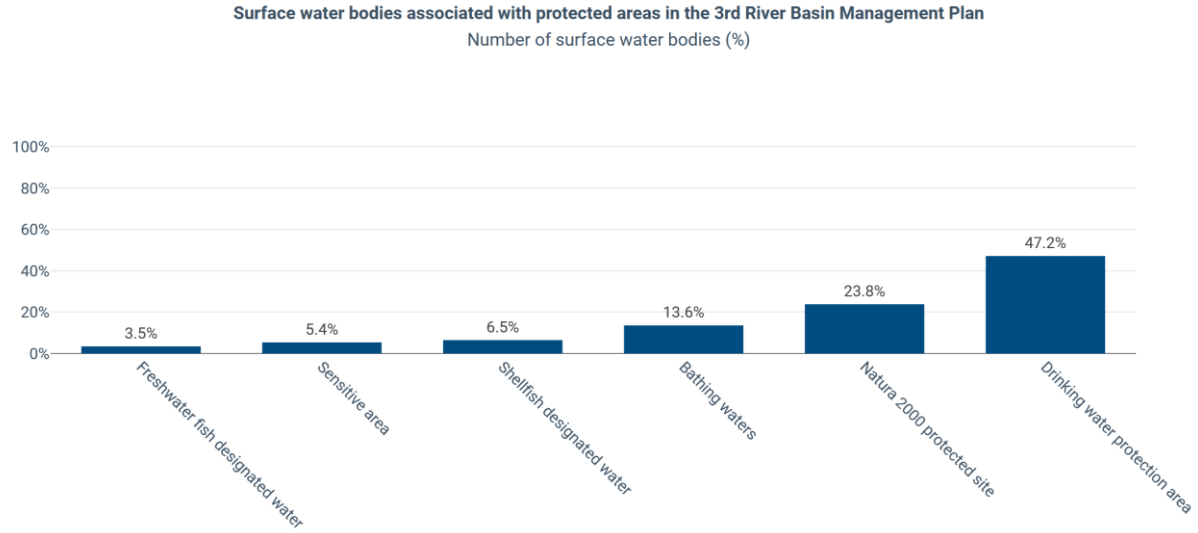




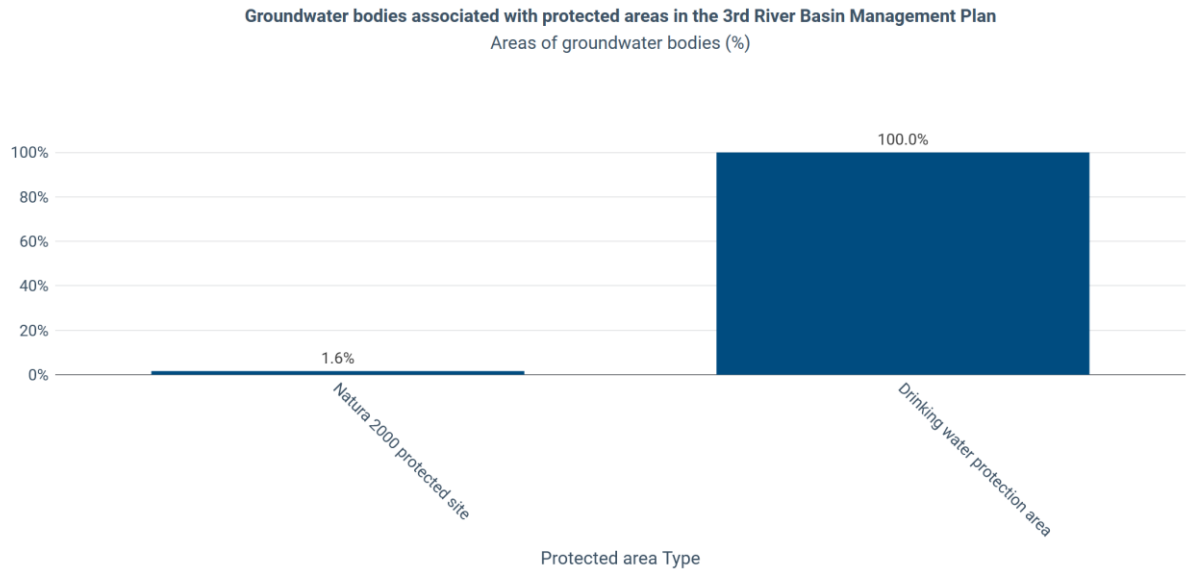
Source: European Commission, 2025d







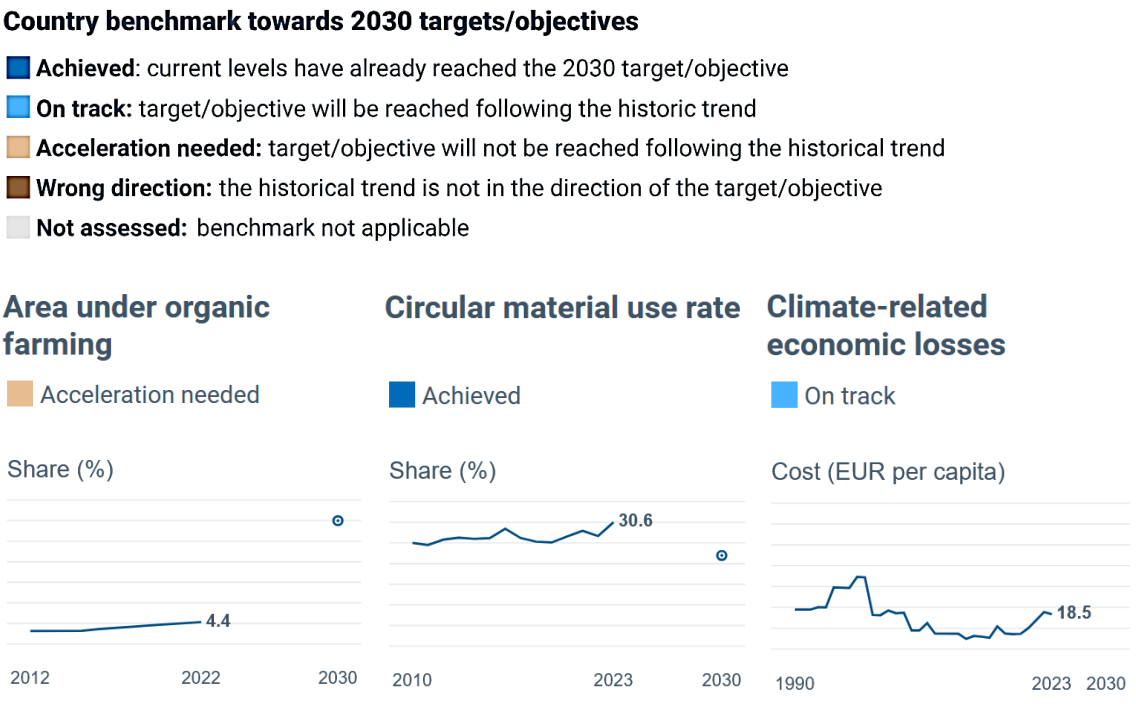
Source: European Commission, 2025d



Source: European Commission, 2025d

To comply with the Water Framework Directive, Ireland has developed the 3rd River Basin Management Plans (RBMPs), with the goal of achieving good status in 4,327 surface water bodies and 514 groundwater bodies with a total groundwater area of 71,553 km2 (European Commission, 2025d).

(5) THE NETHERLANDS



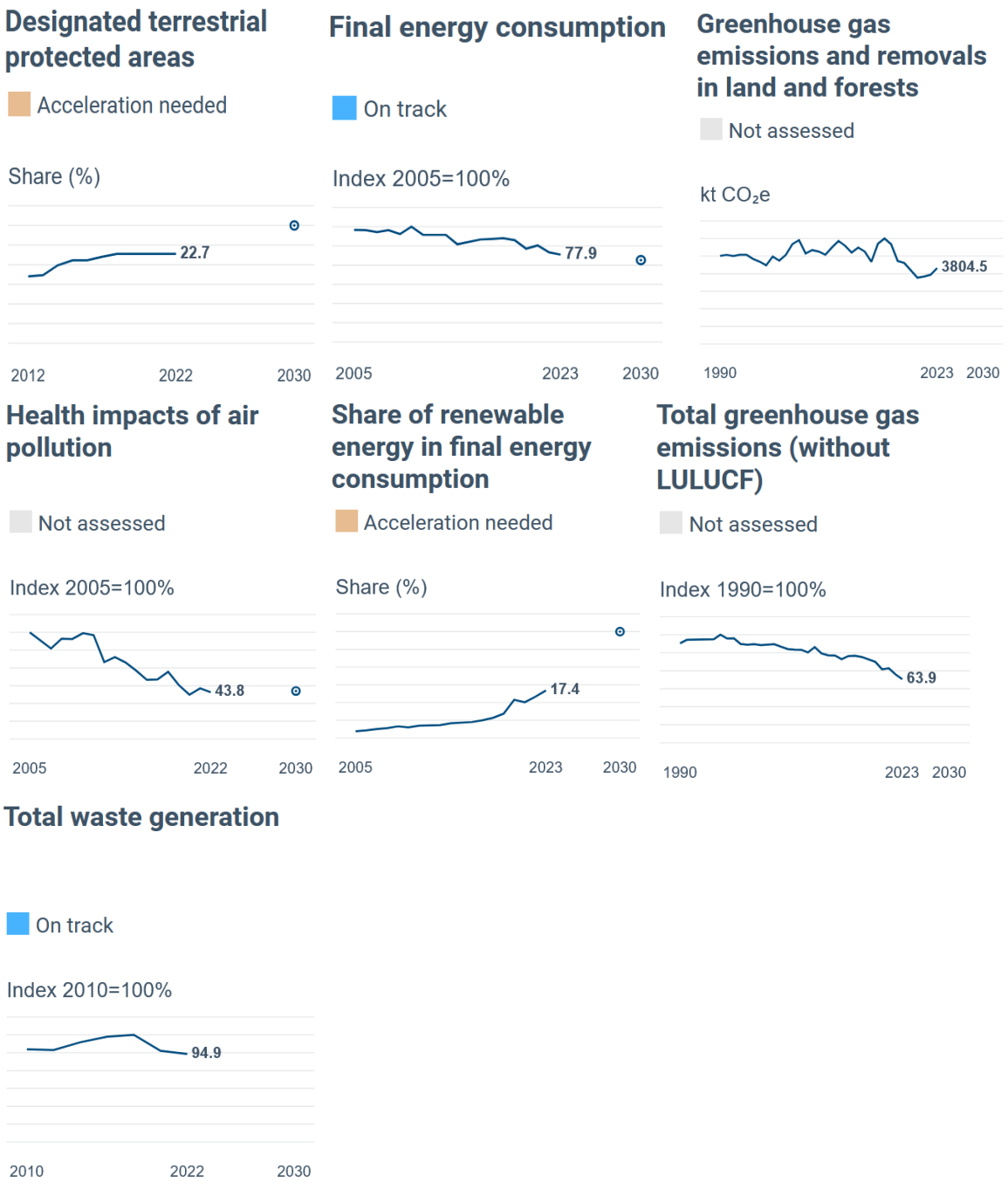


Figure 43. The Netherlands: Environment and climate trends and assessments
Source: EEA, 2025x

The challenge in the Netherlands is to combine addressing current societal challenges with achieving the long-term biodiversity, environment and climate ambitions, making sure we live well within planetary boundaries in 2050. The Netherlands has the goals of building 1 million houses before 2030 and making the climate transition a success. Nature-related indicators are currently off track, while climate-related indicators show that a lot of progress has been made in recent years, but further efforts are still needed to reach the 2030 targets (EEA, 2025x).

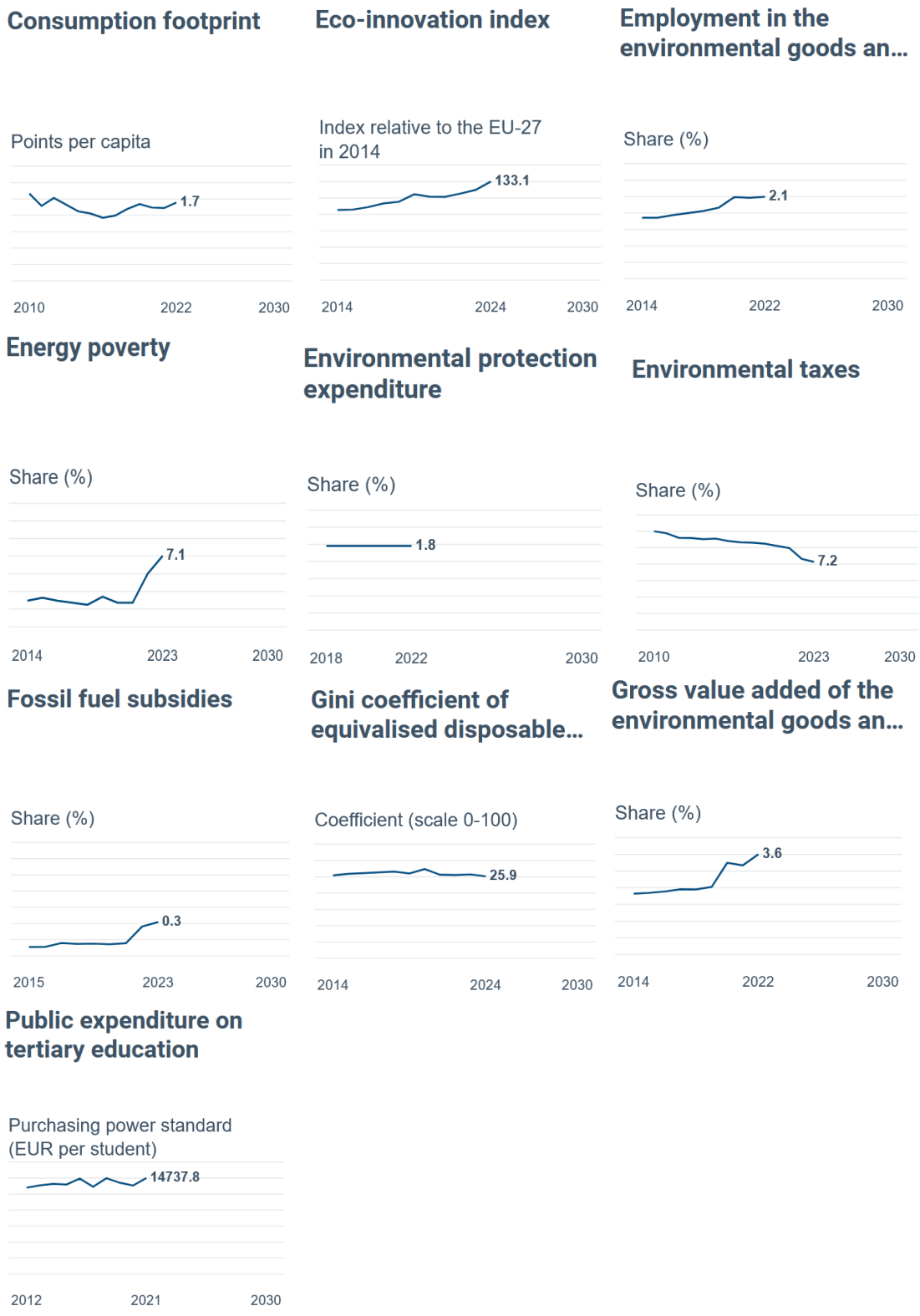


Figure 44. The Netherlands: Socio-economic change trends and assessments
Source: EEA, 2025x

To a certain extent, environment and climate indicators show that the Netherlands is on track to achieve the upcoming EU goals, like those for the circular economy transition. Others, like the climate-transition-related indicators, show that it is unlikely that the Netherlands will reach the 2030 EU goals. The Netherlands scores quite highly with regard to socioeconomic indicators such as the Gini coefficient, with a score of 26.5 in 2023 for the Netherlands compared with 27.6 for the EU average.

However, some 540 000 people (3.1 % of the population) lived below the poverty line in 2023, and 1.2 million people had an income just above this line (EEA, 2025x).

Air pollution country profile

Exposure - Netherlands

The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

		2018	2019	2020	2021	2022
BaP	annual mean	0.0	0.0	0.0	0.0	0.0
NO2	annual mean	0.5	0.3	0.0	0.0	0.0
O3	percentile 93.15	13.9	0.0	10.0	0.0	0.0
PM2.5	annual mean	0.0	0.0	0.0	0.0	0.0
PM10	annual mean	0.0	0.0	0.0	0.0	0.0
	percentile 90.41	0.0	0.0	0.0	0.0	0.0

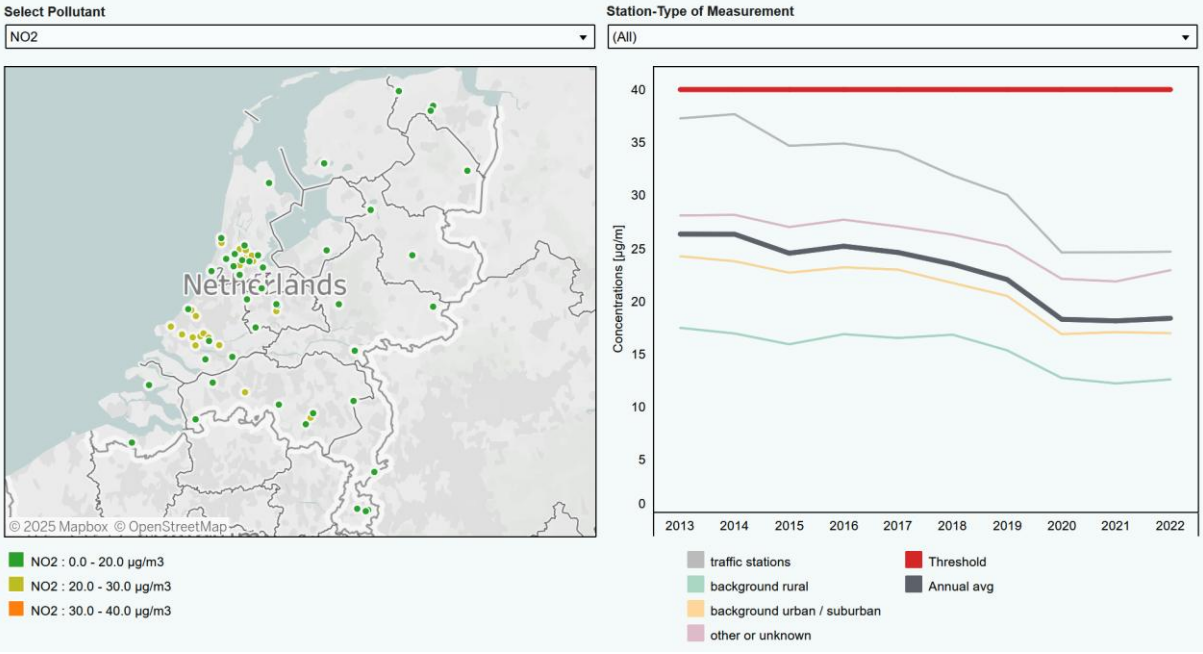
Health impacts

Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Netherlands	9.3	5,250	16.0	1,910	86	1,840
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

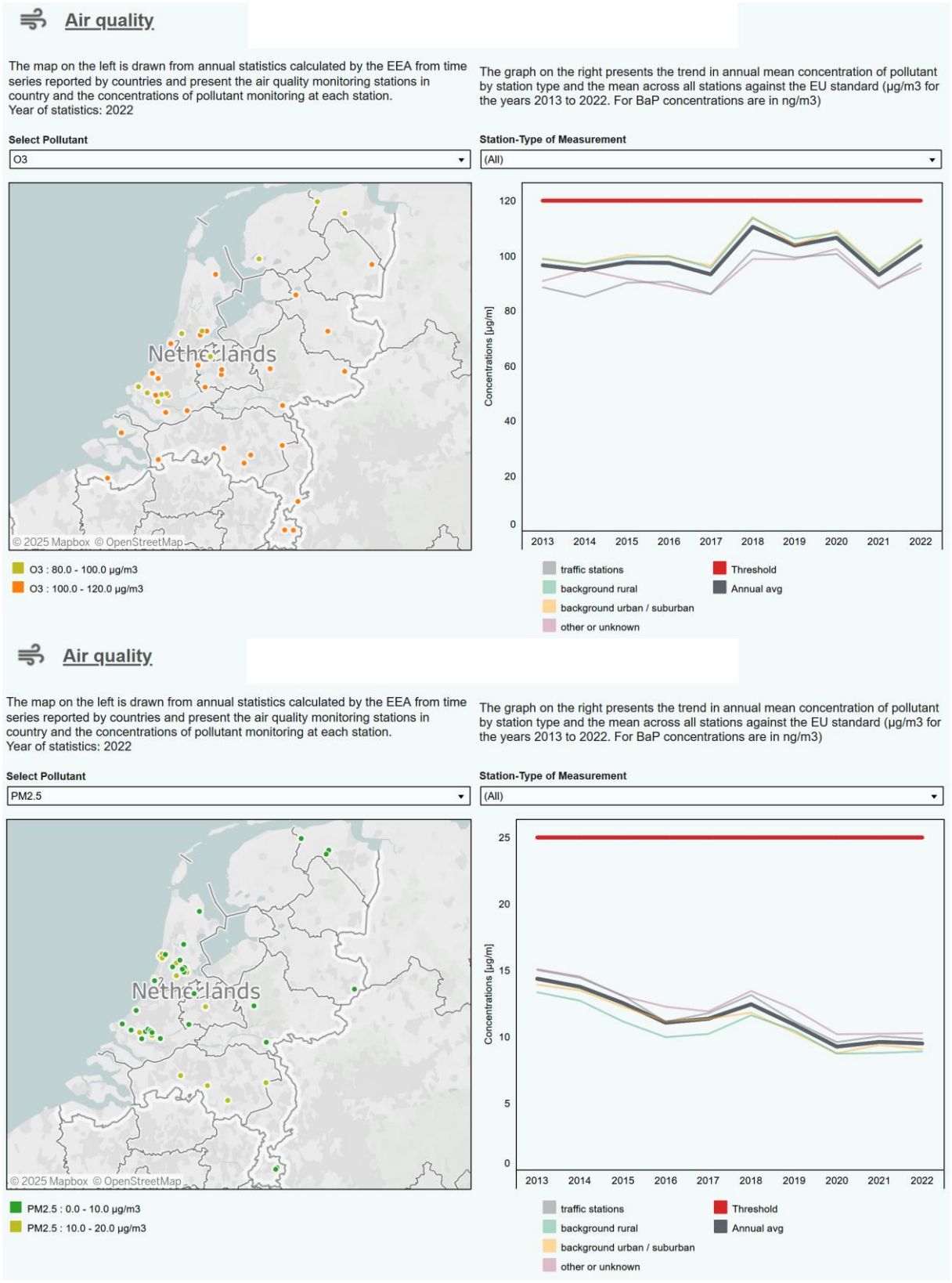
Air quality

The map on the left is drawn from annual statistics calculated by the EEA from time series reported by countries and present the air quality monitoring stations in country and the concentrations of pollutant monitoring at each station.
Year of statistics: 2022

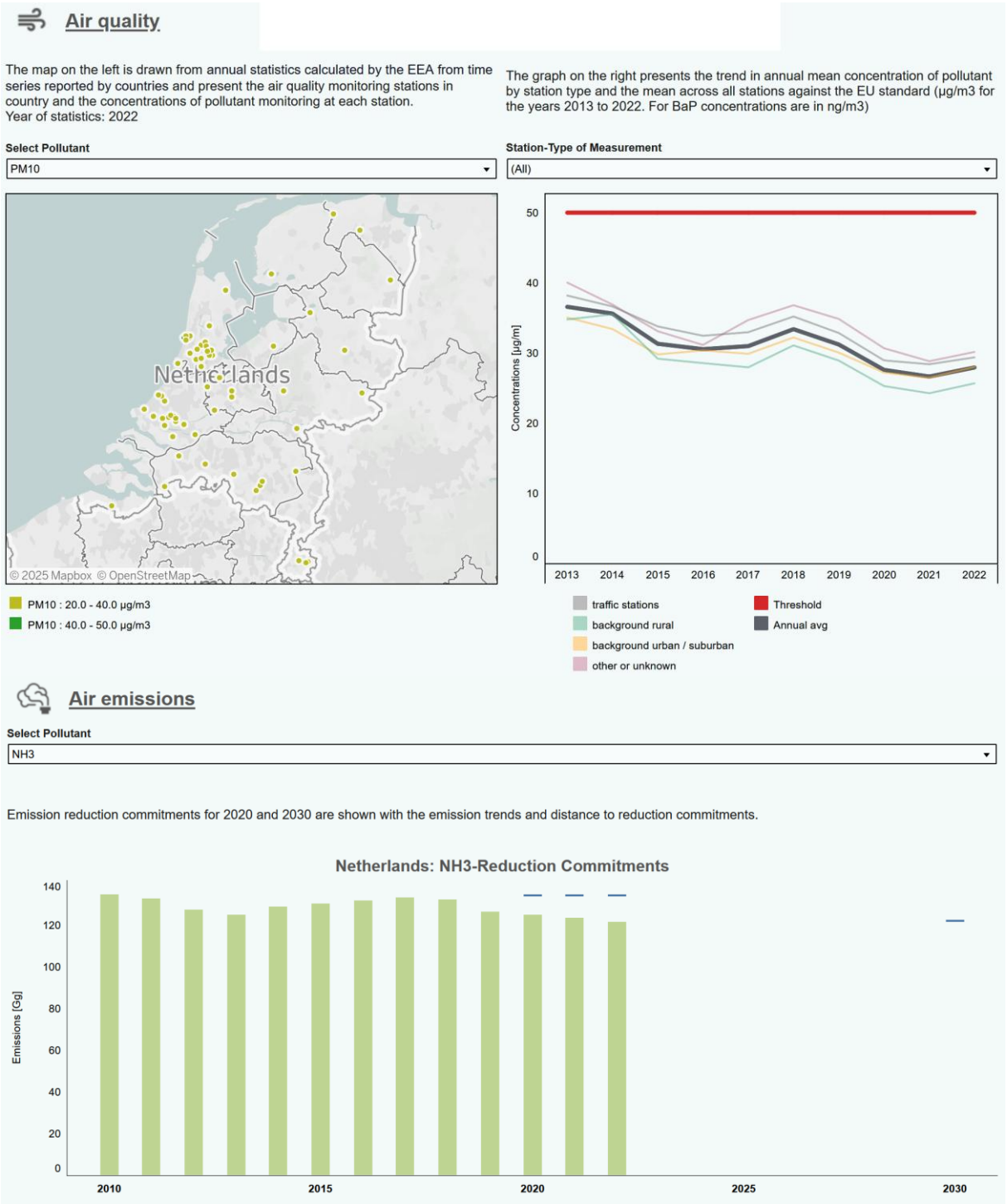
The graph on the right presents the trend in annual mean concentration of pollutant by station type and the mean across all stations against the EU standard (µg/m3 for the years 2013 to 2022. For BaP concentrations are in ng/m3)



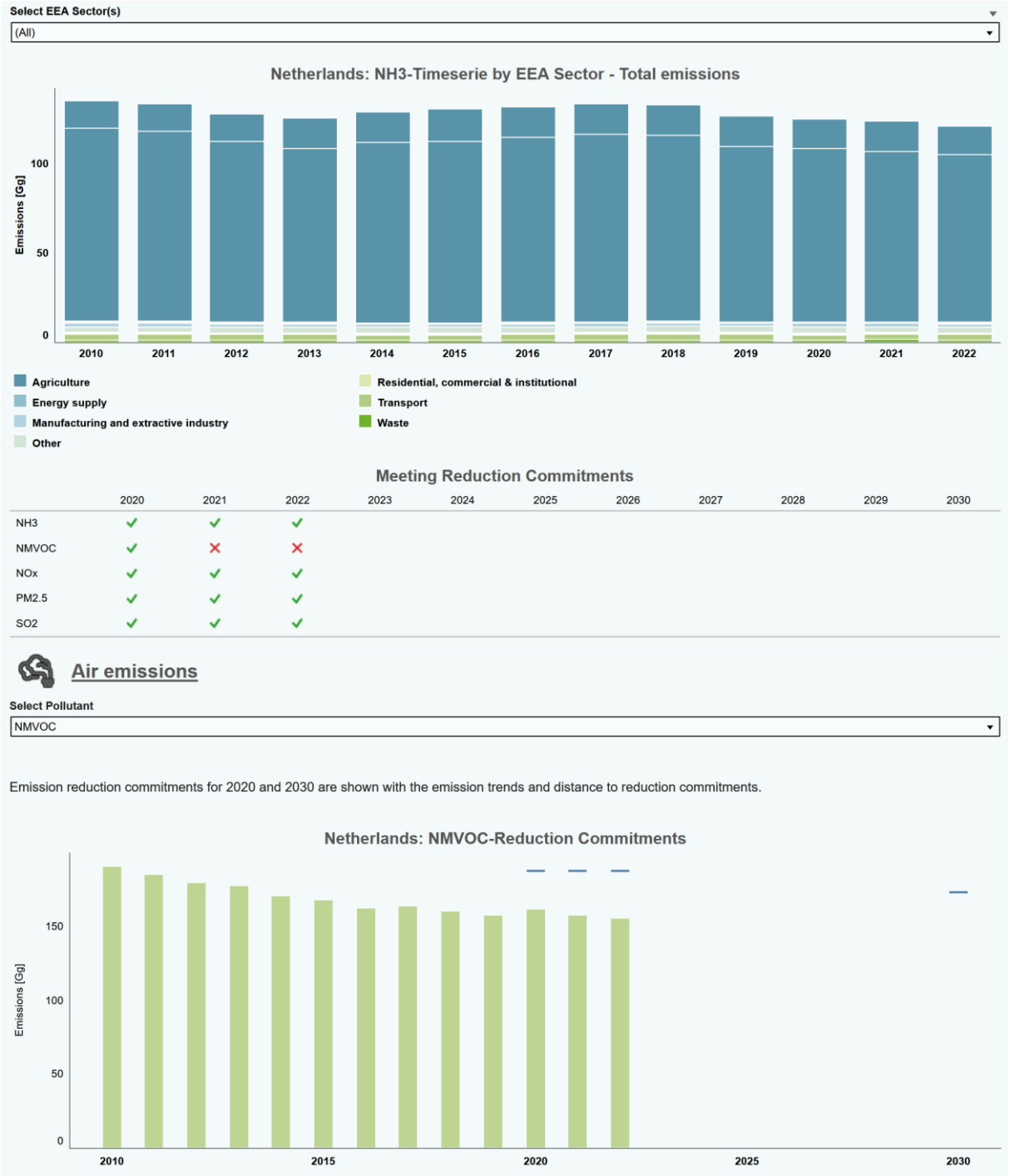
Source: European Commission, 2025e



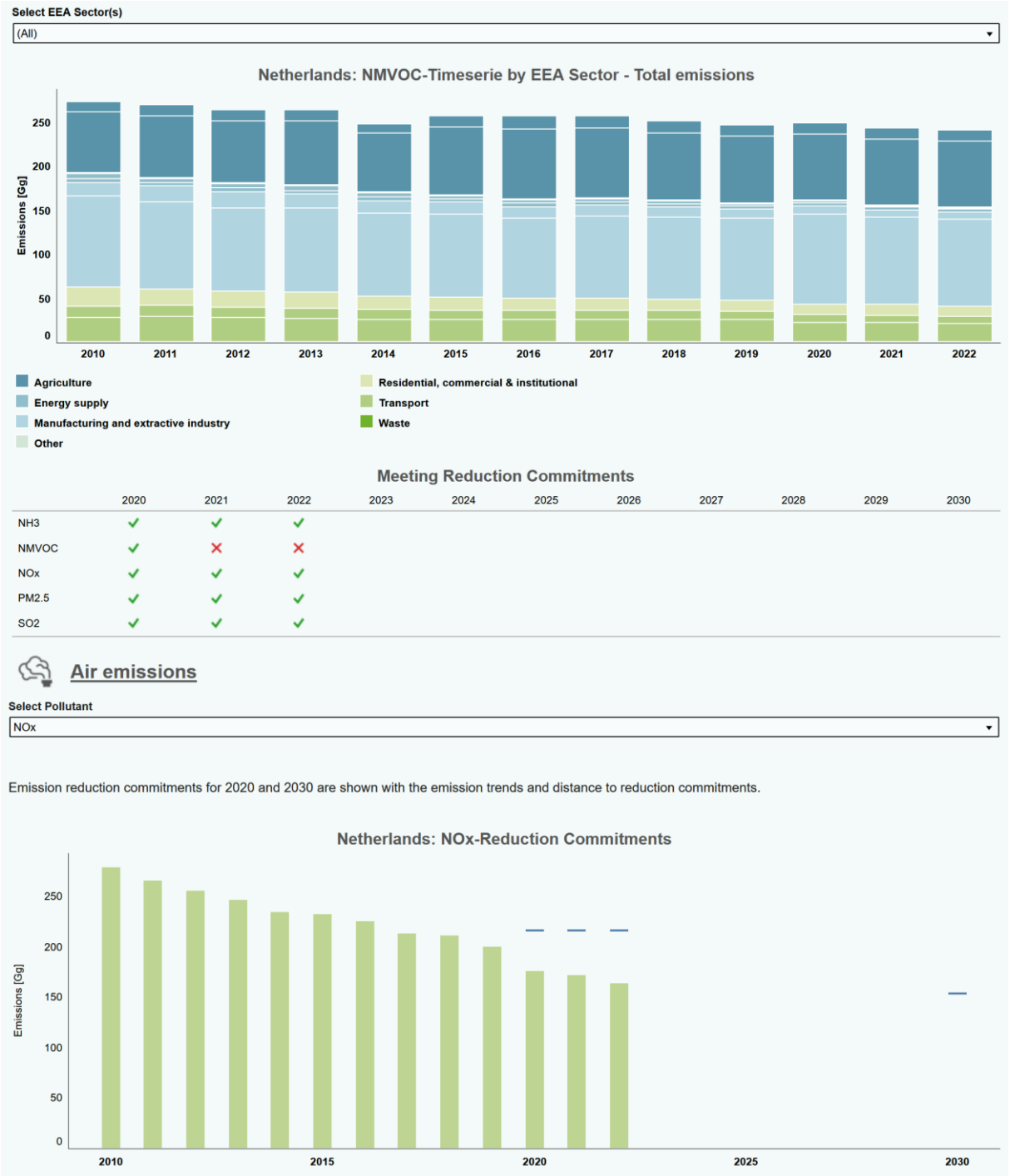
Source: European Commission, 2025e



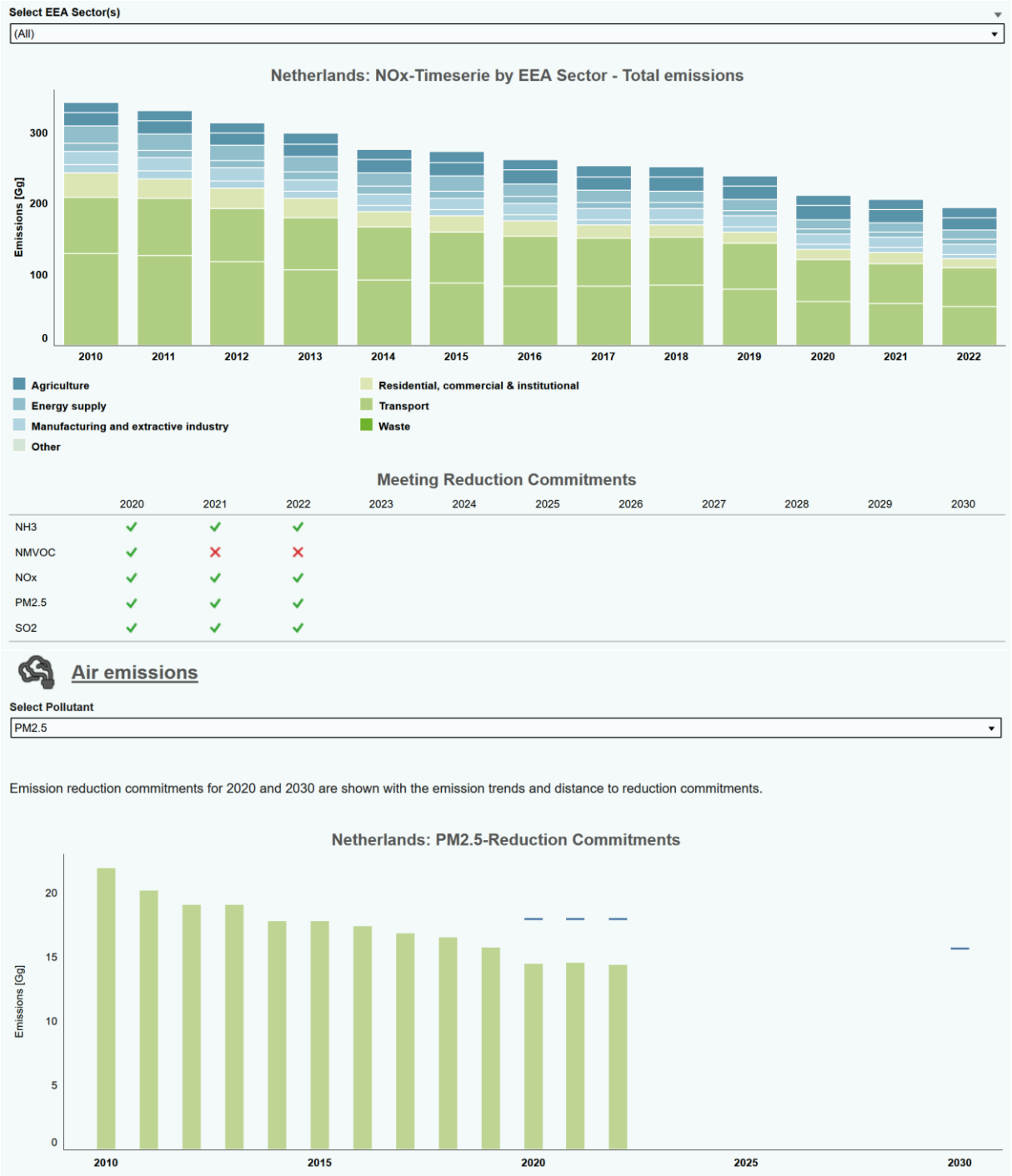
Source: European Commission, 2025e



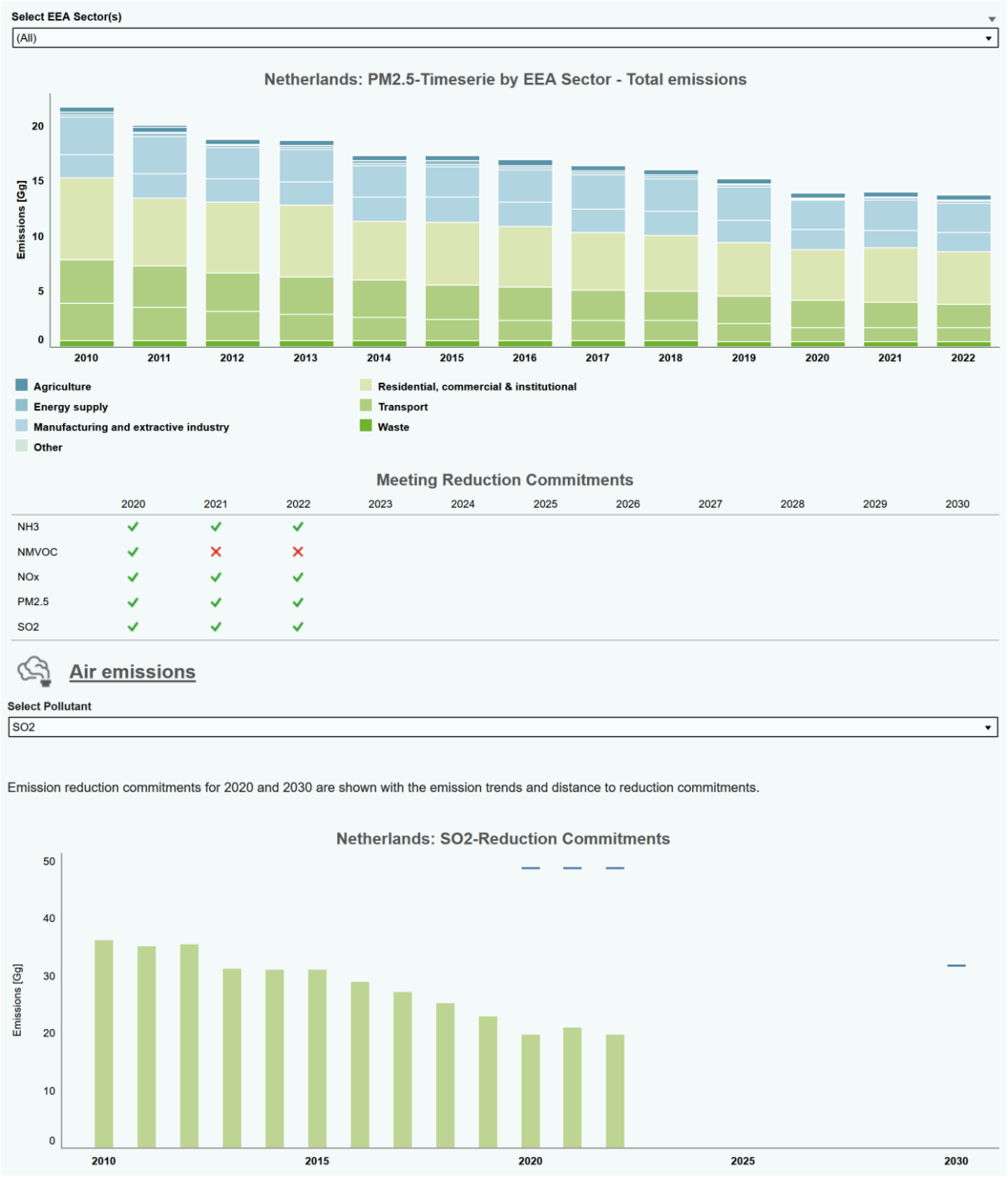
Source: European Commission, 2025e



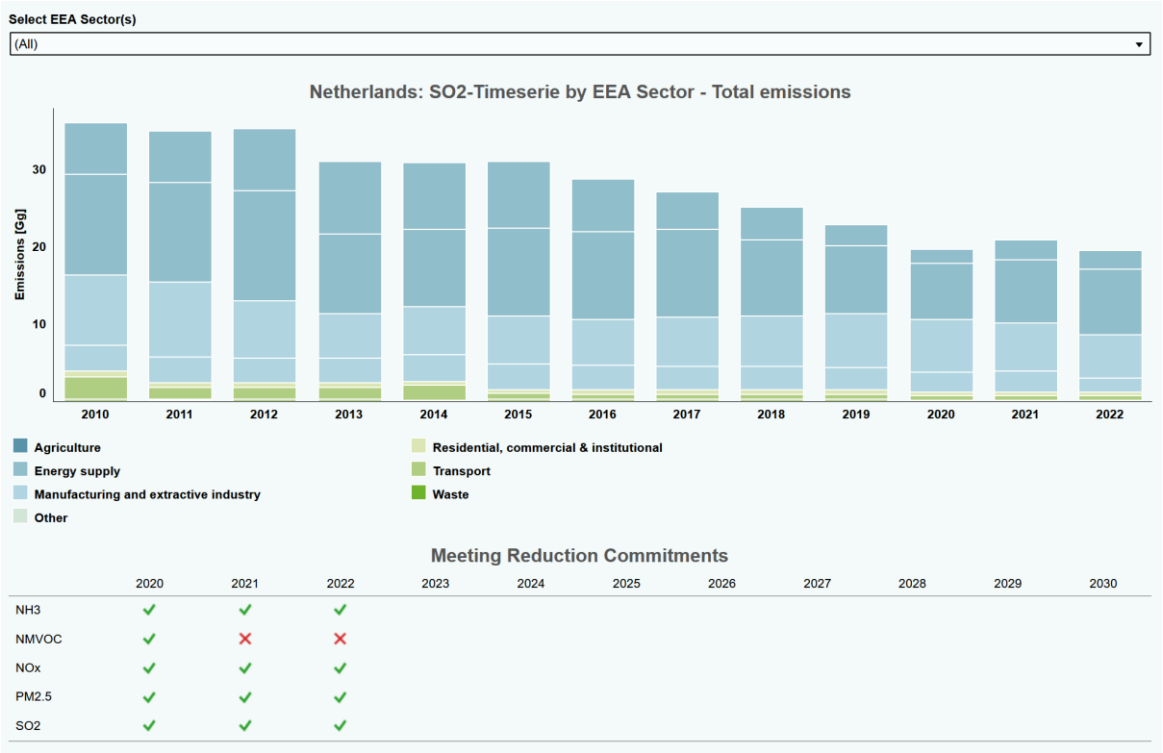
Source: European Commission, 2025e



Source: European Commission, 2025e



Source: European Commission, 2025e



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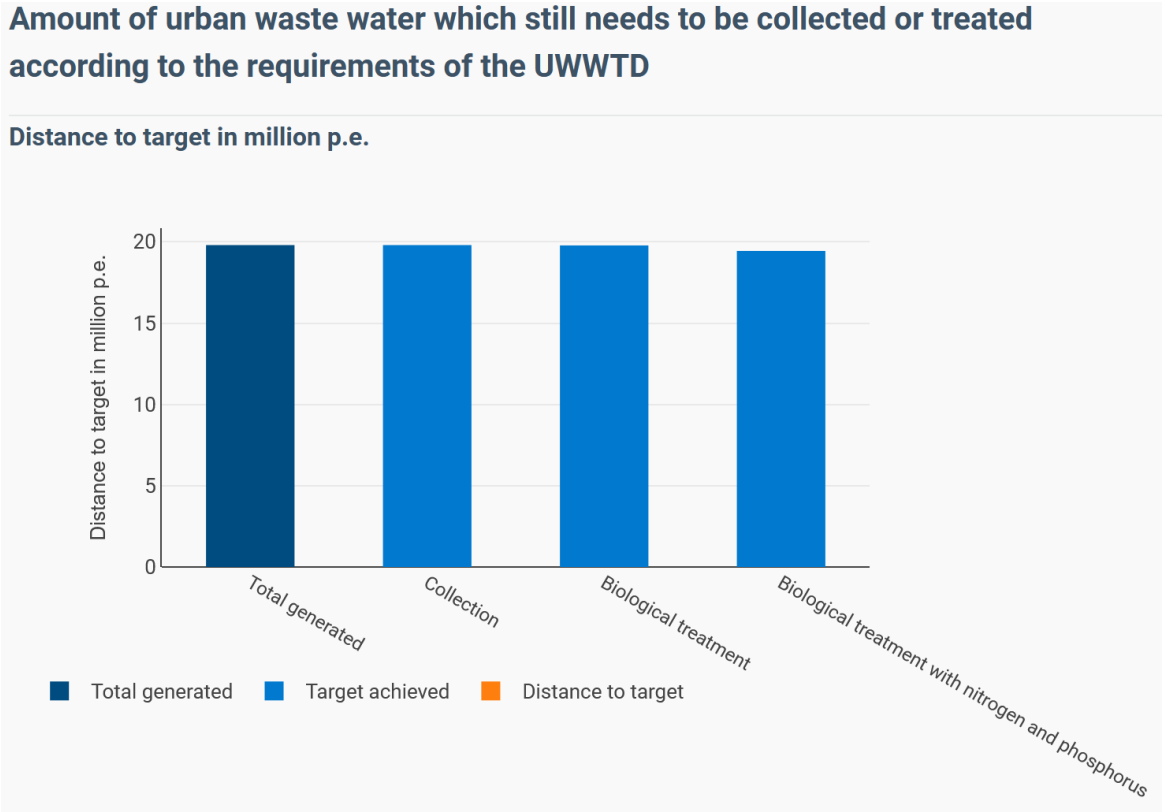
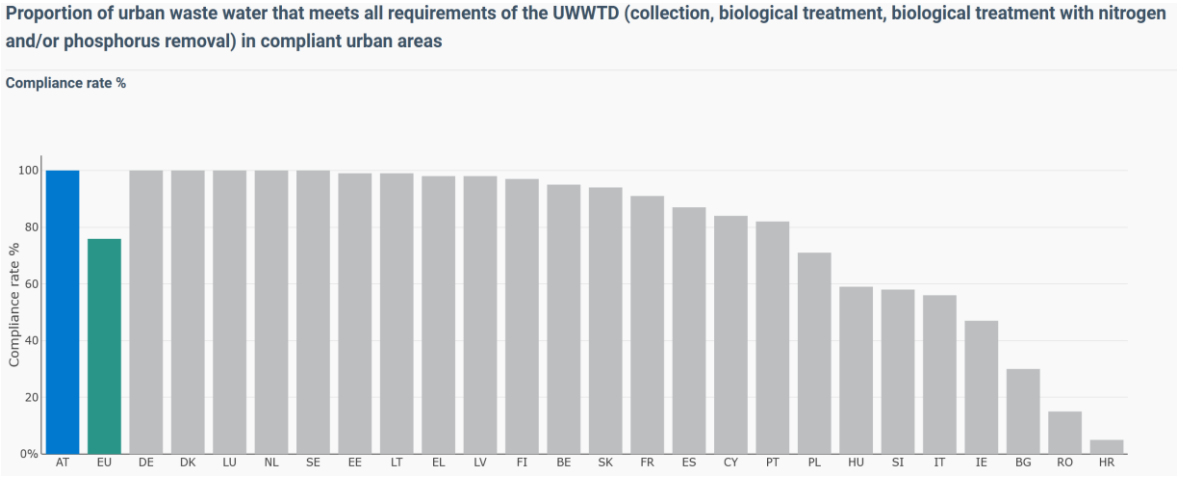


Source: European Commission, 2025e



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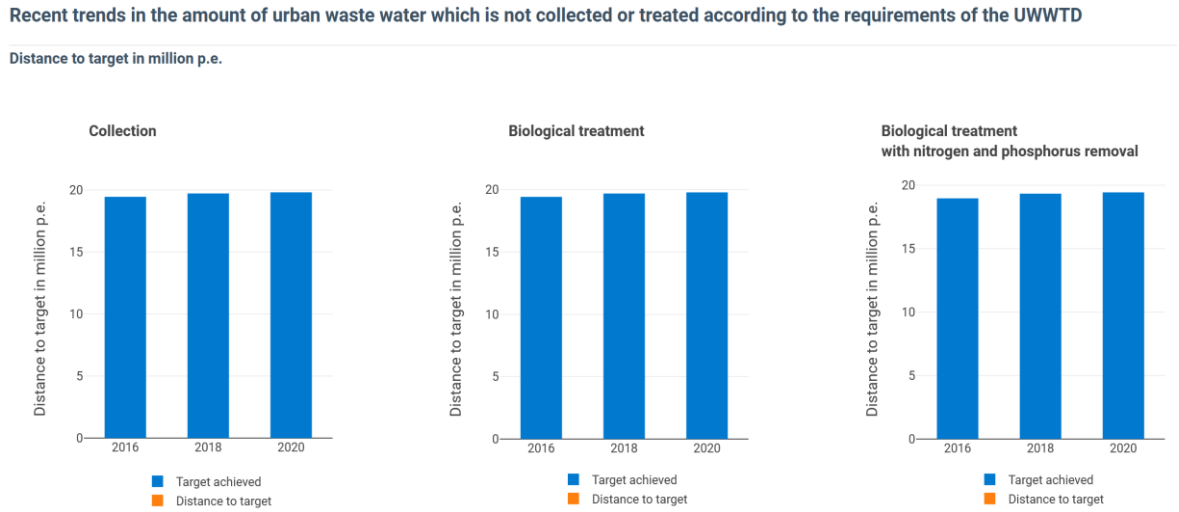
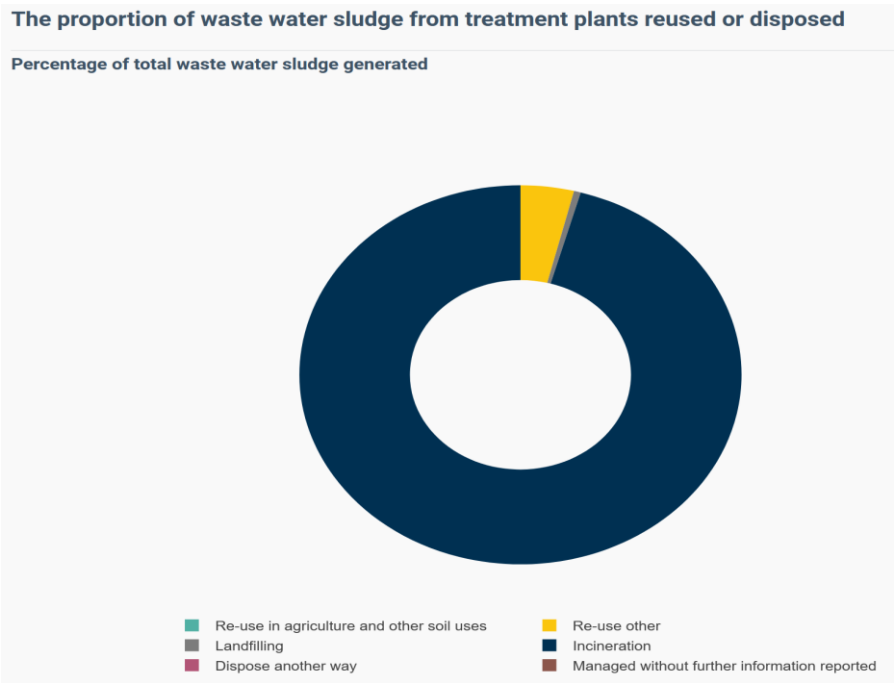


Source: European Commission, 2025e



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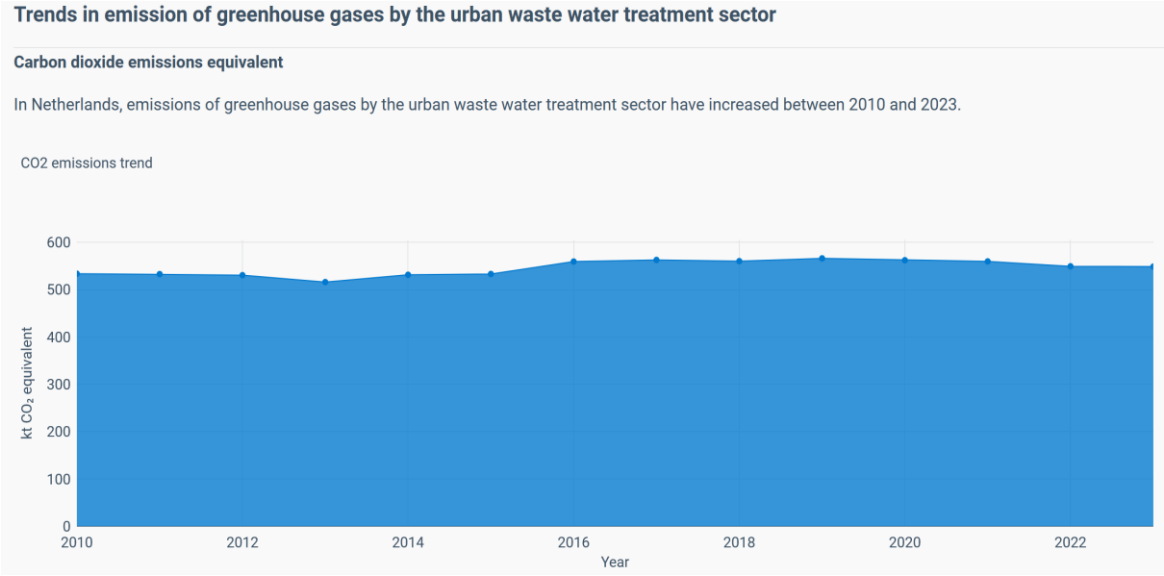
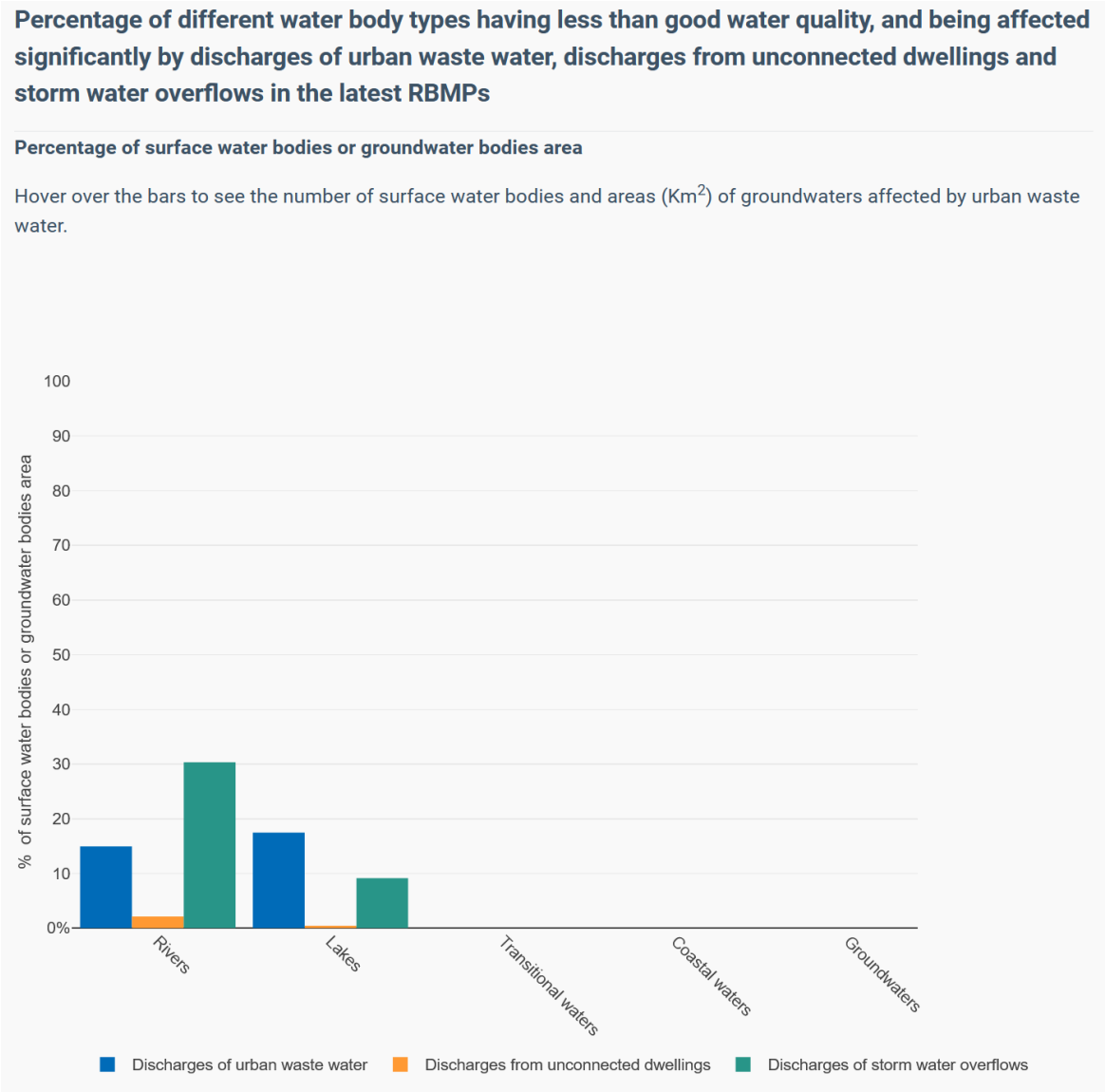
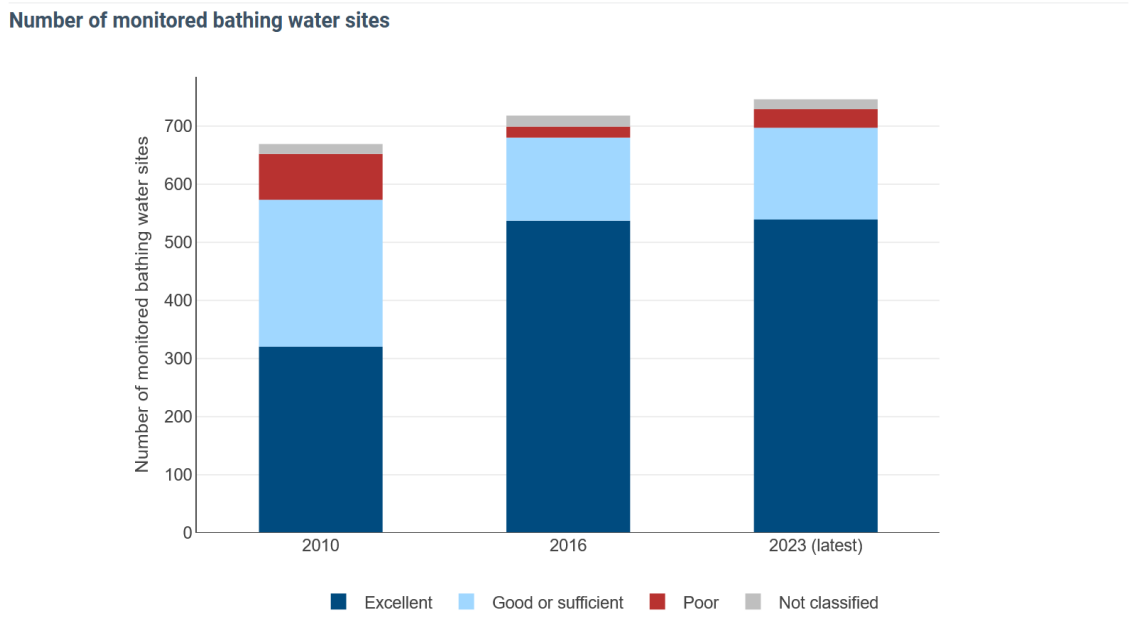


Source: European Commission, 2025e

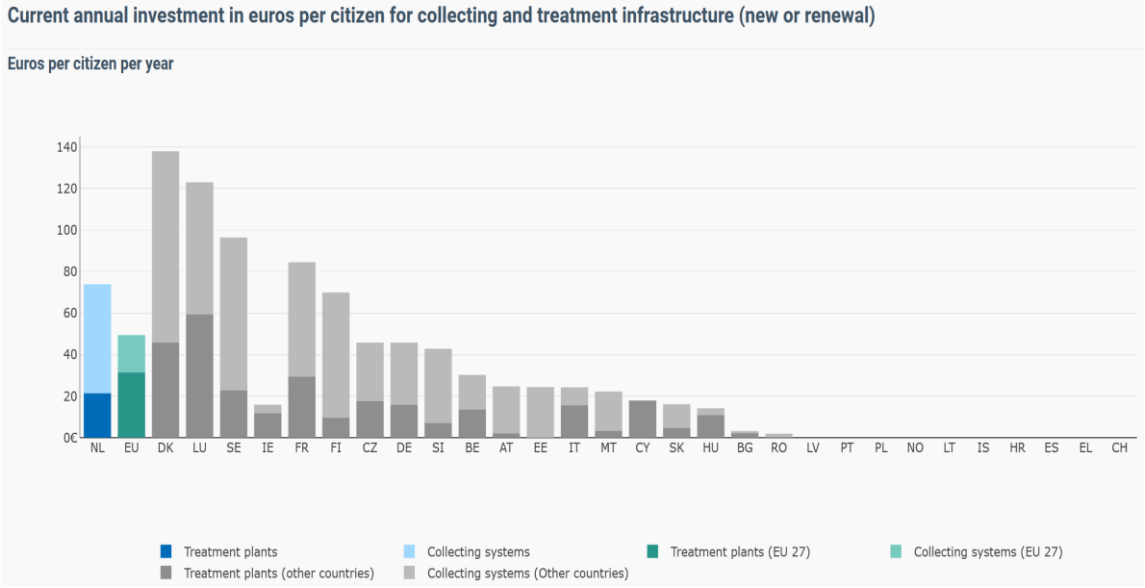


Source: European Commission, 2025e

Progress in the number of monitored bathing water sites having excellent water quality in recent years



Source: European Commission, 2025e



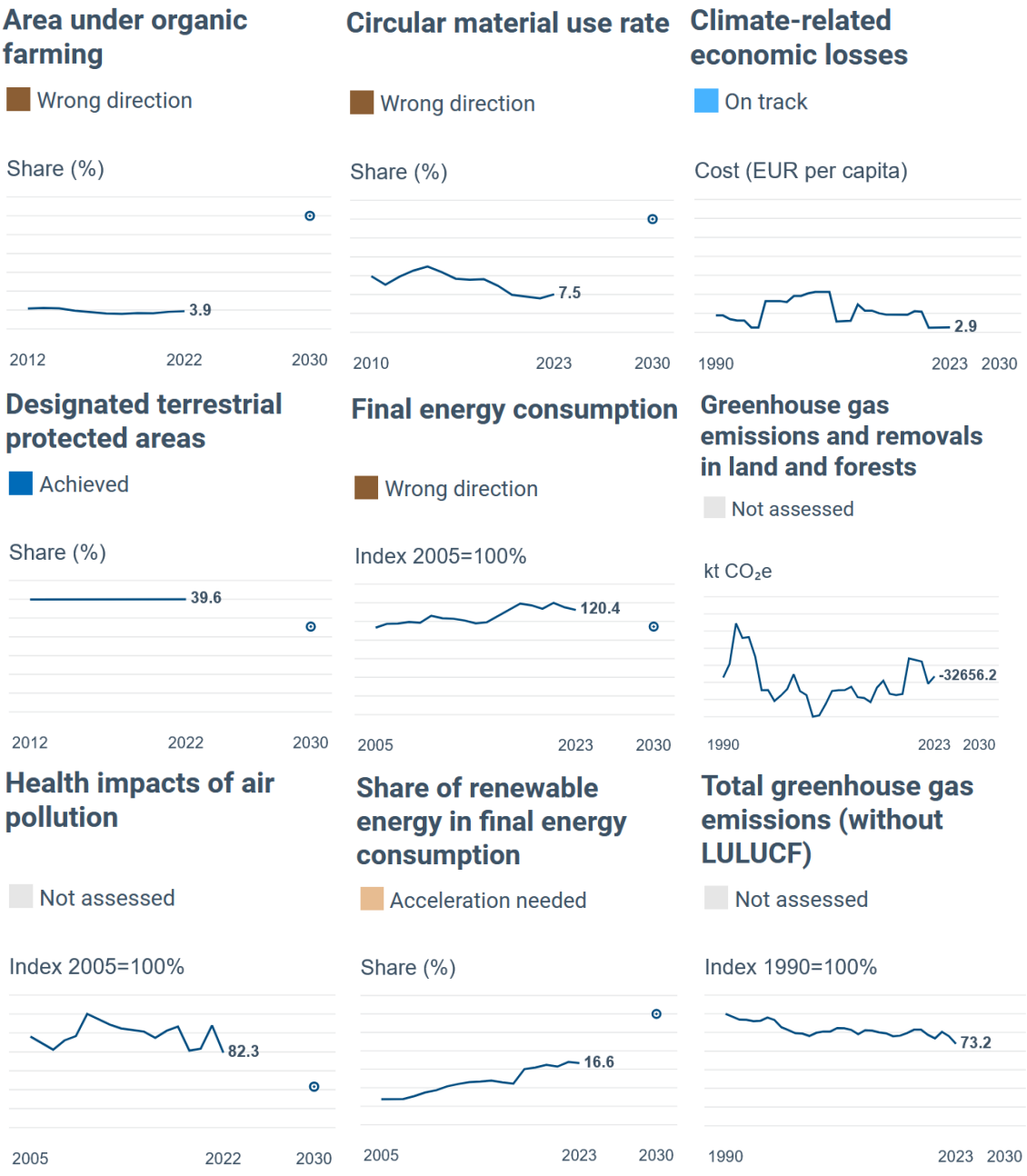
Source: European Commission, 2025e

In the Netherlands, households and certain industries in 303 urban areas generate 19.8 million p.e. of waste water every day, which is an amount equivalent to around 40 million bathtubs or 3.96 million m3. According to the UWWTD, the Netherlands is required to provide in urban areas: (1) Collection of 19.8 million p.e. of waste water; (2) Biological treatment to 19.8 million p.e. of waste water; and (3) Biological treatment with nitrogen and phosphorus removal to 19.4 million p.e. of waste water. Overall, 100% of the urban waste water in the Netherlands is treated according to the requirements of the UWWTD. This is above the EU average of 75.9%. The Netherlands generated 308,360 tonnes of waste water sludge in 2020. The Netherlands currently invests 74 euros per citizen per year for new collecting and treatment infrastructure, as well as for the renewal of ageing infrastructure. This is above the EU average of 49 euros per citizen every year (European Commission, 2025e).

(6) POLAND

Country benchmark towards 2030 targets/objectives

- **Achieved**: current levels have already reached the 2030 target/objective
- **On track:** target/objective will be reached following the historic trend
- **Acceleration needed:** target/objective will not be reached following the historical trend
- **Wrong direction:** the historical trend is not in the direction of the target/objective
- **Not assessed:** benchmark not applicable



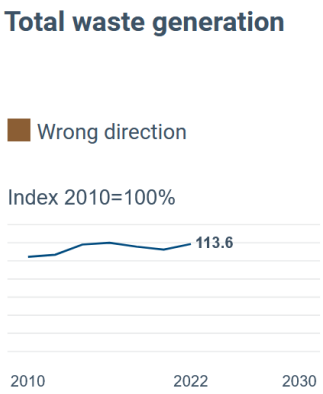
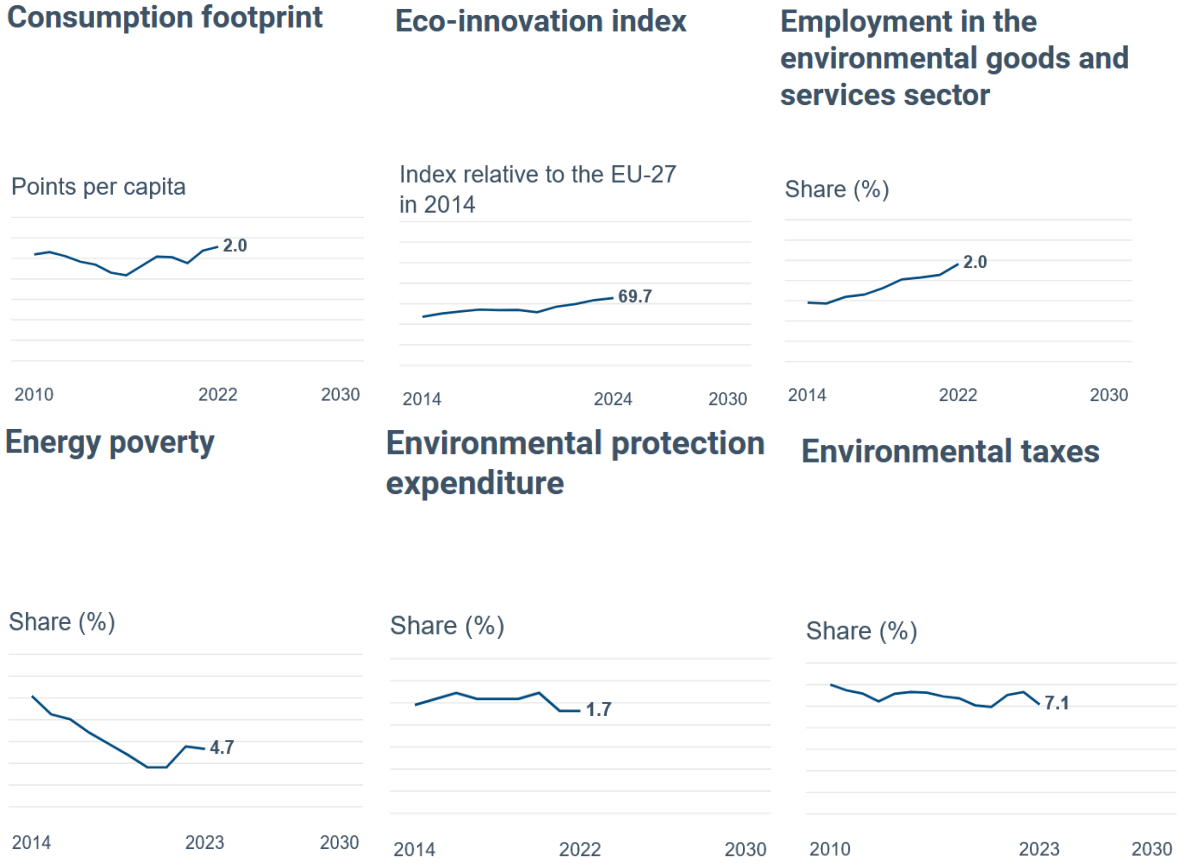


Figure 45. Poland: Environment and climate trends and assessments
Source: EEA, 2025y

In many areas, Poland has made important progress in the transition towards sustainability. Greenhouse gas emissions were significantly reduced by 2000, and since then have stayed at a similar level. Air quality has been consistently improving. Poland can boast high biodiversity as well as a large and increasing forest area. Moreover, around 40% of the land territory is covered by protected areas, significantly above the EU average (EEA, 2025y).



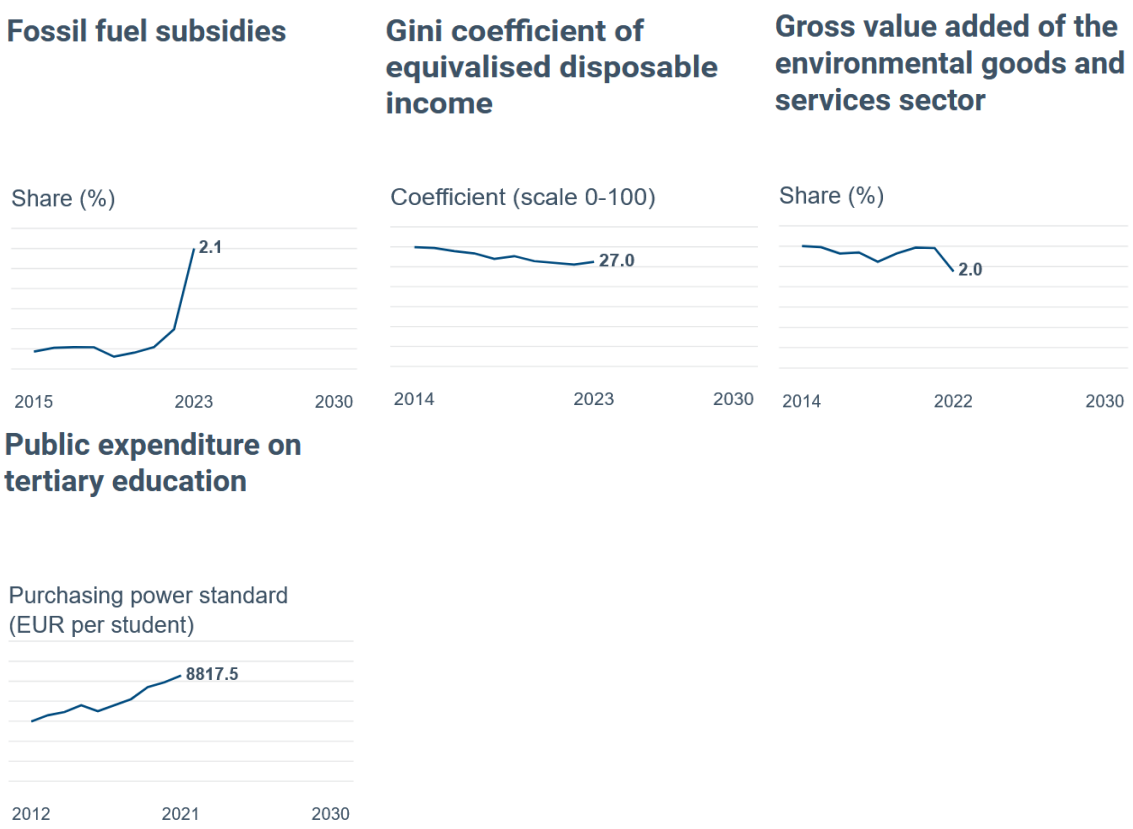


Figure 46. Poland: Socio-economic trends and assessments
Source: EEA, 2025y

Air pollution country profile

Exposure - Poland

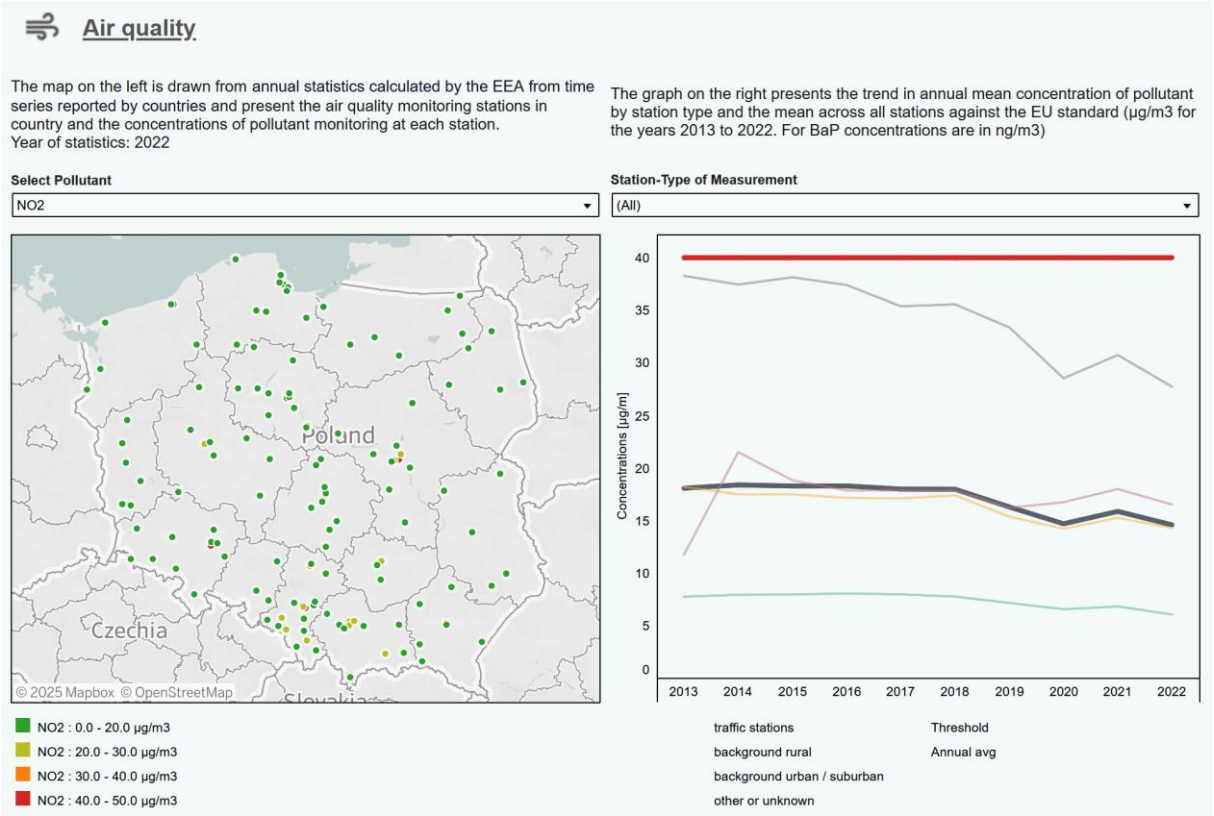
The table below shows the percentage of urban population exposed to concentrations above EU standards for selected air pollutants such as PM10, PM2.5, O3, NO2 and BaP for the years 2018-2022.

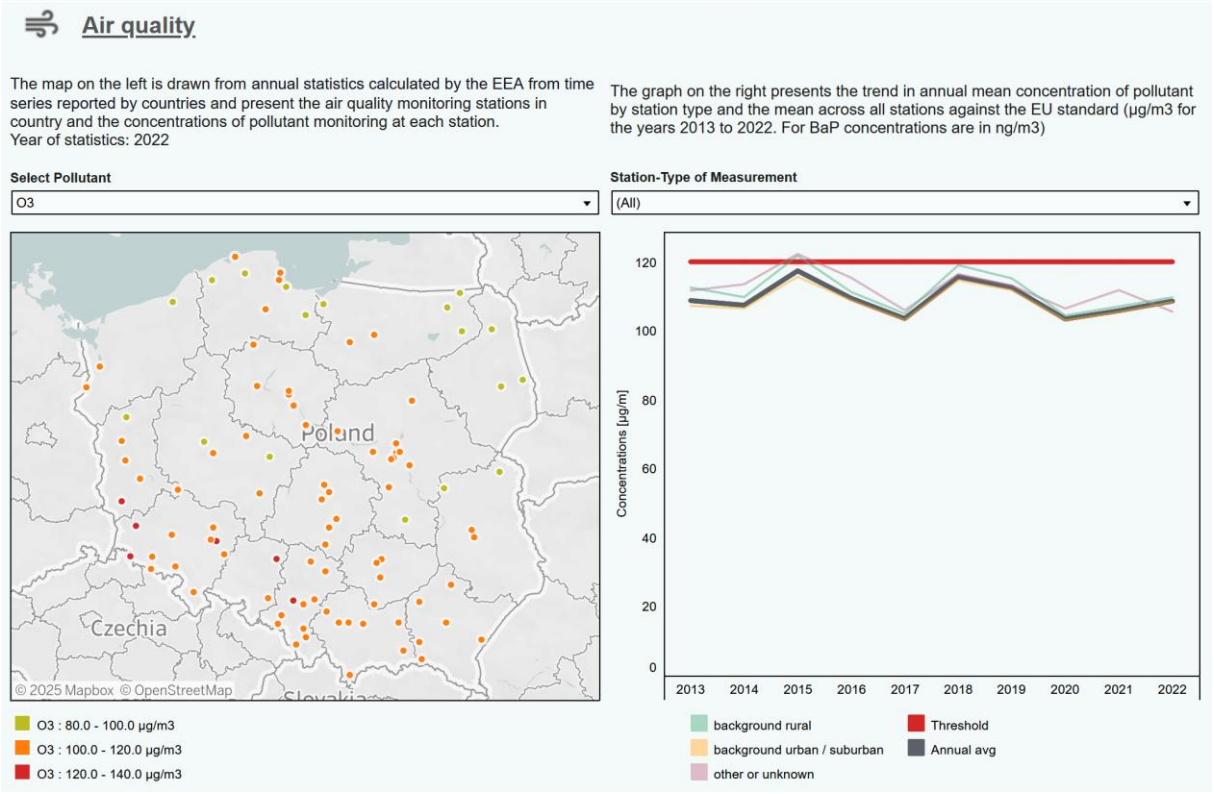
		2018	2019	2020	2021	2022
BaP	annual mean	100.0	84.8	81.4	92.4	69.1
NO2	annual mean	1.1	1.1	0.2	1.0	0.9
O3	percentile 93.15	24.1	6.5	0.0	0.0	3.2
PM2.5	annual mean	24.2	2.9	0.8	0.9	0.0
PM10	annual mean	9.6	1.3	0.0	0.1	0.0
	percentile 90.41	79.4	31.0	13.1	32.6	10.9

Health impacts

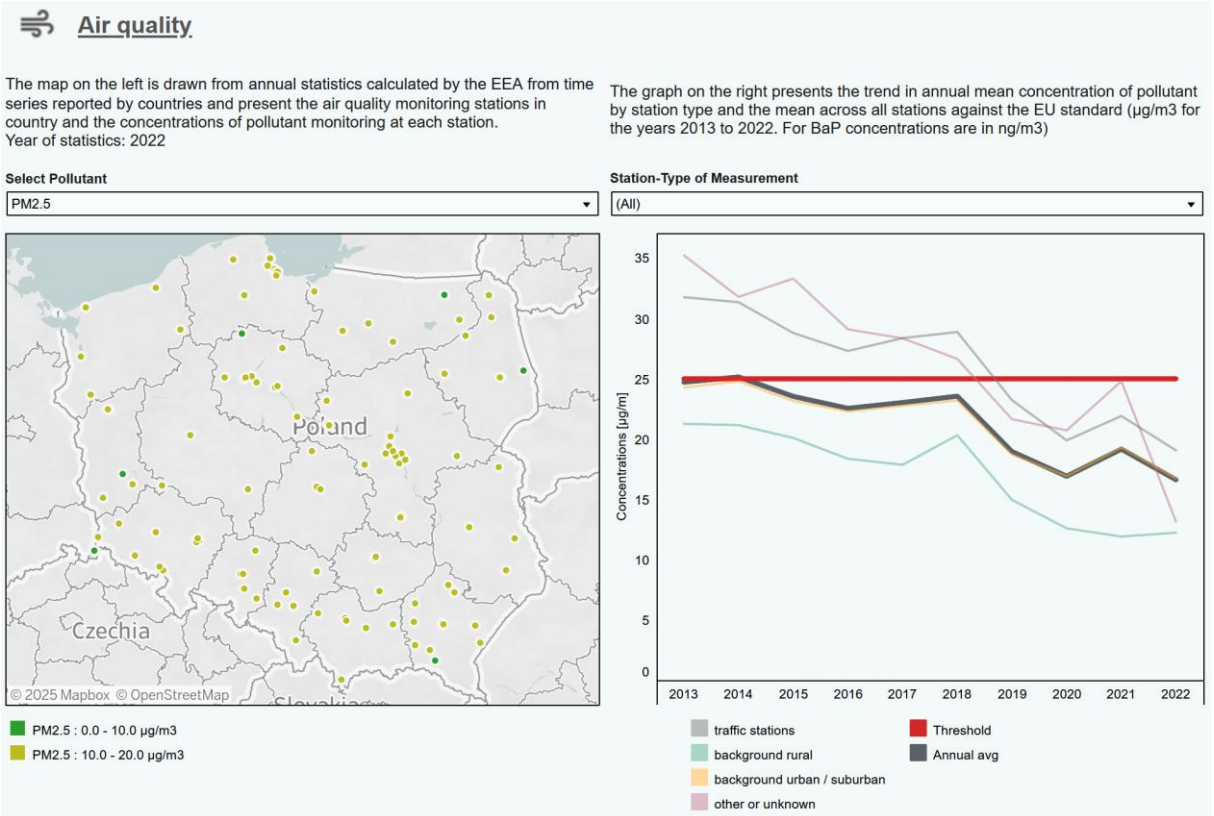
Country	Population weighted annual mean (PM2.5)	Attributable deaths (PM2.5)	Population weighted annual mean (NO2)	Attributable deaths (NO2)	Population weighted annual mean PEAK (O3)	Attributable deaths (O3)
Poland	16.1	34,720	13.0	3,130	88	5,350
EU27	11.4	239,000	14.1	48,000	92	70,000
Total	11.5	269,000	15.7	66,000	91	81,000

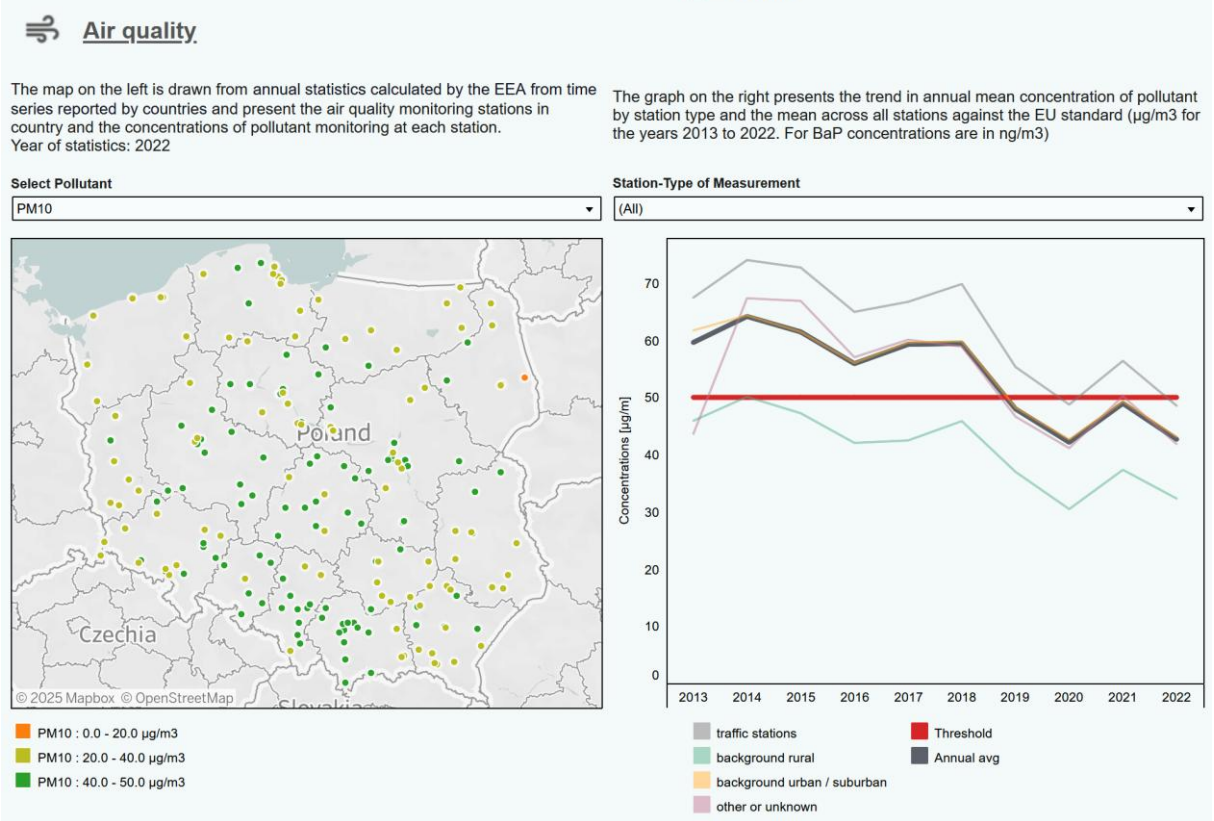
Source: European Commission, 2025f





Source: European Commission, 2025f





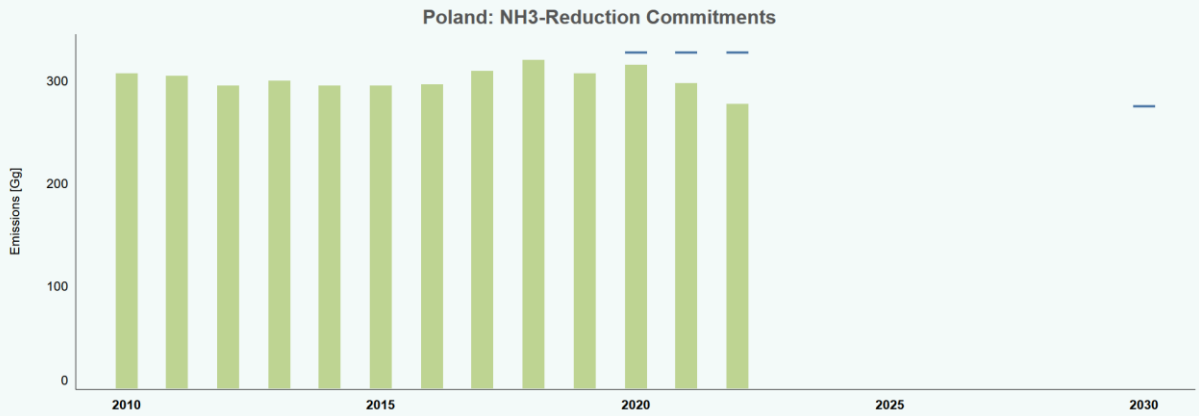
Source: European Commission, 2025f

Air emissions

Select Pollutant

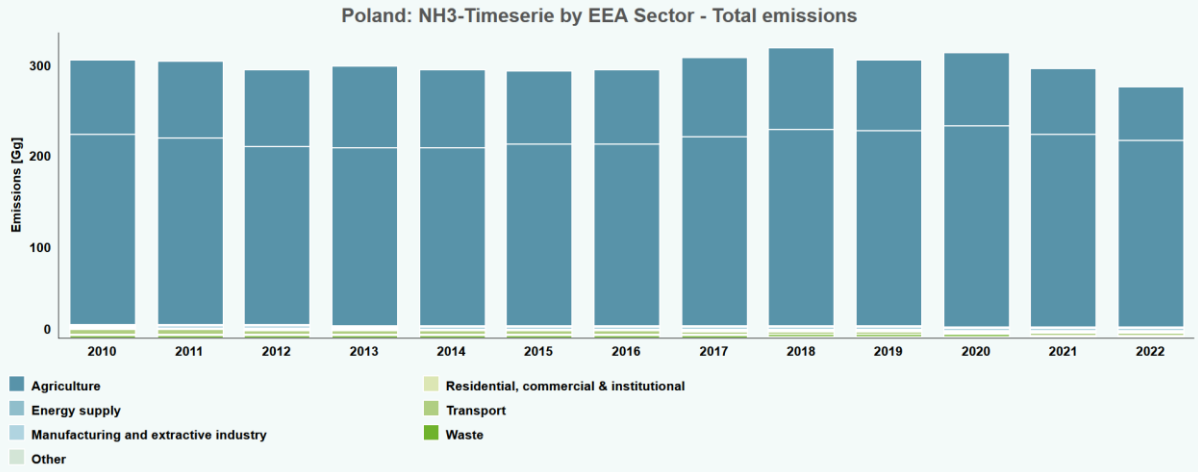
NH3

Emission reduction commitments for 2020 and 2030 are shown with the emission trends and distance to reduction commitments.



Select EEA Sector(s)

(All)



Meeting Reduction Commitments

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
NH3	✓	✓	✓								
NMVOC	✗	✗	✗								
NOx	✓	✓	✓								
PM2.5	✗	✗	✓								
SO2	✓	✓	✓								

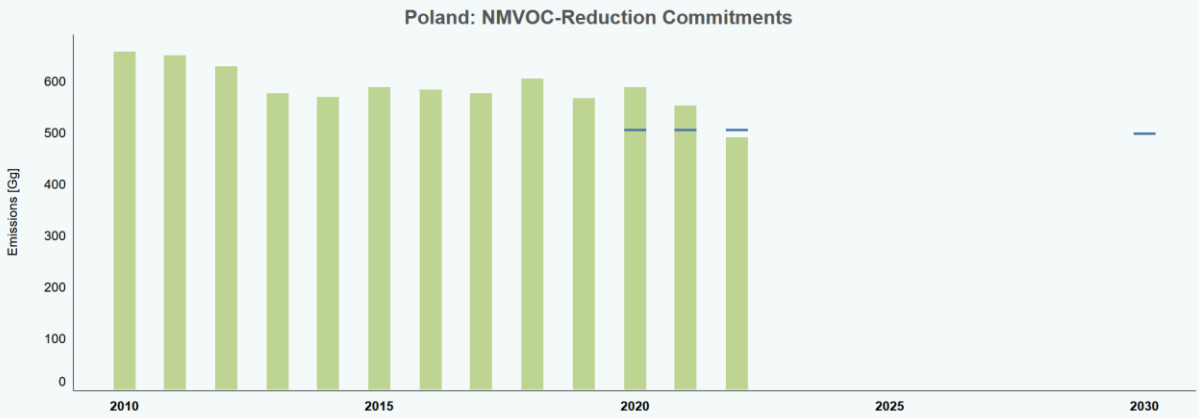
Source: European Commission, 2025f

Air emissions

Select Pollutant

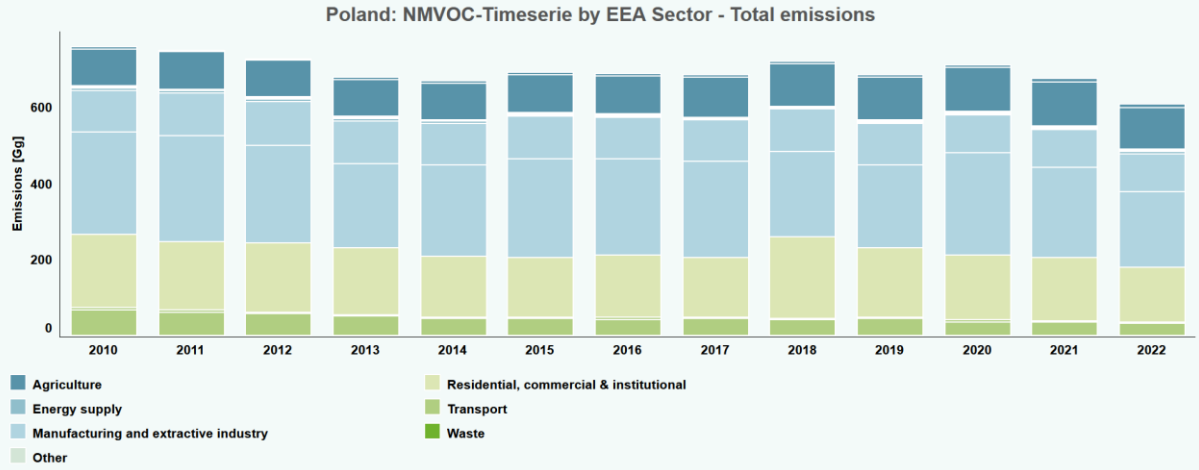
NMVOC

Emission reduction commitments for 2020 and 2030 are shown with the emission trends and distance to reduction commitments.



Select EEA Sector(s)

(All)



Meeting Reduction Commitments

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
NH3	✓	✓	✓								
NMVOC	✗	✗	✗								
NOx	✓	✓	✓								
PM2.5	✗	✗	✓								
SO2	✓	✓	✓								

Source: European Commission, 2025f

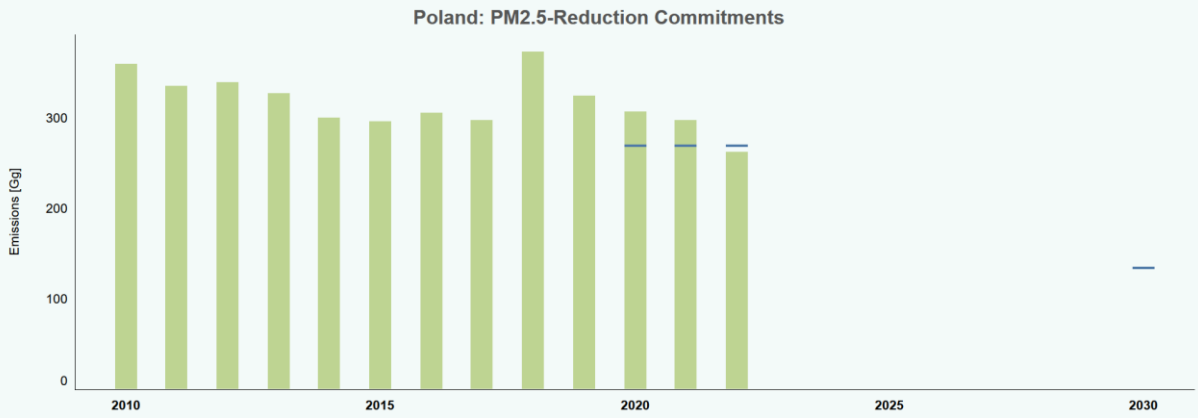
Source: European Commission, 2025f

Air emissions

Select Pollutant

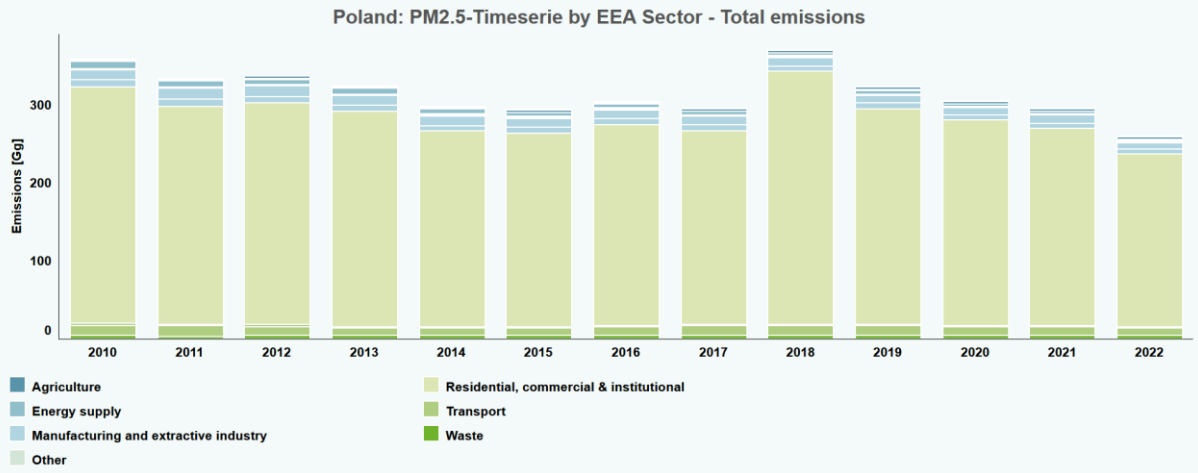
PM2.5

Emission reduction commitments for 2020 and 2030 are shown with the emission trends and distance to reduction commitments.



Select EEA Sector(s)

(All)

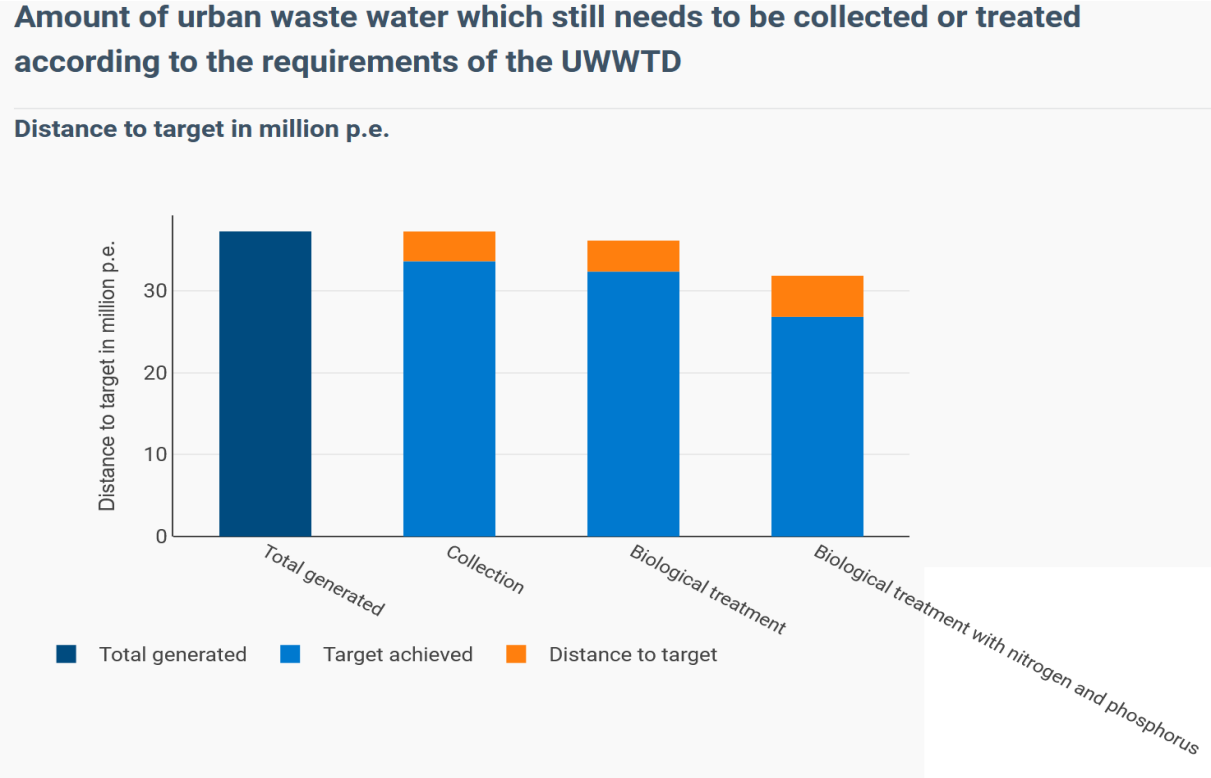


Meeting Reduction Commitments

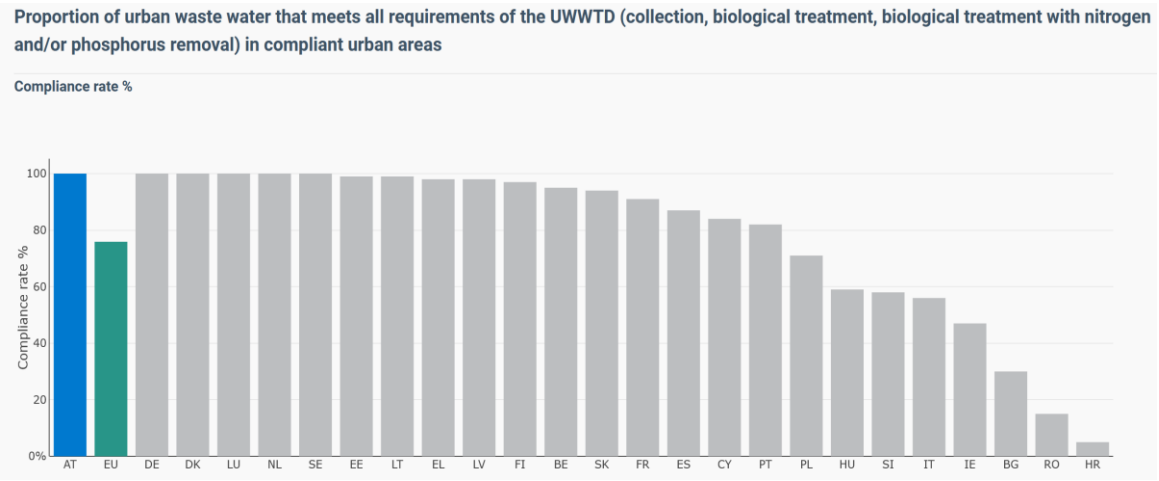
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
NH3	✓	✓	✓								
NMVOC	✗	✗	✗								
NOx	✓	✓	✓								
PM2.5	✗	✗	✓								
SO2	✓	✓	✓								

Source: European Commission, 2025f

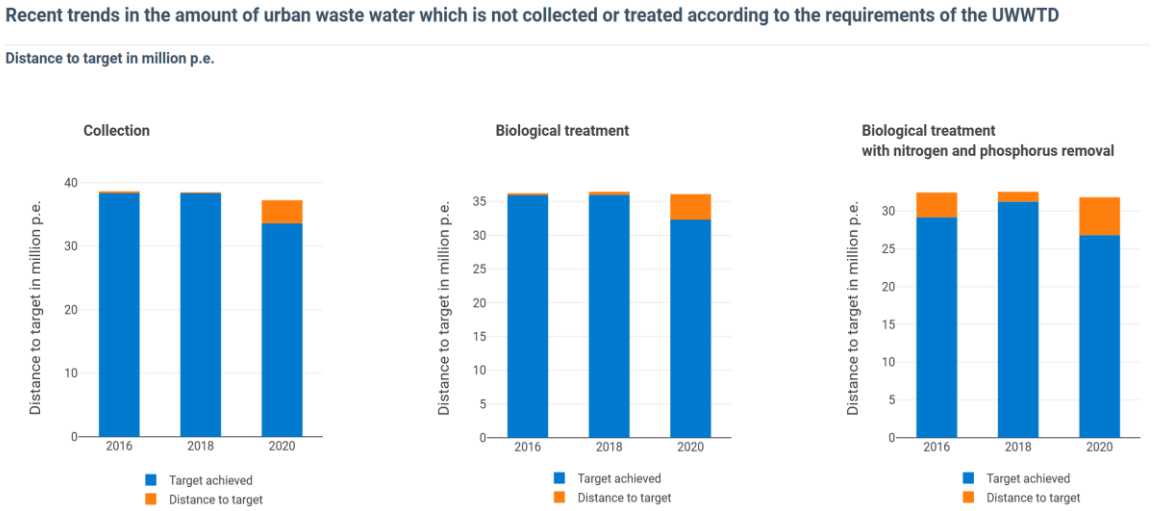
Source: European Commission, 2025f



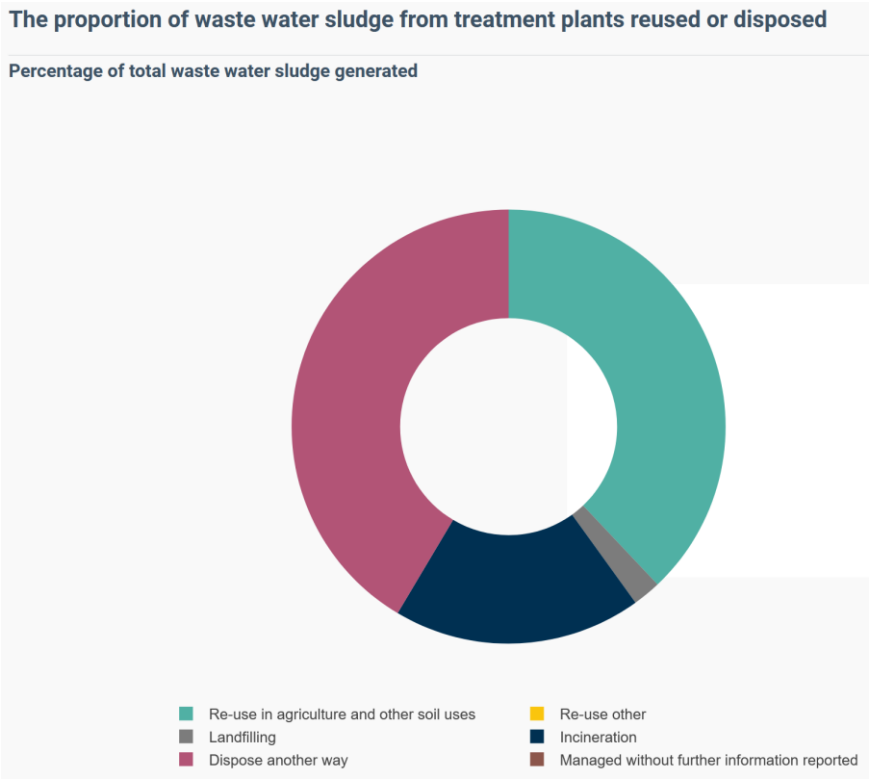
Source: European Commission, 2025f



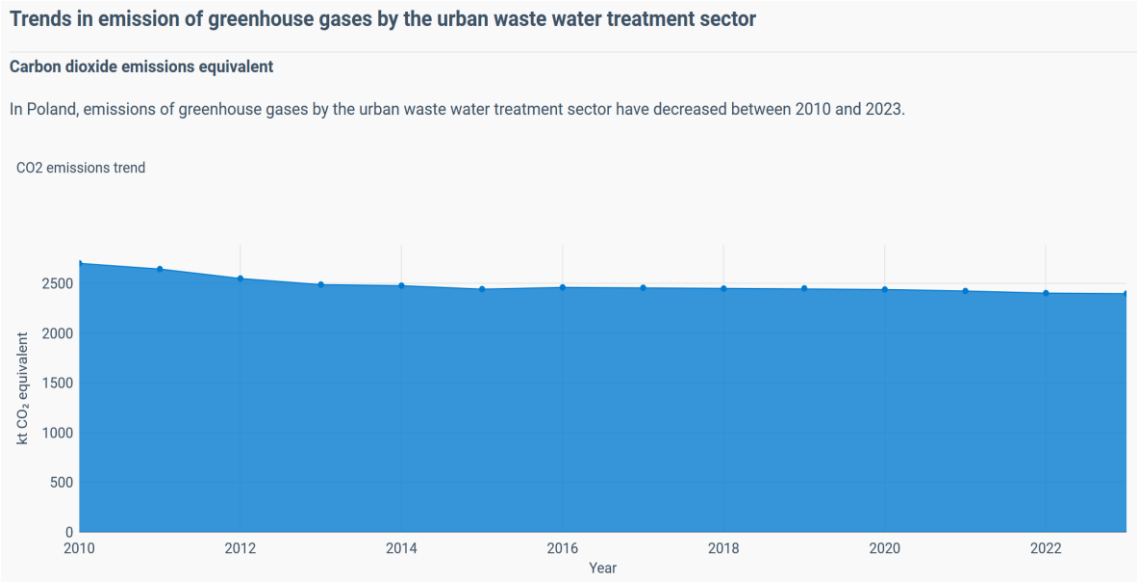
Source: European Commission, 2025f



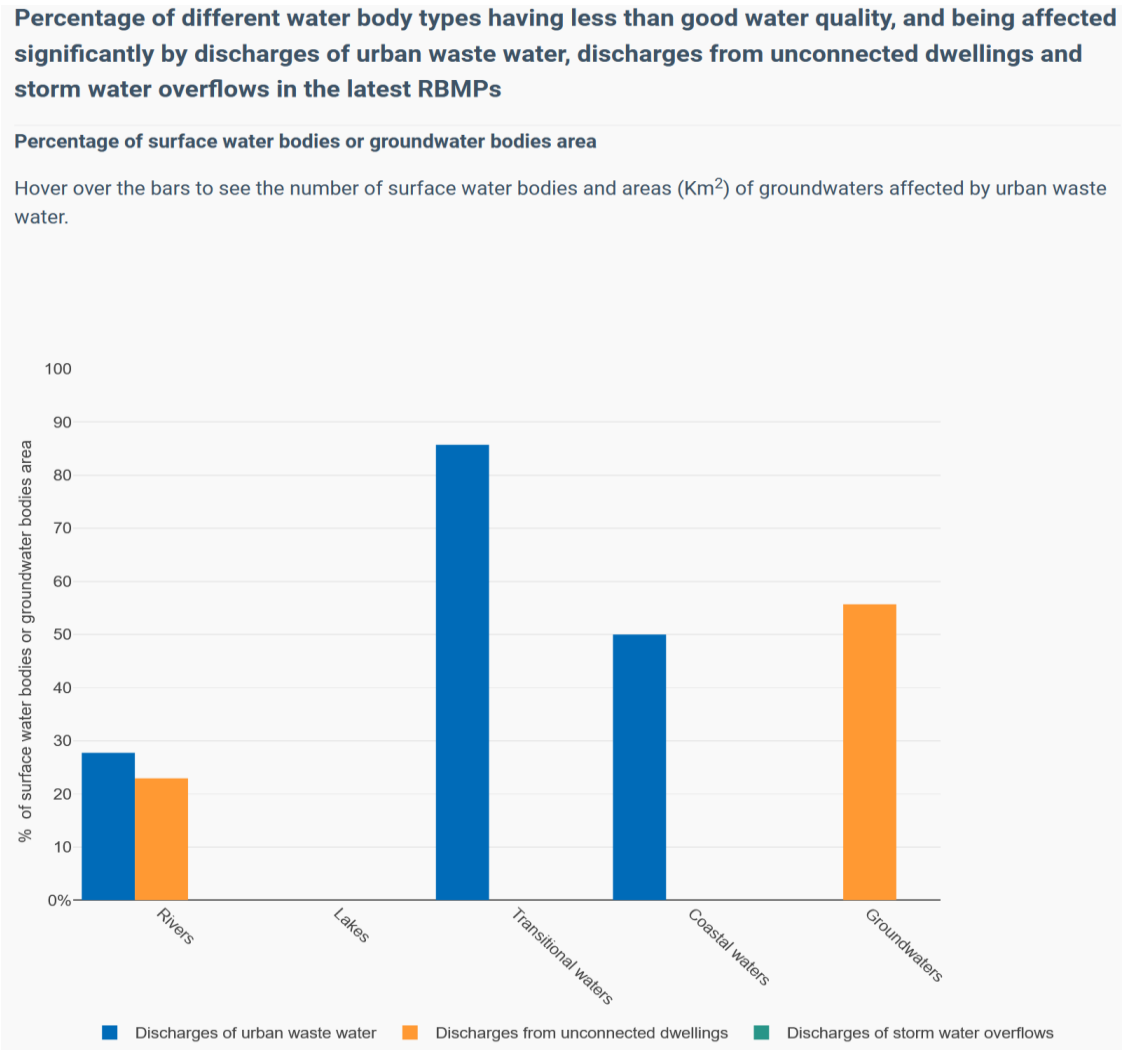
Source: European Commission, 2025f



Source: European Commission, 2025f

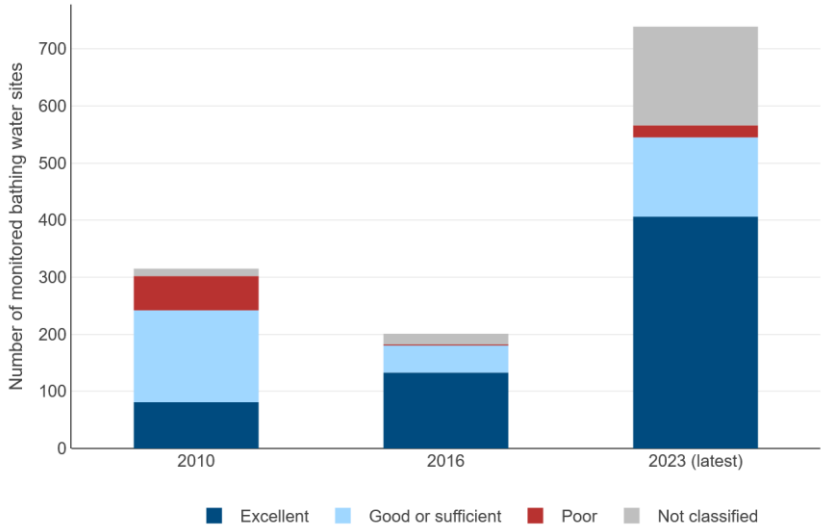


Source: European Commission, 2025f



Source: European Commission, 2025f

Progress in the number of monitored bathing water sites having excellent water quality in recent years



Source: European Commission, 2025f

In Poland, households and certain industries in 1524 urban areas generate 37.2 million p.e. of waste water every day, which is an amount equivalent to around 74 million bathtubs or 7.4400001 million m3. According to the UWWTD, Poland is required to provide in urban areas: (1) Collection of 37.2 million p.e. of waste water; (2) Biological treatment to 36.1 million p.e. of waste water; and (3) Biological treatment with nitrogen and phosphorus removal to 31.8 million p.e. of waste water. Overall, 71% of the urban waste water in Poland is treated according to the requirements of the UWWTD. This is below the EU average of 75.9%. Poland generated 623,266 tonnes of waste water sludge in 2020. Emissions of greenhouse gases by the urban waste water treatment sector have decreased between 2010 and 2023 (European Commission, 2025f).

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