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Technical information

Accompanying the document

**Report from the Commission to the European Parliament and the Council
on the functioning of the European carbon market in 2024**

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1. State of play on the EU ETS – scope and coverage

Data in this section is based on countries' reports under Article 21 of the ETS Directive (Directive 2003/87/EC)¹, which provide an annual overview of the EU ETS scope. In 2025, countries submitted their reports for 2024.

1.1. Regulated entities in the EU ETS in 2024

Table 1. Regulated entities in the scope of the EU ETS in 2024.

Installations in the electricity and heat generation and industry sectors	8 704
Aircraft operators flying between airports in the European Economic Area (EEA) and on routes from the EEA to Switzerland and to the UK	393
Shipping companies	3 313

1.2. Installations in the electricity and heat generation and industrial manufacturing sectors broken down by level of emissions

Table 2. Installations in the electricity and heat generation and industrial manufacturing sectors broken down by level of emissions (2024).

Category	Emissions per year [CO ₂ eq]	Number	% of the total
Category A	< 50 000 tonnes	6 186 (of these 4 872 were classified as installations with low emissions ²)	71.1%
Category B	50 000 - 500 000 tonnes	1 951	22.4%
Category C	500 000 tonnes <	567	6.5%

¹ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a system for greenhouse gas emission allowance trading within the Union and amending Council Directive 96/61/EC ([OJ L 275](#), 25.10.2003)

² A subset of category A installations, with emissions below 25 000 tonnes CO₂eq per year.

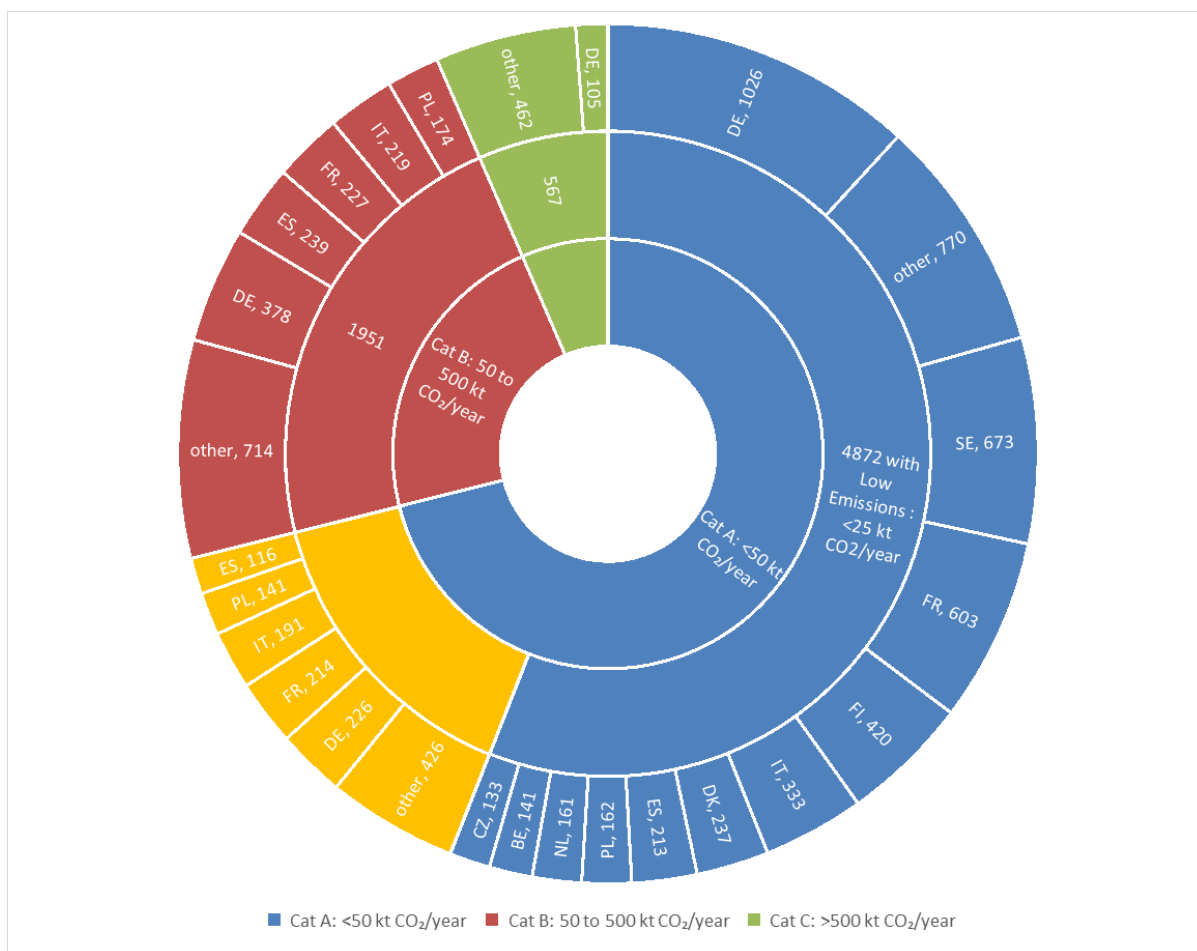


Figure 1. Categories of installations in the EU ETS, reported for 2024.

1.3. Exclusions of installations with low emissions from the EU ETS in 2024

To reduce the administrative burden, countries can exclude installations with emissions below 25 000 tonnes CO₂eq per year from the EU ETS if alternative measures to reduce emissions are implemented³. Since 2021, it is also possible to exclude from the EU ETS installations that emit less than 2 500 tonnes CO₂eq per year⁴ if certain conditions have been met, as well as reserve or back-up units that operate no more than 300 hours per year⁵.

In 2024, 15 countries opted to exclude installations from the system and apply equivalent measures to reduce emissions. These countries reported 621 installations excluded in 2024, 10 such installations that closed and 4 that re-entered EU ETS because the applicable threshold was exceeded. These installations accounted for a total of 3.5 Mt CO₂eq, which is 0.3%

³ Under Article 27 of the ETS Directive. Exclusions are notified every five years. An installation that exceeds the threshold in any calendar year is required to be re-entered into the scope of the EU ETS.

⁴ Under Article 27a (1) of the ETS Directive. An installation that exceeds the threshold in any calendar year is required to be re-entered into the scope of the EU ETS.

⁵ Under Article 27a (3) of the ETS Directive. An installation that exceeds the threshold in any calendar year is required to be re-entered into the scope of the EU ETS.

compared to the emission from installations that are not excluded from EU ETS Aviation operators in the EU ETS in 2024.

Table 3. Aviation operators in the scope of the EU ETS in 2024.

Commercial ⁶	282	72%
Non-commercial	111	28%

A total of 168 operators (43%) qualified as small emitters, including almost all non-commercial aircraft operators (98%).

1.4. Emissions of GHG other than CO₂ reported from ETS activities

Table 5. Countries reporting emissions other than CO₂ from EU ETS activities (2024)⁷.

Gas	Activity	Number of countries	Country
PFCs	Primary aluminium	11	DE, EL, ES, FR, IE, IS, NO, RO, SE, SI, SK
N ₂ O	Nitric acid	20	AT, BE, BG, CZ, DE, EL, ES, FI, FR, HR, HU, IT, LT, NL, NO, PL, PT, RO, SE, SK
	Adipic acid	3	DE, FR, IT
	Glyoxal and glyoxylic acid	3	DE, FR, NL

⁶ An example of a commercial aircraft operator is a passenger airline providing services to the public. An example of a non-commercial aircraft operator is a privately owned aircraft.

⁷ The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

2. Balancing supply and demand - contributions to the Market Stability Reserve

Table 6. Annual contributions per country to the Market Stability Reserve in allowances (2021-2025).

Country	2021	2022	2023	2024	2025
Austria	5 563 187	6 345 090	5 555 134	4 657 247	4 643 745
Belgium	9 228 856	10 525 966	9 215 496	7 725 979	7 703 579
Bulgaria	6 531 499	7 449 497	6 522 044	5 467 874	5 452 021
Cyprus	874 285	997 166	873 019	731 911	729 789
Czechia	14 108 876	16 091 870	14 088 451	11 811 310	11 777 066
Germany	80 029 579	91 277 689	79 913 725	66 997 128	66 802 885
Denmark	5 005 490	5 709 009	4 998 244	4 190 368	4 178 220
Estonia	2 225 742	2 538 569	2 222 520	1 863 290	1 857 888
Greece	11 888 232	13 559 116	11 871 023	9 952 288	9 923 433
Spain	30 610 010	34 912 228	30 565 697	25 625 310	25 551 014
Finland	6 682 443	7 621 657	6 672 769	5 594 238	5 578 019
France	21 881 211	24 956 603	21 849 536	18 317 957	18 264 848
Croatia	1 513 604	1 726 341	1 511 413	1 267 121	1 263 447
Hungary	4 381 023	4 996 772	4 374 681	3 667 594	3 656 960
Ireland	3 740 851	4 266 625	3 735 436	3 131 670	3 122 591
Iceland	156 001	177 927	155 775	130 598	130 218

Italy	37 775 362	43 084 666	37 720 676	31 623 817	31 532 130
Liechtenstein	3 492	3 982	3 486	2 923	2 914
Lithuania	1 100 842	1 255 564	1 099 248	921 575	918 903
Luxembourg	438 053	499 621	437 419	366 718	365 656
Latvia	480 330	547 840	479 635	402 110	400 944
Malta	332 525	379 262	332 044	278 375	277 568
Netherlands	13 394 277	15 276 835	13 374 887	11 213 081	11 180 570
Norway	3 106 500	3 543 117	3 102 003	2 600 621	2 593 081
Poland	34 583 085	39 443 717	34 533 022	28 951 388	28 867 450
Portugal	6 072 075	6 925 501	6 063 284	5 083 265	5 068 527
Romania	11 604 041	13 234 982	11 587 243	9 714 376	9 686 212
Sweden	3 246 409	3 702 690	3 241 709	2 717 746	2 709 867
Slovenia	1 478 674	1 686 501	1 476 533	1 237 879	1 234 289
Slovakia	4 206 047	4 797 204	4 199 958	3 521 111	3 510 902
UK - Northern Ireland	883 013	1 007 119	881 734	739 218	737 075

3. Revenues from the EU ETS

Table 7. Revenue from the auctioning of general allowances in the EU ETS (EU 27, 2024).

EU Member State	Revenue in 2024 (million EUR)
Austria	313.1
Belgium	539.1
Bulgaria	826.3
Cyprus	95.5
Czechia	662.6
Germany	5 528.7
Denmark	298.8
Estonia	254.6
Greece	1 092.5
Spain	2 575.4
Finland	418.2
France	1 533.8
Croatia	118.3
Hungary	581.3
Ireland	138.8
Italy	2 611.0
Lithuania	87.0
Luxemburg	1.5
Latvia	64.5
Malta	44.2
Netherlands	927.8
Poland	3 843.2

Portugal	535.2
Romania	635.8
Sweden	236.5
Slovenia	133.4
Slovakia	291.8

Table 8. Revenue from the auctioning of general allowances (Iceland, Liechtenstein, Norway and the UK for Northern Ireland, 2024).

Country	Revenue in 2024 (million EUR)
Iceland	4.6
Liechtenstein	0.2
Norway	191.6
UK (Northern Ireland)	58.3

Table 9. Revenue from the auctioning of allowances for the ETS Innovation Fund, the ETS Modernisation Fund and the Recovery and Resilience Facility (2024).

Fund supplied from the EU ETS	Revenue in 2024 (million EUR)
Innovation Fund	2 290.7
Modernisation Fund	6 270.5
Recovery and Resilience Facility	5 606.5

4. EU ETS implementation framework

Table 10. Accreditation and verification in the EU ETS (2024)⁸.

Aspect	Countries		Number	Number per country
Number of verifiers accredited by the national accreditation body – for installations	23	94	AT(2), BE(2), BG(3), CZ(5), DE(17), DK(3), EE(1), EL(6), ES(6), FI(4), FR(5), HR(3), HU(4), LI(1), LV(2), NL(2), NO(3), PL(8), PT(3), RO(5), SE(3), SI(2), SK(4)	
Number of verifiers accredited by the national accreditation body - for aviation	9	17	AT(1), CZ(1), DE(5), EL(2), ES(2), FR(1), LV(1), PT(2), RO(2)	
Number of active verifiers that were accredited by another country - for installations	25	58	BE(2), BG(3), CY(2), CZ(1), DK(2), EE(3), ES(3), FI(1), FR(1), HR(1), HU(2), IE(5), IS(3), LI(1), LT(3), LU(4), MT(1), NL(1), NO(2), PL(3), PT(1), RO(2), SE(8), SK(1), XI(2)	
Number of active verifiers that were accredited by another country - for aviation	22	36	BE(3), BG(1), CY(2), DE(1), DK(1), EE(1), ES(1), FI(1), HR(1), HU(1), IE(2), IS(1), LT(2), LU(2), MT(4), NL(1), NO(1), PL(3), PT(1), RO(2), SE(3), SK(1)	
Number of complaints made about verifiers	4	45	DE(8), DK(14), ES(21), RO(2)	
Number of resolved complaints	4	45	DE(8), DK(14), ES(21), RO(2)	
Number of complaints from prior reports, not reported as resolved earlier and meanwhile resolved	1	36	DK(36)	
Number of non-conformities for verifiers reported in the information exchange	5	50	BG(6), FI(17), HR(23), IE(2), NO(2)	
Number of non-conformities above resolved	5	37	BG(6), FI(4), HR(23), IE(2), NO(2)	

⁸ The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

Number of non-conformities from prior reports, not reported as resolved earlier and meanwhile resolved	2	23	BG(3), FI(20)	
Verifiers suspended	1	1	RO(1)	
Withdrawal of accreditation certificate	0		0	-
Scope of accreditation reduced	2		2	DK(1), FR(1)

Table 11. Coordination between competent authorities that implement the EU ETS (2024)⁹.

Aspect	Number and list of countries	
A central competent authority regularly reviews monitoring plans, annual emission reports and improvement reports in addition to local and regional authorities.	11	AT, BG, DE, ES, HU, LT, LV, NL, PL, SE, XI
A central competent authority steers local and/or regional competent authorities by giving binding instructions and guidance.	5	BG, FR, NL, SK, XI
A central competent authority steers local and/or regional competent authorities by giving non-binding instructions and guidance.	5	AT, LT, LV, PL, PT
Regular meetings of competent authorities are organised.	11	BE, BG, DE, EL, ES, FR, NL, PT, SE, SK, XI
Common training is organised for all competent authorities to ensure harmonised implementation of requirements.	8	AT, BG, FR, NL, PT, SE, SK, XI
A structured working or coordination group is established, where competent authority staff discuss implementation issues and develop common approaches.	12	BG, EL, ES, FR, HU, IS, NL, PL, PT, SE, SK, XI

⁹ The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

Table 12. Administrative charges in the EU ETS (2024).¹⁰

Aspect		Number and list of relevant countries (charges expressed in EUR)	
Installations	Fees charged to operators	15	AT, BG, CZ, DK, ES, FI, HU, IS, IT, NO, PL, PT, RO, SI, XI
	Fees charged for permit issuance/monitoring plan approval	13	AT(100), BG(250), CZ(400), ES(406.9), FI(500), HU(230), IS(4900), NO(1691), PL(19.3), PT(795), RO(360), SI(22.6), XI(9301)
	Fees charged for permit update	12	AT(100), BG(100), ES(393.33), FI(400), HU(120), IS(875), NO(1006), PL(2.35), PT(495), RO(360), SI(22.6), XI(658)
	Fees charged for permit transfer	8	AT(100), FI(500), HU(120), IS(875), PL(2.35), PT(495), SI(22.6), XI(658)
	Fees charged for permit surrender	3	AT(100), PL(2.35), XI(953)
	Fees charged for an application to the New entrants reserve	7	AT(100), BG(250), HU(648), IS(3600), PL(2.35), SI(22.6), XI(1743)
	Annual subsistence charge	2	DK(6874), XI(6354)
Aircraft operators	Fees charged to aircraft operators	13	AT, BG, DK, FI, HU, IE, IS, LV, NO, PL, PT, RO, SI
	Fees charged for approval of an emissions monitoring plan	12	AT(100), BG(250), FI(770), HU(524), IE(500), IS(4700), LV(347), NO(1006), PL(2.35), PT(311.02), RO(2000), SI(22.6)
	Fees charged for approval of a change to an emissions monitoring plan	11	AT(100), BG(50), FI(280), HU(524), IS(1460), LV(200), NO(1006), PL(2.35), PT(156.11), RO(500), SI(22.6)
	Fees charged for approval of a monitoring plan for tonne-kilometre data	6	AT(100), HU(524), IS(1460), PL(2.35), PT(156.11), SI(22.6)

¹⁰ The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

	Fees charged for approval of a change to a monitoring plan for tonne-kilometre data	2	AT(100), PL(2.35)
	Transfer of monitoring plan	3	AT(100), FI(280), HU(524)
	Surrender of monitoring plan	3	AT(100), FI(280), HU(524)

Table 13. Compliance checks in the EU ETS (2024).¹¹

Type of check		Number and list of countries (% or number per country)	
Installations	Share of emissions reports checked for completeness and internal consistency (%)	27	AT(100%), BE(37%), BG(100%), CY(100%), CZ(100%), DE(100%), DK(100%), EE(100%), EL(100%), FI(100%), FR(100%), HR(100%), HU(100%), IE(95%), IS(100%), LT(100%), LU(100%), LV(100%), MT(100%), NL(100%), NO(100%), PL(100%), PT(100%), SE(100%), SI(100%), SK(100%), XI(100%)
	Share of emissions reports checked for consistency with the monitoring plan (%)	27	AT(20%), BE(7%), BG(100%), CY(100%), CZ(45%), DE(100%), DK(100%), EE(100%), EL(100%), FI(100%), FR(100%), HR(100%), HU(100%), IE(95%), IS(100%), LT(80%), LU(100%), LV(100%), MT(100%), NL(100%), NO(100%), PL(100%), PT(100%), SE(5%), SI(100%), SK(100%), XI(100%)
	Share of emissions reports cross-checked with allocation data (%)	23	AT(20%), BE(30%), BG(100%), CY(100%), CZ(30%), DK(100%), EE(100%), EL(100%), FI(100%), FR(100%), HR(100%), HU(100%), IE(100%), IS(100%), LT(80%), LU(100%), LV(100%), NL(100%), PL(100%), PT(100%), SI(100%), SK(100%), XI(100%)
	Share of emissions reports cross-checked with other data (%).	18	AT(20%), BE(30%), BG(100%), CY(100%), CZ(25%), DK(78%), EE(100%), EL(100%), FR(100%), HR(100%), LT(80%), NO(100%), PL(20%), PT(100%), SE(100%), SI(100%), SK(100%), XI(100%)
	Share of emissions reports analysed in detail (%).	24	AT(20%), BE(10%), BG(10%), CY(100%), CZ(45%), DE(27%), DK(72%), EE(100%), EL(50%), FI(100%), FR(30%), HR(100%), IE(95%), IS(100%), LT(100%), LU(100%), MT(100%), NL(100%), NO(100%), PL(100%), PT(100%), SE(5%), SK(100%), XI(100%)
	Number of verified emissions reports rejected due to non-compliance	3	FR(10), LT(1), PL(3)

¹¹ The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

	Number of verified emissions reports rejected for other reasons	3	BE(1), FR(20), LT(2)
Aircraft operators	Share of emissions reports checked for completeness and internal consistency (%)	22	AT(100%), BE(62%), BG(100%), CY(100%), CZ(100%), DE(100%), DK(100%), EE(100%), ES(100%), FI(100%), HR(100%), IE(100%), IS(100%), IT(100%), LU(100%), MT(100%), NL(100%), PL(100%), PT(100%), SE(100%), SI(100%), SK(100%)
	Share of emissions reports checked for consistency with the monitoring plan (%)	21	AT(100%), BE(62%), BG(100%), CY(100%), CZ(50%), DE(100%), DK(100%), EE(100%), ES(100%), FI(100%), HR(100%), IE(30%), IS(100%), IT(100%), LU(100%), MT(100%), NL(100%), PL(100%), PT(100%), SI(100%), SK(100%)
	Share of emissions reports cross-checked with other data (%)	22	AT(100%), BE(100%), BG(100%), CY(100%), CZ(100%), DE(100%), DK(100%), EE(100%), ES(100%), FI(100%), HR(100%), IE(30%), IS(100%), IT(100%), LT(100%), LU(100%), MT(100%), NL(100%), PT(100%), SE(100%), SI(100%), SK(100%)
	Share of emissions reports analysed in detail (%)	20	AT(100%), BE(12%), BG(100%), CY(100%), CZ(20%), DE(100%), DK(30%), EE(100%), ES(100%), FI(100%), HR(100%), IE(30%), IS(100%), IT(100%), LU(100%), MT(100%), PL(100%), PT(100%), SE(94%), SK(100%)
	Number of verified emissions reports rejected due to non-compliance	0	
	Number of verified emissions reports rejected for other reasons.	0	

Table 14. Measures to ensure compliance with the EU ETS (2024).

Compliance measures		Countries	
Installations	Onsite inspections	18	AT, CY, CZ, EL, ES, FR, HR, HU, IE, IS, LT, NL, NO, PL, PT, RO, SE, SI
	Preventive measures taken to ensure operator's compliance	18	AT, CZ, DE, EE, ES, FI, FR, HR, HU, IE, IS, LU, NL, NO, PL, SE, SI, SK
	Ensuring that selling of emission allowances is prohibited in case of irregularities	6	AT, CZ, DE, FR, SI, SK
	Imprisonment possible	8	BE, CY, DK, EE, IE, LU, NO, SE
Aircraft operators	Onsite inspections	5	BE, EL, ES, NL, SE
	Preventive measures taken to ensure aircraft operator's compliance	15	AT, CY, DE, DK, EE, FI, FR, HR, IE, IS, IT, LU, NL, NO, SE
	Ensuring that selling of emission allowances is prohibited in case of irregularities	2	AT, DE
	Imprisonment possible	6	CY, DK, IE, LU, NO, SE

Table 15. Excess emissions penalties in the EU ETS (2024) ¹².

Penalty	Countries	Number of operators and country	
Imposition of excess emission penalties on installations	9	31	CZ(5), ES(3), FI(1), HU(5), IE(2), IT(1), PL(6), RO(7), SK(1)
Imposition of excess emission penalties on aircraft operators	6	11	DE(1), ES(2), IS(1), IT(5), LV(1), SE(1)

¹² The maximum number of countries is 30 because Liechtenstein did not have any active operators in 2024. XI is the country code for Northern Ireland.

5. Link between the EU ETS and the Swiss ETS

Table 16. Comparison of the EU ETS and the Swiss ETS - installations (2024).

System	EU ETS	Swiss ETS
General allowances auctioned	592 801 500	351 649
Free allocation of general allowances	496 811 248	3 540 031
Verified emissions from stationary installations	1 033 244 671	3 694 355

Table 17. Comparison of the EU ETS and the Swiss ETS - aircraft operators (2024).

System	EU ETS		Swiss ETS	
Aviation allowances auctioned	6 688 500		433 500	
Free allocation of aviation allowances	<i>EU aviation allowances for EU ETS</i>	<i>Swiss aviation allowances for Swiss ETS</i>	<i>Swiss aviation allowances for Swiss ETS</i>	<i>EU aviation allowances for EU ETS</i>
	17 251 228	330 528	404 046	280 541
Verified emissions from aircraft operators	<i>EU ETS</i>	<i>Swiss ETS</i>	<i>Swiss ETS</i>	<i>EU ETS</i>
	61 510 341	737 078	929 893	1 060 456