

Final Report:

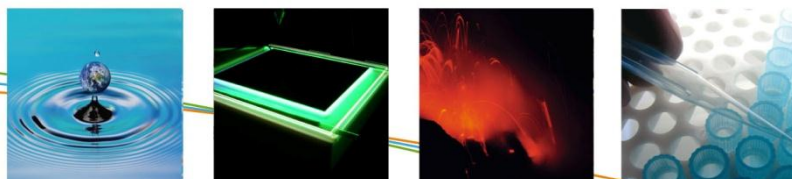
**Specific evaluation of emissions from shipping including assessment
for the establishment of possible new emission control areas in
European Seas**

Annexes

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ANNEX I OVERVIEW OF EMISSION FACTORS

Calorific values of fuels:

Residual Oil (RO)	40.7	GJ/t fuel
Marine Distillates (MD)	43.3	GJ/t fuel

Emission factors (unabated)

Pollutant	SO ₂		NO _x		PM ₁₀		PM _{2.5}		NMVOC	
	RO	MD	RO	MD	RO	MD	RO	MD	RO	MD
Vessel type	RO	MD	RO	MD	RO	MD	RO	MD	RO	MD
Unit	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ	kg/GJ
Container	407	433	2766.6	2507.9	179.56	60.82	170.11	57.62	75.518	77.97
Tanker	407	433	2509.3	2591.4	170.61	61.918	161.63	58.66	67.822	77.794
Gen. cargo	407	433	2539.1	2392.6	155.44	61.773	147.26	58.52	76.568	78.785
Bulk cargo	407	433	2829	2623	184.19	62.704	174.50	59.40	76.777	79.651
Cargo total:	407	433	2677.2	2554.5	175.58	61.814	166.34	58.56	73.386	78.442
Passenger ships/ferries	407	433	2631.4	2433	165.06	61.816	156.37	58.56	76.118	78.735

Pollutant	CO		CH ₄		BC	
	RO	MD	RO	MD	RO	MD
Vessel type	RO	MD	RO	MD	RO	MD
Unit	kg/GJ	kg/GJ	kg/GJ	kg/GJ	mg/MJ	mg/MJ
Container	474.71	466.61	75.518	77.97	5.0	3.5
Tanker	431.13	486.62	67.822	77.794	5.0	3.5
Gen. cargo	484.09	492.84	76.568	78.785	5.0	3.5
Bulk cargo	486.25	497.77	76.777	79.651	5.0	3.5
Cargo total:	463.86	484.92	73.386	78.442	5.0	3.5
Passenger ships/ferries	484.75	491.64	76.118	78.735	5.0	3.5



ANNEX II EMISSIONS OF AIR POLLUTANTS BY SEA REGION, SCENARIO AND YEAR (KT)

Sea Regions and zones	Baseline 2020			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	736
HighSeas (or non EU waters)	41.5	6.3	2.2	634
200nm zone	6.1	1.0	0.3	102
Baltic Sea	183.3	6.2	8.7	3101
12nm zone	61.9	1.9	3.0	954
200nm zone	76.1	2.4	3.7	1169
Ports/berthing	45.3	2.0	1.9	978
Bay of Biscay	425.3	64.5	22.8	6565
HighSeas (or non EU waters)	9.9	1.5	0.5	155
12nm zone	25.5	4.0	1.3	399
200nm zone	383.2	58.7	20.7	5873
Ports/berthing	6.7	0.3	0.3	138
Black Sea	39.5	6.5	1.9	670
HighSeas (or non EU waters)	26.8	4.6	1.3	458
12nm zone	1.1	0.2	0.1	18
200nm zone	10.2	1.7	0.5	167
Ports/berthing	1.3	0.1	0.1	28
Celtic Sea	18.2	1.9	0.9	320
12nm zone	1.7	0.3	0.1	25
200nm zone	8.7	1.3	0.5	130
Ports/berthing	7.8	0.3	0.3	165
Mediterranean Sea	1115.5	166.7	57.0	18258
HighSeas (or non EU waters)	467.5	73.3	24.7	7327
12nm zone	115.4	18.9	5.7	1887
200nm zone	443.8	70.6	22.9	7062
Ports/berthing	88.9	4.0	3.8	1982
North Sea (+ English Channel)	449.3	14.7	22.5	7103
12nm zone	80.4	2.6	4.1	1212
200nm zone	310.9	9.7	15.7	4682
Ports/berthing	57.9	2.4	2.6	1210
Rest of NE Atlantic (TNO grid outside EMEP)	171.8	25.5	9.2	2619
HighSeas (or non EU waters)	58.3	9.0	3.1	896
12nm zone	5.7	0.8	0.3	85
200nm zone	103.9	15.5	5.7	1553
Ports/berthing	3.8	0.2	0.2	86
Grand Total	2450.5	293.4	125.5	39372

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 1 2020			Scen 2 2020		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	47.6	7.4	2.5
HighSeas (or non EU waters)	41.5	6.3	2.2	41.5	6.3	2.2
200nm zone	6.1	1.0	0.3	6.1	1.0	0.3
Baltic Sea	153.7	6.2	8.7	153.7	6.2	8.7
12nm zone	51.7	1.9	3.0	51.7	1.9	3.0
200nm zone	63.6	2.4	3.7	63.6	2.4	3.7
Ports/berthing	38.4	2.0	1.9	38.4	2.0	1.9
Bay of Biscay	420.1	61.3	22.7	356.8	14.4	21.4
HighSeas (or non EU waters)	9.9	1.5	0.5	9.9	1.5	0.5
12nm zone	21.3	0.8	1.2	21.3	0.8	1.2
200nm zone	383.2	58.7	20.7	319.9	11.7	19.3
Ports/berthing	5.7	0.3	0.3	5.7	0.3	0.3
Black Sea	39.1	6.3	1.9	37.4	5.0	1.9
HighSeas (or non EU waters)	26.8	4.6	1.3	26.8	4.6	1.3
12nm zone	0.9	0.0	0.1	0.9	0.0	0.1
200nm zone	10.2	1.7	0.5	8.5	0.3	0.5
Ports/berthing	1.1	0.1	0.1	1.1	0.1	0.1
Celtic Sea	16.8	1.7	0.9	15.3	0.6	0.9
12nm zone	1.4	0.1	0.1	1.4	0.1	0.1
200nm zone	8.7	1.3	0.5	7.3	0.3	0.4
Ports/berthing	6.6	0.3	0.3	6.6	0.3	0.3
Mediterranean Sea	1083.1	151.6	56.7	1009.8	95.1	55.1
HighSeas (or non EU waters)	467.5	73.3	24.7	467.5	73.3	24.7
12nm zone	96.3	3.8	5.4	96.3	3.8	5.4
200nm zone	443.8	70.6	22.9	370.5	14.1	21.4
Ports/berthing	75.5	4.0	3.8	75.5	4.0	3.8
North Sea (+ English Channel)	375.9	14.7	22.5	375.9	14.7	22.5
12nm zone	67.1	2.6	4.1	67.1	2.6	4.1
200nm zone	259.6	9.7	15.7	259.6	9.7	15.7
Ports/berthing	49.2	2.4	2.6	49.2	2.4	2.6
Rest of NE Atlantic (TNO grid outside EMEP)	170.3	24.8	9.2	153.1	12.4	8.8
HighSeas (or non EU waters)	58.3	9.0	3.1	58.3	9.0	3.1
12nm zone	4.7	0.2	0.3	4.7	0.2	0.3
200nm zone	103.9	15.5	5.7	86.8	3.1	5.3
Ports/berthing	3.3	0.2	0.2	3.3	0.2	0.2
Grand Total	2306.5	274.1	125.0	2149.7	155.9	121.7

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 3 2020			Scen 4 2020			Scen 5 2020		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	47.6	7.4	2.5	47.6	7.4	2.5
HighSeas (or non EU waters)	41.5	6.3	2.2	41.5	6.3	2.2	41.5	6.3	2.2
200nm zone	6.1	1.0	0.3	6.1	1.0	0.3	6.1	1.0	0.3
Baltic Sea	153.7	6.2	8.7	153.7	6.2	8.7	183.3	6.2	8.7
12nm zone	51.7	1.9	3.0	51.7	1.9	3.0	61.9	1.9	3.0
200nm zone	63.6	2.4	3.7	63.6	2.4	3.7	76.1	2.4	3.7
Ports/berthing	38.4	2.0	1.9	38.4	2.0	1.9	45.3	2.0	1.9
Bay of Biscay	356.8	14.4	21.4	356.8	14.4	21.4	425.3	64.5	22.8
HighSeas (or non EU waters)	9.9	1.5	0.5	9.9	1.5	0.5	9.9	1.5	0.5
12nm zone	21.3	0.8	1.2	21.3	0.8	1.2	25.5	4.0	1.3
200nm zone	319.9	11.7	19.3	319.9	11.7	19.3	383.2	58.7	20.7
Ports/berthing	5.7	0.3	0.3	5.7	0.3	0.3	6.7	0.3	0.3
Black Sea	37.4	5.0	1.9	37.4	5.0	1.9	33.0	1.3	1.8
HighSeas (or non EU waters)	26.8	4.6	1.3	26.8	4.6	1.3	22.4	0.9	1.2
12nm zone	0.9	0.0	0.1	0.9	0.0	0.1	0.9	0.0	0.1
200nm zone	8.5	0.3	0.5	8.5	0.3	0.5	8.5	0.3	0.5
Ports/berthing	1.1	0.1	0.1	1.1	0.1	0.1	1.1	0.1	0.1
Celtic Sea	15.3	0.6	0.9	15.3	0.6	0.9	18.2	1.9	0.9
12nm zone	1.4	0.1	0.1	1.4	0.1	0.1	1.7	0.3	0.1
200nm zone	7.3	0.3	0.4	7.3	0.3	0.4	8.7	1.3	0.5
Ports/berthing	6.6	0.3	0.3	6.6	0.3	0.3	7.8	0.3	0.3
Mediterranean Sea	1115.5	95.1	55.1	1009.8	166.7	57.0	932.6	36.5	53.5
HighSeas (or non EU waters)	467.5	73.3	24.7	467.5	73.3	24.7	390.3	14.7	23.0
12nm zone	115.4	3.8	5.4	96.3	18.9	5.7	96.3	3.8	5.4
200nm zone	443.8	14.1	21.4	370.5	70.6	22.9	370.5	14.1	21.4
Ports/berthing	88.9	4.0	3.8	75.5	4.0	3.8	75.5	4.0	3.8
North Sea (+ English Channel)	375.9	14.7	22.5	375.9	14.7	22.5	449.3	14.7	22.5
12nm zone	67.1	2.6	4.1	67.1	2.6	4.1	80.4	2.6	4.1
200nm zone	259.6	9.7	15.7	259.6	9.7	15.7	310.9	9.7	15.7
Ports/berthing	49.2	2.4	2.6	49.2	2.4	2.6	57.9	2.4	2.6
Rest of NE Atlantic (TNO grid outside EMEP)	153.1	12.4	8.8	153.1	12.4	8.8	171.8	25.5	9.2
HighSeas (or non EU waters)	58.3	9.0	3.1	58.3	9.0	3.1	58.3	9.0	3.1
12nm zone	4.7	0.2	0.3	4.7	0.2	0.3	5.7	0.8	0.3
200nm zone	86.8	3.1	5.3	86.8	3.1	5.3	103.9	15.5	5.7
Ports/berthing	3.3	0.2	0.2	3.3	0.2	0.2	3.8	0.2	0.2
Grand Total	2255.4	155.9	121.7	2149.7	227.4	123.6	2261.1	158.1	121.8

Sea Regions and zones	Scen 6 - 12 nm zone - 2020			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	736
HighSeas (or non EU waters)	41.5	6.3	2.2	634
200nm zone	6.1	1.0	0.3	102
Baltic Sea	170.3	5.9	8.3	2977
12nm zone	48.9	1.6	2.6	830
200nm zone	76.1	2.4	3.7	1169
Ports/berthing	45.3	2.0	1.9	978
Bay of Biscay	419.9	63.8	22.7	6513
HighSeas (or non EU waters)	9.9	1.5	0.5	155
12nm zone	20.1	3.3	1.2	347
200nm zone	383.2	58.7	20.7	5873
Ports/berthing	6.7	0.3	0.3	138
Black Sea	39.2	6.4	1.9	668
HighSeas (or non EU waters)	26.8	4.6	1.3	458
12nm zone	0.9	0.1	0.0	15
200nm zone	10.2	1.7	0.5	167
Ports/berthing	1.3	0.1	0.1	28
Celtic Sea	17.9	1.8	0.9	317
12nm zone	1.4	0.2	0.1	22
200nm zone	8.7	1.3	0.5	130
Ports/berthing	7.8	0.3	0.3	165
Mediterranean Sea	1091.3	163.3	56.3	18012
HighSeas (or non EU waters)	467.5	73.3	24.7	7327
12nm zone	91.2	15.5	5.0	1642
200nm zone	443.8	70.6	22.9	7062
Ports/berthing	88.9	4.0	3.8	1982
North Sea (+ English Channel)	432.4	14.3	21.9	6946
12nm zone	63.5	2.1	3.5	1054
200nm zone	310.9	9.7	15.7	4682
Ports/berthing	57.9	2.4	2.6	1210
Rest of NE Atlantic (TNO grid outside EMEP)	170.6	25.4	9.2	2608
HighSeas (or non EU waters)	58.3	9.0	3.1	896
12nm zone	4.5	0.7	0.3	74
200nm zone	103.9	15.5	5.7	1553
Ports/berthing	3.8	0.2	0.2	86
Grand Total	2389.2	288.3	123.6	38776

Sea Regions and zones	Scen 6var1 - 200 nm zone - 2020			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	45.4	7.0	2.4	706
HighSeas (or non EU waters)	41.5	6.3	2.2	634
200nm zone	3.9	0.7	0.2	73
Baltic Sea	142.9	5.2	7.2	2638
12nm zone	48.9	1.6	2.6	830
200nm zone	48.7	1.6	2.6	830
Ports/berthing	45.3	2.0	1.9	978
Bay of Biscay	282.0	45.6	16.7	4810
HighSeas (or non EU waters)	9.9	1.5	0.5	155
12nm zone	20.1	3.3	1.2	347
200nm zone	245.2	40.5	14.7	4170
Ports/berthing	6.7	0.3	0.3	138
Black Sea	35.6	5.9	1.7	619
HighSeas (or non EU waters)	26.8	4.6	1.3	458
12nm zone	0.9	0.1	0.0	15
200nm zone	6.5	1.1	0.4	118
Ports/berthing	1.3	0.1	0.1	28
Celtic Sea	14.7	1.4	0.8	279
12nm zone	1.4	0.2	0.1	22
200nm zone	5.6	0.9	0.3	92
Ports/berthing	7.8	0.3	0.3	165
Mediterranean Sea	931.5	141.4	49.7	15964
HighSeas (or non EU waters)	467.5	73.3	24.7	7327
12nm zone	91.2	15.5	5.0	1642
200nm zone	284.0	48.7	16.2	5014
Ports/berthing	88.9	4.0	3.8	1982
North Sea (+ English Channel)	320.5	11.2	17.4	5588
12nm zone	63.5	2.1	3.5	1054
200nm zone	199.0	6.7	11.2	3324
Ports/berthing	57.9	2.4	2.6	1210
Rest of NE Atlantic (TNO grid outside EMEP)	133.2	20.5	7.5	2158
HighSeas (or non EU waters)	58.3	9.0	3.1	896
12nm zone	4.5	0.7	0.3	74
200nm zone	66.5	10.7	4.0	1103
Ports/berthing	3.8	0.2	0.2	86
Grand Total	1905.8	238.4	103.3	32763

Sea Regions and zones	Scen 6var2 - MED+BLACK_SEA - 2020			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	736
HighSeas (or non EU waters)	41.5	6.3	2.2	634
200nm zone	6.1	1.0	0.3	102
Baltic Sea	183.3	6.2	8.7	3101
12nm zone	61.9	1.9	3.0	954
200nm zone	76.1	2.4	3.7	1169
Ports/berthing	45.3	2.0	1.9	978
Bay of Biscay	425.3	64.5	22.8	6565
HighSeas (or non EU waters)	9.9	1.5	0.5	155
12nm zone	25.5	4.0	1.3	399
200nm zone	383.2	58.7	20.7	5873
Ports/berthing	6.7	0.3	0.3	138
Black Sea	25.9	4.5	1.4	486
HighSeas (or non EU waters)	17.2	3.2	0.9	325
12nm zone	0.9	0.1	0.0	15
200nm zone	6.5	1.1	0.4	118
Ports/berthing	1.3	0.1	0.1	28
Celtic Sea	18.2	1.9	0.9	320
12nm zone	1.7	0.3	0.1	25
200nm zone	8.7	1.3	0.5	130
Ports/berthing	7.8	0.3	0.3	165
Mediterranean Sea	763.2	118.7	42.5	13839
HighSeas (or non EU waters)	299.2	50.6	17.5	5202
12nm zone	91.2	15.5	5.0	1642
200nm zone	284.0	48.7	16.2	5014
Ports/berthing	88.9	4.0	3.8	1982
North Sea (+ English Channel)	449.3	14.7	22.5	7103
12nm zone	80.4	2.6	4.1	1212
200nm zone	310.9	9.7	15.7	4682
Ports/berthing	57.9	2.4	2.6	1210
Rest of NE Atlantic (TNO grid outside EMEP)	171.8	25.5	9.2	2619
HighSeas (or non EU waters)	58.3	9.0	3.1	896
12nm zone	5.7	0.8	0.3	85
200nm zone	103.9	15.5	5.7	1553
Ports/berthing	3.8	0.2	0.2	86
Grand Total	2084.6	243.5	110.5	34770

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 7 2020			Scen 8 2020			Scen 9 2020		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	47.6	7.4	2.5	29.3	1.5	1.7	18.8	1.0	1.2
HighSeas (or non EU waters)	41.5	6.3	2.2	25.6	1.3	1.5	16.4	0.9	1.0
200nm zone	6.1	1.0	0.3	3.8	0.2	0.2	2.4	0.1	0.1
Baltic Sea	153.7	6.2	6.7	113.0	6.2	6.7	88.1	5.2	5.6
12nm zone	51.7	1.9	2.3	38.2	1.9	2.3	30.1	1.6	2.0
200nm zone	63.6	2.4	2.9	46.9	2.4	2.9	30.0	1.6	2.0
Ports/berthing	38.4	2.0	1.5	27.9	2.0	1.5	27.9	2.0	1.5
Bay of Biscay	425.3	64.5	22.8	262.1	13.1	15.4	171.6	9.2	11.2
HighSeas (or non EU waters)	9.9	1.5	0.5	6.1	0.3	0.4	3.9	0.2	0.3
12nm zone	25.5	4.0	1.3	15.7	0.8	0.9	12.4	0.7	0.8
200nm zone	383.2	58.7	20.7	236.1	11.7	13.9	151.1	8.1	9.9
Ports/berthing	6.7	0.3	0.3	4.1	0.3	0.2	4.1	0.3	0.2
Black Sea	33.0	1.3	1.4	24.3	1.3	1.3	16.0	0.9	0.9
HighSeas (or non EU waters)	22.4	0.9	0.9	16.5	0.9	0.9	10.6	0.6	0.6
12nm zone	0.9	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
200nm zone	8.5	0.3	0.4	6.3	0.3	0.3	4.0	0.2	0.2
Ports/berthing	1.1	0.1	0.0	0.8	0.1	0.0	0.8	0.1	0.0
Celtic Sea	18.2	1.9	0.9	11.2	0.6	0.7	9.1	0.5	0.6
12nm zone	1.7	0.3	0.1	1.1	0.1	0.1	0.8	0.0	0.1
200nm zone	8.7	1.3	0.5	5.4	0.3	0.3	3.4	0.2	0.2
Ports/berthing	7.8	0.3	0.3	4.8	0.3	0.3	4.8	0.3	0.3
Mediterranean Sea	932.6	36.5	41.4	687.4	36.5	38.8	470.3	26.9	29.0
HighSeas (or non EU waters)	390.3	14.7	17.8	288.1	14.7	16.6	184.4	10.1	11.8
12nm zone	96.3	3.8	4.1	71.1	3.8	3.9	56.2	3.1	3.4
200nm zone	370.5	14.1	16.5	273.5	14.1	15.4	175.0	9.7	11.0
Ports/berthing	75.5	4.0	2.9	54.8	4.0	2.9	54.8	4.0	2.9
North Sea (+ English Channel)	381.7	14.7	17.4	276.9	14.7	17.4	197.5	11.2	13.4
12nm zone	68.3	2.6	3.2	49.6	2.6	3.2	39.2	2.1	2.7
200nm zone	264.1	9.7	12.2	191.6	9.7	12.2	122.6	6.7	8.6
Ports/berthing	49.2	2.4	2.0	35.7	2.4	2.0	35.7	2.4	2.0
Rest of NE Atlantic (TNO grid outside EMEP)	171.8	25.5	9.2	105.9	5.2	6.2	69.1	3.7	4.5
HighSeas (or non EU waters)	58.3	9.0	3.1	36.0	1.8	2.1	23.0	1.2	1.5
12nm zone	5.7	0.8	0.3	3.5	0.2	0.2	2.8	0.1	0.2
200nm zone	103.9	15.5	5.7	64.0	3.1	3.8	41.0	2.1	2.7
Ports/berthing	3.8	0.2	0.2	2.4	0.2	0.1	2.4	0.2	0.1
Grand Total	2163.8	158.1	102.3	1510.1	79.3	88.1	1040.4	58.8	66.3

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Baseline 2030			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	881
HighSeas (or non EU waters)	46.9	7.5	2.6	753
200nm zone	7.2	1.3	0.4	128
Baltic Sea	202.1	7.4	10.1	3659
12nm zone	69.7	2.3	3.5	1133
200nm zone	85.2	2.8	4.3	1378
Ports/berthing	47.2	2.3	2.2	1149
Bay of Biscay	487.7	77.8	27.3	7904
HighSeas (or non EU waters)	11.3	1.9	0.6	185
12nm zone	29.7	4.9	1.6	489
200nm zone	439.8	70.7	24.7	7070
Ports/berthing	7.0	0.3	0.3	159
Black Sea	44.0	7.6	2.2	791
HighSeas (or non EU waters)	30.3	5.5	1.5	548
12nm zone	1.2	0.2	0.1	21
200nm zone	11.0	1.9	0.6	188
Ports/berthing	1.5	0.1	0.1	33
Celtic Sea	19.6	2.2	1.1	368
12nm zone	1.9	0.3	0.1	30
200nm zone	9.8	1.5	0.6	154
Ports/berthing	7.8	0.4	0.4	184
Mediterranean Sea	1255.4	197.8	67.3	21861
HighSeas (or non EU waters)	524.8	86.5	28.9	8649
12nm zone	130.7	22.6	6.8	2261
200nm zone	497.9	83.5	26.8	8350
Ports/berthing	102.0	5.2	4.8	2600
North Sea (+ English Channel)	503.0	17.4	26.4	8372
12nm zone	90.6	3.1	4.8	1430
200nm zone	352.5	11.5	18.6	5556
Ports/berthing	59.9	2.8	3.0	1386
Rest of NE Atlantic (TNO grid outside EMEP)	195.7	30.5	10.9	3135
HighSeas (or non EU waters)	65.6	10.6	3.6	1059
12nm zone	6.5	1.0	0.4	102
200nm zone	119.3	18.7	6.8	1866
Ports/berthing	4.2	0.2	0.2	107
Grand Total	2761.6	349.4	148.3	46971

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 1 2030			Scen 2 2030		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	54.2	8.8	2.9
HighSeas (or non EU waters)	46.9	7.5	2.6	46.9	7.5	2.6
200nm zone	7.2	1.3	0.4	7.2	1.3	0.4
Baltic Sea	108.5	7.4	10.1	108.5	7.4	10.1
12nm zone	37.1	2.3	3.5	37.1	2.3	3.5
200nm zone	45.4	2.8	4.3	45.4	2.8	4.3
Ports/berthing	26.0	2.3	2.2	26.0	2.3	2.2
Bay of Biscay	470.7	73.8	27.2	265.1	17.3	25.6
HighSeas (or non EU waters)	11.3	1.9	0.6	11.3	1.9	0.6
12nm zone	15.8	1.0	1.5	15.8	1.0	1.5
200nm zone	439.8	70.7	24.7	234.1	14.1	23.1
Ports/berthing	3.9	0.3	0.3	3.9	0.3	0.3
Black Sea	42.8	7.5	2.2	37.6	6.0	2.2
HighSeas (or non EU waters)	30.3	5.5	1.5	30.3	5.5	1.5
12nm zone	0.7	0.0	0.1	0.7	0.0	0.1
200nm zone	11.0	1.9	0.6	5.8	0.4	0.5
Ports/berthing	0.8	0.1	0.1	0.8	0.1	0.1
Celtic Sea	15.2	2.0	1.0	10.6	0.7	1.0
12nm zone	1.0	0.1	0.1	1.0	0.1	0.1
200nm zone	9.8	1.5	0.6	5.2	0.3	0.5
Ports/berthing	4.3	0.4	0.4	4.3	0.4	0.4
Mediterranean Sea	1148.6	179.7	66.8	915.8	112.9	65.0
HighSeas (or non EU waters)	524.8	86.5	28.9	524.8	86.5	28.9
12nm zone	69.6	4.5	6.4	69.6	4.5	6.4
200nm zone	497.9	83.5	26.8	265.1	16.7	25.0
Ports/berthing	56.2	5.2	4.8	56.2	5.2	4.8
North Sea (+ English Channel)	269.0	17.4	26.4	269.0	17.4	26.4
12nm zone	48.3	3.1	4.8	48.3	3.1	4.8
200nm zone	187.7	11.5	18.6	187.7	11.5	18.6
Ports/berthing	33.0	2.8	3.0	33.0	2.8	3.0
Rest of NE Atlantic (TNO grid outside EMEP)	190.8	29.7	10.9	135.0	14.7	10.5
HighSeas (or non EU waters)	65.6	10.6	3.6	65.6	10.6	3.6
12nm zone	3.5	0.2	0.3	3.5	0.2	0.3
200nm zone	119.3	18.7	6.8	63.5	3.7	6.3
Ports/berthing	2.3	0.2	0.2	2.3	0.2	0.2
Grand Total	2299.5	326.2	147.7	1795.6	185.2	143.7

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 3 2030			Scen 4 2030			Scen 5 2030		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	54.2	8.8	2.9	54.2	8.8	2.9
HighSeas (or non EU waters)	46.9	7.5	2.6	46.9	7.5	2.6	46.9	7.5	2.6
200nm zone	7.2	1.3	0.4	7.2	1.3	0.4	7.2	1.3	0.4
Baltic Sea	108.5	7.4	10.1	108.5	7.4	10.1	202.1	7.4	10.1
12nm zone	37.1	2.3	3.5	37.1	2.3	3.5	69.7	2.3	3.5
200nm zone	45.4	2.8	4.3	45.4	2.8	4.3	85.2	2.8	4.3
Ports/berthing	26.0	2.3	2.2	26.0	2.3	2.2	47.2	2.3	2.2
Bay of Biscay	265.1	17.3	25.6	265.1	17.3	26.9	487.7	77.8	27.3
HighSeas (or non EU waters)	11.3	1.9	0.6	11.3	1.9	0.6	11.3	1.9	0.6
12nm zone	15.8	1.0	1.5	15.8	1.0	1.5	29.7	4.9	1.6
200nm zone	234.1	14.1	23.1	234.1	14.1	23.1	439.8	70.7	24.7
Ports/berthing	3.9	0.3	0.3	3.9	0.3	1.6	7.0	0.3	0.3
Black Sea	37.6	6.0	2.2	37.6	6.0	2.2	23.5	1.6	2.1
HighSeas (or non EU waters)	30.3	5.5	1.5	30.3	5.5	1.5	16.1	1.1	1.4
12nm zone	0.7	0.0	0.1	0.7	0.0	0.1	0.7	0.0	0.1
200nm zone	5.8	0.4	0.5	5.8	0.4	0.5	5.8	0.4	0.5
Ports/berthing	0.8	0.1	0.1	0.8	0.1	0.1	0.8	0.1	0.1
Celtic Sea	10.6	0.7	1.0	10.6	0.7	0.7	19.6	2.2	1.1
12nm zone	1.0	0.1	0.1	1.0	0.1	0.1	1.9	0.3	0.1
200nm zone	5.2	0.3	0.5	5.2	0.3	0.5	9.8	1.5	0.6
Ports/berthing	4.3	0.4	0.4	4.3	0.4	0.1	7.8	0.4	0.4
Mediterranean Sea	1255.4	112.9	65.0	915.8	197.8	67.3	670.4	43.7	63.1
HighSeas (or non EU waters)	524.8	86.5	28.9	524.8	86.5	28.9	279.5	17.3	27.0
12nm zone	130.7	4.5	6.4	69.6	22.6	6.8	69.6	4.5	6.4
200nm zone	497.9	16.7	25.0	265.1	83.5	26.8	265.1	16.7	25.0
Ports/berthing	102.0	5.2	4.8	56.2	5.2	4.8	56.2	5.2	4.8
North Sea (+ English Channel)	269.0	17.4	26.4	269.0	17.4	26.4	503.0	17.4	26.4
12nm zone	48.3	3.1	4.8	48.3	3.1	4.8	90.6	3.1	4.8
200nm zone	187.7	11.5	18.6	187.7	11.5	18.6	352.5	11.5	18.6
Ports/berthing	33.0	2.8	3.0	33.0	2.8	3.0	59.9	2.8	3.0
Rest of NE Atlantic (TNO grid outside EMEP)	135.0	14.7	10.5	135.0	14.7	10.6	195.7	30.5	10.9
HighSeas (or non EU waters)	65.6	10.6	3.6	65.6	10.6	3.6	65.6	10.6	3.6
12nm zone	3.5	0.2	0.3	3.5	0.2	0.3	6.5	1.0	0.4
200nm zone	63.5	3.7	6.3	63.5	3.7	6.3	119.3	18.7	6.8
Ports/berthing	2.3	0.2	0.2	2.3	0.2	0.4	4.2	0.2	0.2
Grand Total	2135.2	185.2	143.7	1795.6	270.1	147.1	2156.0	189.3	144.0

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 6 - 12 nm zone - 2030			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	881
HighSeas (or non EU waters)	46.9	7.5	2.6	753
200nm zone	7.2	1.3	0.4	128
Baltic Sea	187.4	7.0	9.7	3512
12nm zone	55.1	1.9	3.1	986
200nm zone	85.2	2.8	4.3	1378
Ports/berthing	47.2	2.3	2.2	1149
Bay of Biscay	481.5	76.9	27.1	7841
HighSeas (or non EU waters)	11.3	1.9	0.6	185
12nm zone	23.4	4.0	1.4	426
200nm zone	439.8	70.7	24.7	7070
Ports/berthing	7.0	0.3	0.3	159
Black Sea	43.7	7.6	2.2	788
HighSeas (or non EU waters)	30.3	5.5	1.5	548
12nm zone	1.0	0.2	0.1	19
200nm zone	11.0	1.9	0.6	188
Ports/berthing	1.5	0.1	0.1	33
Celtic Sea	19.2	2.1	1.0	364
12nm zone	1.5	0.2	0.1	26
200nm zone	9.8	1.5	0.6	154
Ports/berthing	7.8	0.4	0.4	184
Mediterranean Sea	1227.9	193.7	66.4	21567
HighSeas (or non EU waters)	524.8	86.5	28.9	8649
12nm zone	103.3	18.5	5.9	1967
200nm zone	497.9	83.5	26.8	8350
Ports/berthing	102.0	5.2	4.8	2600
North Sea (+ English Channel)	484.0	16.8	25.8	8186
12nm zone	71.6	2.5	4.2	1244
200nm zone	352.5	11.5	18.6	5556
Ports/berthing	59.9	2.8	3.0	1386
Rest of NE Atlantic (TNO grid outside EMEP)	194.3	30.3	10.9	3121
HighSeas (or non EU waters)	65.6	10.6	3.6	1059
12nm zone	5.2	0.8	0.3	89
200nm zone	119.3	18.7	6.8	1866
Ports/berthing	4.2	0.2	0.2	107
Grand Total	2692.2	343.2	146.0	46260

Sea Regions and zones	Scen 6var1 - 200 nm zone - 2030			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	51.6	8.4	2.8	844
HighSeas (or non EU waters)	46.9	7.5	2.6	753
200nm zone	4.6	0.9	0.3	91
Baltic Sea	156.8	6.1	8.4	3113
12nm zone	55.1	1.9	3.1	986
200nm zone	54.5	1.9	3.1	978
Ports/berthing	47.2	2.3	2.2	1149
Bay of Biscay	323.2	55.0	19.9	5790
HighSeas (or non EU waters)	11.3	1.9	0.6	185
12nm zone	23.4	4.0	1.4	426
200nm zone	281.4	48.8	17.6	5020
Ports/berthing	7.0	0.3	0.3	159
Black Sea	39.8	7.0	2.0	733
HighSeas (or non EU waters)	30.3	5.5	1.5	548
12nm zone	1.0	0.2	0.1	19
200nm zone	7.0	1.3	0.4	134
Ports/berthing	1.5	0.1	0.1	33
Celtic Sea	15.6	1.7	0.9	319
12nm zone	1.5	0.2	0.1	26
200nm zone	6.3	1.1	0.4	109
Ports/berthing	7.8	0.4	0.4	184
Mediterranean Sea	1048.7	167.8	58.6	19146
HighSeas (or non EU waters)	524.8	86.5	28.9	8649
12nm zone	103.3	18.5	5.9	1967
200nm zone	318.6	57.6	19.0	5929
Ports/berthing	102.0	5.2	4.8	2600
North Sea (+ English Channel)	357.1	13.2	20.4	6575
12nm zone	71.6	2.5	4.2	1244
200nm zone	225.6	8.0	13.2	3945
Ports/berthing	59.9	2.8	3.0	1386
Rest of NE Atlantic (TNO grid outside EMEP)	151.4	24.5	8.9	2580
HighSeas (or non EU waters)	65.6	10.6	3.6	1059
12nm zone	5.2	0.8	0.3	89
200nm zone	76.4	12.9	4.8	1325
Ports/berthing	4.2	0.2	0.2	107
Grand Total	2144.0	283.7	122.0	39100

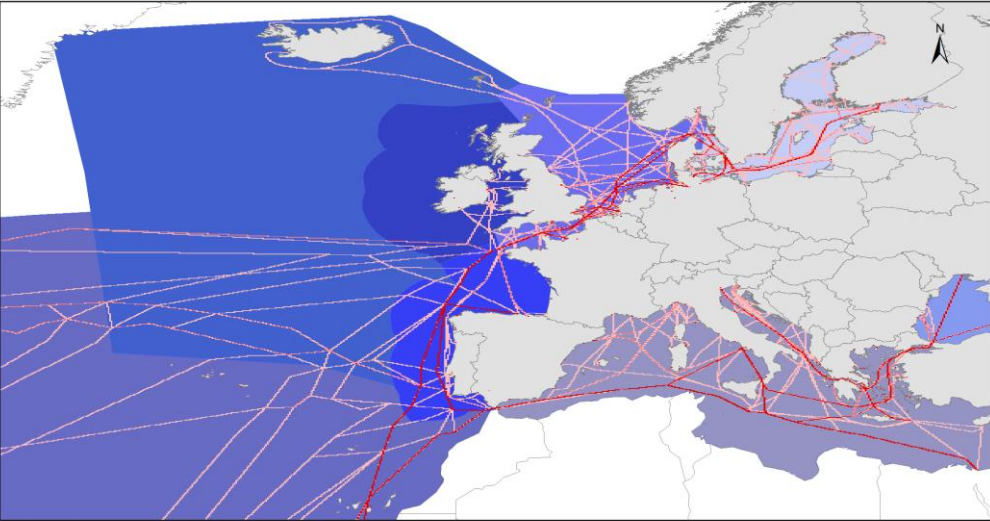
Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 6var2 - MED + BLACK_SEA - 2030			
	NOx	SO2	PM2.5	Fuel Use, PJ
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	881
HighSeas (or non EU waters)	46.9	7.5	2.6	753
200nm zone	7.2	1.3	0.4	128
Baltic Sea	202.1	7.4	10.1	3659
12nm zone	69.7	2.3	3.5	1133
200nm zone	85.2	2.8	4.3	1378
Ports/berthing	47.2	2.3	2.2	1149
Bay of Biscay	487.7	77.8	27.3	7904
HighSeas (or non EU waters)	11.3	1.9	0.6	185
12nm zone	29.7	4.9	1.6	489
200nm zone	439.8	70.7	24.7	7070
Ports/berthing	7.0	0.3	0.3	159
Black Sea	28.9	5.3	1.6	574
HighSeas (or non EU waters)	19.4	3.8	1.1	389
12nm zone	1.0	0.2	0.1	19
200nm zone	7.0	1.3	0.4	134
Ports/berthing	1.5	0.1	0.1	33
Celtic Sea	19.6	2.2	1.1	368
12nm zone	1.9	0.3	0.1	30
200nm zone	9.8	1.5	0.6	154
Ports/berthing	7.8	0.4	0.4	184
Mediterranean Sea	859.8	141.0	50.2	16637
HighSeas (or non EU waters)	335.9	59.7	20.5	6141
12nm zone	103.3	18.5	5.9	1967
200nm zone	318.6	57.6	19.0	5929
Ports/berthing	102.0	5.2	4.8	2600
North Sea (+ English Channel)	503.0	17.4	26.4	8372
12nm zone	90.6	3.1	4.8	1430
200nm zone	352.5	11.5	18.6	5556
Ports/berthing	59.9	2.8	3.0	1386
Rest of NE Atlantic (TNO grid outside EMEP)	195.7	30.5	10.9	3135
HighSeas (or non EU waters)	65.6	10.6	3.6	1059
12nm zone	6.5	1.0	0.4	102
200nm zone	119.3	18.7	6.8	1866
Ports/berthing	4.2	0.2	0.2	107
Grand Total	2350.8	290.3	130.6	41531

Annex II Emissions of air pollutants by sea region, scenario and year (kt)

Sea Regions and zones	Scen 7 2030			Scen 8 2030			Scen 9 2030		
	NOx	SO2	PM2.5	NOx	SO2	PM2.5	NOx	SO2	PM2.5
Rest of NE Atlantic (within EMEP grid)	54.2	8.8	2.9	16.8	1.8	1.0	10.7	1.2	0.7
HighSeas (or non EU waters)	46.9	7.5	2.6	14.6	1.5	0.8	9.3	1.0	0.6
200nm zone	7.2	1.3	0.4	2.2	0.3	0.1	1.4	0.2	0.1
Baltic Sea	108.5	7.4	3.8	62.7	7.4	3.8	48.6	6.1	3.1
12nm zone	37.1	2.3	1.3	21.6	2.3	1.3	17.1	1.9	1.2
200nm zone	45.4	2.8	1.6	26.4	2.8	1.6	16.9	1.9	1.2
Ports/berthing	26.0	2.3	0.8	14.6	2.3	0.8	14.6	2.3	0.8
Bay of Biscay	487.7	77.8	27.3	151.2	15.8	8.9	99.0	11.1	6.4
HighSeas (or non EU waters)	11.3	1.9	0.6	3.5	0.4	0.2	2.2	0.3	0.1
12nm zone	29.7	4.9	1.6	9.2	1.0	0.5	7.3	0.8	0.5
200nm zone	439.8	70.7	24.7	136.4	14.1	8.0	87.3	9.8	5.7
Ports/berthing	7.0	0.3	0.3	2.2	0.3	0.1	2.2	0.3	0.1
Black Sea	23.5	1.6	0.8	13.6	1.6	0.7	9.0	1.1	0.5
HighSeas (or non EU waters)	16.1	1.1	0.5	9.4	1.1	0.5	6.0	0.8	0.3
12nm zone	0.7	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0
200nm zone	5.8	0.4	0.2	3.4	0.4	0.2	2.2	0.3	0.1
Ports/berthing	0.8	0.1	0.0	0.5	0.1	0.0	0.5	0.1	0.0
Celtic Sea	19.6	2.2	1.1	6.1	0.7	0.4	4.8	0.6	0.3
12nm zone	1.9	0.3	0.1	0.6	0.1	0.0	0.5	0.0	0.0
200nm zone	9.8	1.5	0.6	3.0	0.3	0.2	1.9	0.2	0.1
Ports/berthing	7.8	0.4	0.4	2.4	0.4	0.1	2.4	0.4	0.1
Mediterranean Sea	670.4	43.7	23.6	389.3	43.7	22.1	266.6	32.4	16.6
HighSeas (or non EU waters)	279.5	17.3	10.1	162.7	17.3	9.4	104.2	11.9	6.7
12nm zone	69.6	4.5	2.4	40.5	4.5	2.2	32.0	3.7	1.9
200nm zone	265.1	16.7	9.3	154.4	16.7	8.7	98.8	11.5	6.2
Ports/berthing	56.2	5.2	1.8	31.6	5.2	1.8	31.6	5.2	1.8
North Sea (+ English Channel)	269.0	17.4	9.9	156.0	17.4	9.9	110.7	13.2	7.6
12nm zone	48.3	3.1	1.8	28.1	3.1	1.8	22.2	2.5	1.6
200nm zone	187.7	11.5	6.9	109.3	11.5	6.9	70.0	8.0	4.9
Ports/berthing	33.0	2.8	1.1	18.6	2.8	1.1	18.6	2.8	1.1
Rest of NE Atlantic (TNO grid outside EMEP)	195.7	30.5	10.9	60.7	6.3	3.6	39.6	4.4	2.6
HighSeas (or non EU waters)	65.6	10.6	3.6	20.3	2.1	1.2	13.0	1.5	0.8
12nm zone	6.5	1.0	0.4	2.0	0.2	0.1	1.6	0.2	0.1
200nm zone	119.3	18.7	6.8	37.0	3.7	2.2	23.7	2.6	1.6
Ports/berthing	4.2	0.2	0.2	1.3	0.2	0.1	1.3	0.2	0.1
Grand Total	1828.4	189.3	80.2	856.3	94.6	50.3	589.0	70.2	37.9

ANNEX III EMISSION MAPS (2005 AND 2020)

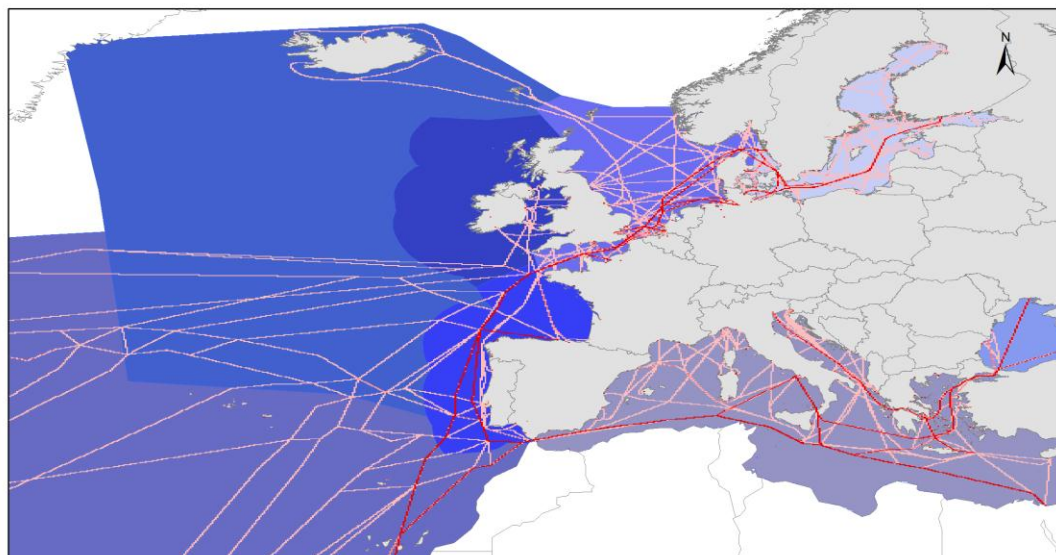


Regional zones

Rest of NE Atlantic (within EMEP grid)	Bay of Biscay	North Sea (+ English Channel)	Mediterranean Sea
Rest of NE Atlantic (TNO grid outside EMEP)	Celtic Sea	Baltic Sea	Black Sea

NO_x emissions 2005 (kt)

0.000 - 0.050	0.051 - 0.150	0.151 - 5.000	5.001 - 10.513
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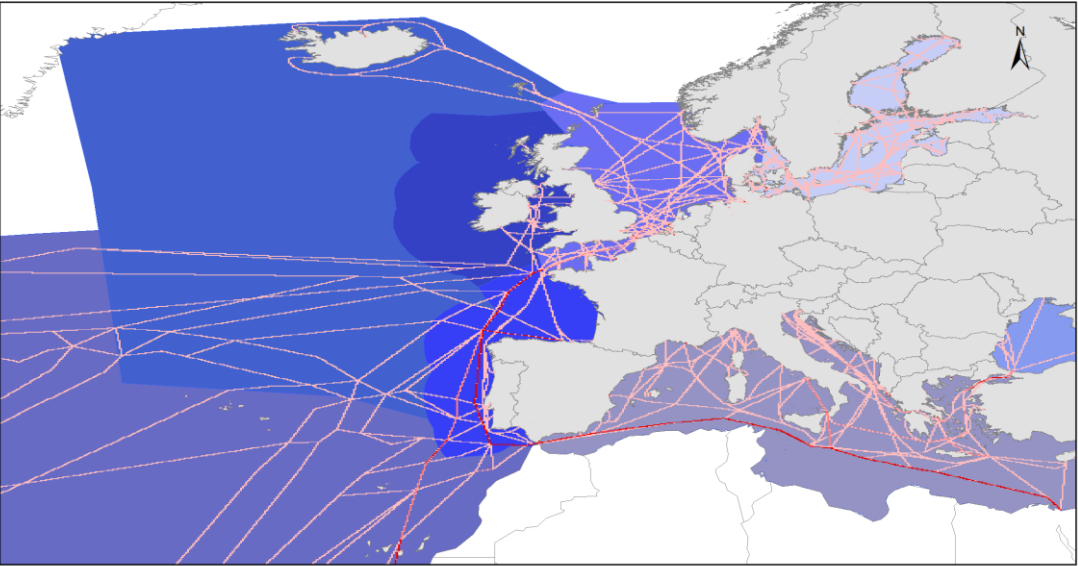


Regional zones

- | | | | |
|---|---|---|---|
|  Rest of NE Atlantic (within EMEP grid) |  Bay of Biscay |  North Sea (+ English Channel) |  Mediterranean Sea |
|  Rest of NE Atlantic (TNO grid outside EMEP) |  Celtic Sea |  Baltic Sea |  Black Sea |

SO₂ emissions 2005 (kt)

- | | | | |
|---|---|---|---|
|  0.000 - 0.050 |  0.051 - 0.100 |  0.101 - 4.000 |  4.001 - 7.302 |
|---|---|---|---|

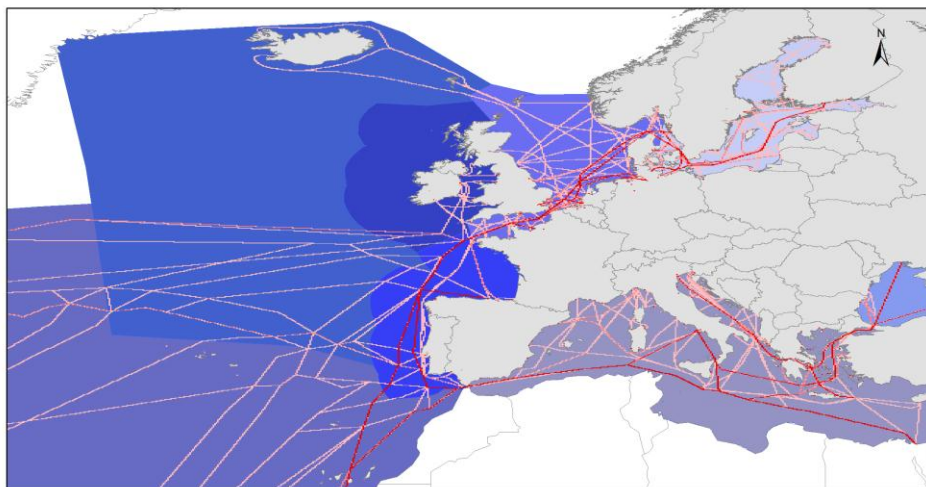


Regional zones

Rest of NE Atlantic (within EMEP grid)	Bay of Biscay	North Sea (+ English Channel)	Mediterranean Sea
Rest of NE Atlantic (TNO grid outside EMEP)	Celtic Sea	Baltic Sea	Black Sea

SO₂ emissions 2020 (kt)

0.000 - 0.050	0.051 - 0.100	0.101 - 4.000	> 4.000
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Regional zones

Rest of NE Atlantic (within EMEP grid)	Bay of Biscay	North Sea (+ English Channel)	Mediterranean Sea
Rest of NE Atlantic (TNO grid outside EMEP)	Celtic Sea	Baltic Sea	Black Sea

NO_x emissions 2020 (kt)

0.000 - 0.050	0.051 - 0.150	0.151 - 5.000	5.001 - 8.844
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ANNEX IV CHANGE IN IMPACT INDICATORS BY COUNTRY (% REDUCTION FROM THE BASELINE LEVEL)

Life-years lost due to PM pollution from anthropogenic sources (YOLL) in 2020

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.2
Belgium	-0.3	-0.4	-0.4	-0.4	-0.1	-0.1	-0.8	-0.1	-0.5	-1.0	-1.5
Bulgaria	0.0	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	-0.1	-0.1	-0.2
Cyprus	-0.2	-0.6	-0.4	-0.4	-0.6	-0.2	-0.4	-0.4	-0.8	-0.9	-1.1
Czech Rep.	-0.1	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.2
Denmark	-0.7	-0.7	-0.7	-0.7	-0.3	-0.3	-1.2	-0.1	-0.9	-1.8	-2.5
Estonia	-0.2	-0.2	-0.2	-0.2	0.0	0.0	-0.2	0.0	-0.2	-0.5	-0.7
Finland	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.3	-0.1	-0.3	-0.5	-0.7
France	-0.3	-0.5	-0.4	-0.4	-0.1	-0.1	-0.7	-0.1	-0.4	-0.9	-1.3
Germany	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.4	0.0	-0.3	-0.6	-0.8
Greece	-0.4	-0.8	-0.7	-0.7	-0.8	-0.2	-0.5	-0.4	-1.0	-1.2	-1.5
Hungary	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	-0.1	-0.1	-0.1
Ireland	-0.3	-0.7	-0.5	-0.5	-0.1	-0.1	-0.8	-0.1	-0.4	-1.2	-1.6
Italy	-0.1	-0.5	-0.4	-0.4	-0.5	-0.1	-0.4	-0.4	-0.6	-0.8	-1.0
Latvia	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.2	0.0	-0.2	-0.3	-0.6
Lithuania	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.3	0.0	-0.1	-0.3	-0.6
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	-0.4	0.0	0.0	-0.4	-0.4
Malta	-0.7	-6.6	-6.6	-6.6	-7.4	0.0	-4.4	-5.1	-8.8	-9.6	-11.8
Netherlands	-0.5	-0.6	-0.6	-0.6	-0.2	-0.2	-1.1	-0.1	-0.8	-1.5	-2.2
Poland	-0.1	-0.1	-0.1	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.2	-0.2
Portugal	-0.1	-2.1	-2.0	-2.0	-0.2	-0.1	-1.4	-0.1	-0.2	-2.6	-3.1
Romania	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1
Slovakia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1
Slovenia	-0.1	-0.2	-0.2	-0.2	-0.2	0.0	-0.2	-0.1	-0.2	-0.4	-0.6
Spain	-0.3	-1.2	-1.1	-1.1	-1.0	-0.1	-0.7	-0.6	-1.2	-1.9	-2.3
Sweden	-0.5	-0.5	-0.5	-0.5	-0.3	-0.2	-0.7	-0.1	-0.7	-1.2	-1.7
United Kingdom	-0.4	-0.5	-0.5	-0.5	-0.1	-0.1	-0.8	-0.1	-0.5	-1.1	-1.7
Croatia	-0.1	-0.2	-0.2	-0.2	-0.2	0.0	-0.2	-0.2	-0.2	-0.4	-0.5
EU-28	-0.2	-0.4	-0.4	-0.4	-0.2	-0.1	-0.5	-0.2	-0.4	-0.8	-1.1
Non-EU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1

Annex IV Change in impact indicators by country (% reduction from the baseline level)

Premature deaths due to ozone in 2020

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria	-0.3	-0.3	-0.3	-0.3	-0.3	0.0	-0.6	-0.3	-0.3	-0.9	-1.5
Belgium	0.0	-0.4	-0.4	-0.4	0.0	0.0	-0.7	-0.4	-0.4	-1.1	-1.4
Bulgaria	-0.2	-0.3	-0.2	-0.2	-0.3	0.0	-0.7	-0.7	-0.5	-1.4	-1.9
Cyprus	0.0	-2.3	0.0	0.0	-2.3	0.0	-2.3	-2.3	-2.3	-2.3	-4.7
Czech Rep.	0.0	-0.2	-0.2	-0.2	0.0	0.0	-0.5	0.0	-0.2	-0.7	-1.2
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	0.0	0.0	-0.7	-0.7
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.3
Finland	0.0	-1.3	0.0	0.0	0.0	0.0	-1.3	0.0	0.0	-1.3	-1.3
France	-0.1	-0.4	-0.3	-0.3	-0.2	0.0	-1.0	-0.3	-0.2	-1.3	-2.0
Germany	0.0	-0.2	-0.2	-0.2	-0.1	0.0	-0.5	-0.1	-0.1	-0.6	-1.0
Greece	0.0	-0.6	-0.1	-0.1	-0.6	0.0	-1.3	-1.5	-0.7	-1.8	-2.7
Hungary	-0.2	-0.3	-0.2	-0.2	-0.2	-0.2	-0.7	-0.3	-0.3	-0.9	-1.4
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	-0.1	-0.5	-0.2	-0.2	-0.5	-0.1	-1.1	-1.0	-0.5	-1.5	-2.3
Latvia	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-2.9	-2.9
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	-0.9	0.0	0.0	-0.9	-1.8
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.0
Netherlands	0.0	-0.3	-0.3	-0.3	0.0	0.0	-0.6	-0.3	0.0	-0.8	-1.4
Poland	-0.2	-0.4	-0.3	-0.3	-0.1	-0.1	-0.7	-0.2	-0.3	-1.0	-1.5
Portugal	-0.2	-1.1	-1.1	-1.1	-0.2	0.0	-2.3	-0.2	-0.2	-3.2	-4.9
Romania	-0.2	-0.3	-0.2	-0.2	-0.3	-0.1	-0.5	-0.4	-0.3	-1.0	-1.4
Slovakia	0.0	-0.5	0.0	0.0	0.0	0.0	-0.5	0.0	0.0	-0.9	-1.4
Slovenia	0.0	-1.1	0.0	0.0	-1.1	0.0	-1.1	-1.1	-1.1	-1.1	-2.1
Spain	-0.1	-0.6	-0.5	-0.5	-0.2	0.0	-1.5	-0.5	-0.3	-2.0	-3.3
Sweden	0.0	-0.5	-0.5	-0.5	0.0	0.0	-0.5	0.0	0.0	-1.1	-1.1
United Kingdom	0.0	-0.3	-0.3	-0.3	0.0	0.0	-0.7	-0.1	-0.1	-1.0	-1.6
Croatia	-0.4	-0.8	-0.4	-0.4	-0.4	0.0	-1.2	-0.8	-0.8	-1.6	-2.5
EU-28	-0.1	-0.4	-0.3	-0.3	-0.2	0.0	-0.9	-0.5	-0.3	-1.2	-1.9
Non-EU	-0.2	-0.3	-0.2	-0.2	-0.1	-0.1	-0.4	-0.3	-0.3	-0.7	-1.1

Area of ecosystems with acid deposition above critical loads for acidification in 2020

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria											
Belgium	-4.0	-4.0	-4.0	-4.0	0.0	0.0	-12.9	0.0	-4.0	-13.5	-13.7
Bulgaria											
Cyprus											
Czech Rep.	-0.7	-0.8	-0.7	-0.7	-0.3	-0.3	-0.9	-0.3	-0.8	-1.1	-1.4
Denmark	-1.0	-1.0	-1.0	-1.0	0.0	0.0	-2.7	0.0	-1.0	-5.0	-11.7
Estonia											
Finland											
France	-3.0	-6.6	-3.4	-3.4	-0.3	0.0	-6.6	-0.3	-3.2	-7.8	-10.0
Germany	-0.9	-1.0	-0.9	-0.9	-0.2	-0.3	-1.7	-0.2	-0.9	-2.5	-3.8
Greece	-0.4	-0.4	-0.4	-0.4	-0.4	0.0	-0.4	-0.4	-0.4	-23.5	-29.1
Hungary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ireland	-0.9	-1.7	-1.6	-1.6	-0.5	0.0	-1.4	0.0	-0.9	-2.4	-3.6
Italy	0.0	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.1	-0.1
Latvia	-5.3	-5.7	-4.8	-4.8	-1.8	-2.1	-9.2	-0.9	-5.0	-10.8	-13.3
Lithuania	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.2	-0.4
Luxembourg	-0.3	-0.3	-0.3	-0.3	0.0	0.0	-0.3	0.0	-0.3	-0.3	-0.8
Malta											
Netherlands	-0.4	-0.5	-0.4	-0.4	-0.1	-0.1	-0.7	-0.1	-0.4	-1.0	-1.3
Poland	-0.6	-0.6	-0.5	-0.5	-0.2	-0.2	-0.9	-0.1	-0.6	-1.4	-2.0
Portugal	-0.4	-5.0	-5.0	-5.0	-0.4	-0.4	-8.7	-0.7	-0.7	-14.3	-15.5
Romania	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-2.2
Slovakia	-0.8	-1.4	-1.1	-1.1	-0.8	-0.3	-2.9	-1.1	-1.4	-3.8	-4.4
Slovenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.1
Spain	-8.5	-9.8	-9.8	-9.8	0.0	0.0	-9.8	0.0	-2.8	-10.9	-23.4
Sweden	-0.6	-0.6	-0.5	-0.5	-0.2	-0.3	-1.0	-0.1	-0.6	-1.9	-2.8
United Kingdom	-1.1	-1.5	-1.4	-1.4	-0.3	-0.3	-2.6	-0.1	-1.0	-4.2	-6.0
Croatia	-5.7	-11.7	-6.0	-6.0	-10.6	-0.5	-14.3	-13.3	-14.3	-15.5	-16.7
EU-28	-0.9	-1.4	-0.9	-0.9	-0.3	-0.2	-1.8	-0.3	-1.0	-2.6	-3.5
Non-EU	-3.6	-4.7	-3.6	-3.6	-0.2	-0.2	-6.0	-0.2	-3.8	-8.6	-11.1

Area of ecosystems with nitrogen deposition above critical loads for eutrophication in 2020

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria	-0.3	-0.4	-0.3	-0.3	-0.3	-0.2	-0.6	-0.4	-0.4	-1.0	-1.6
Belgium	-4.3	-4.4	-4.2	-4.2	-0.3	-0.8	-5.8	-0.3	-4.2	-7.1	-10.3
Bulgaria	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-6.7	-7.1
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Rep.	-0.5	-0.5	-0.4	-0.4	0.0	0.0	-0.6	0.0	-0.5	-0.7	-0.8
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.2	-0.2
Estonia	-2.9	-2.9	-2.0	-2.0	-0.3	-0.7	-4.4	-0.2	-2.7	-6.6	-8.0
Finland	-4.5	-4.5	-3.7	-3.7	-1.0	-1.5	-7.5	-1.0	-4.1	-11.8	-16.1
France	-0.1	-0.8	-0.4	-0.4	0.0	0.0	-1.3	-0.5	-0.5	-2.3	-2.5
Germany	-0.4	-0.4	-0.3	-0.3	-0.1	-0.1	-0.6	-0.1	-0.3	-0.8	-1.3
Greece	-0.1	-0.2	-0.1	-0.1	-0.2	-0.1	-0.3	-0.3	-0.2	-0.8	-1.0
Hungary	-0.3	-0.5	-0.3	-0.3	-0.3	-0.1	-0.6	-0.5	-0.5	-0.8	-1.1
Ireland	-1.0	-1.4	-1.3	-1.3	-0.1	-0.2	-2.3	-0.1	-1.0	-3.6	-5.6
Italy	-0.2	-1.0	-0.2	-0.2	-0.9	-0.1	-1.8	-2.0	-1.2	-3.4	-4.8
Latvia	-1.4	-1.5	-1.2	-1.2	-0.3	-0.5	-2.1	-0.3	-1.4	-3.2	-4.8
Lithuania	0.0	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0	-0.1	-0.2
Luxembourg	-0.1	-0.3	-0.1	-0.1	-0.1	-0.1	-0.5	-0.1	-0.1	-0.6	-0.6
Malta											
Netherlands	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.7	-0.8
Poland	-0.3	-0.3	-0.2	-0.2	0.0	-0.1	-0.5	0.0	-0.2	-0.8	-1.1
Portugal	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	-0.2	-0.4
Romania	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2
Slovakia	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.2	-0.3
Slovenia	-1.8	-4.1	-1.7	-1.7	-2.3	-1.1	-5.0	-4.7	-4.4	-7.2	-10.6
Spain	-0.1	-0.2	-0.2	-0.2	-0.1	0.0	-0.4	-0.1	-0.1	-0.5	-0.8
Sweden	-3.2	-3.2	-2.6	-2.6	-0.7	-1.2	-4.5	-0.5	-2.9	-7.4	-10.4
United Kingdom	-0.8	-1.8	-1.6	-1.6	-0.1	-0.1	-4.2	-0.1	-0.8	-7.0	-11.0
Croatia	-0.1	-0.4	-0.1	-0.1	-0.3	-0.1	-0.6	-0.6	-0.4	-0.8	-0.9
EU-28	-0.5	-0.7	-0.5	-0.5	-0.3	-0.3	-1.1	-0.5	-0.7	-1.7	-2.3
Non-EU	-0.2	-0.2	-0.2	-0.2	-0.1	-0.1	-0.4	-0.1	-0.2	-0.6	-0.9

Life-years lost due to PM pollution from anthropogenic sources (YOLL) in 2030

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	-0.1	0.0	-0.2	-0.3	-0.4
Belgium	-1.0	-1.1	-1.0	-0.9	-0.2	-0.1	-1.0	-0.1	-1.6	-2.3	-2.7
Bulgaria	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.2	-0.3	-0.3
Cyprus	-0.2	-0.7	-0.5	-0.4	-0.9	0.0	-0.4	-0.4	-1.1	-1.3	-1.3
Czech Rep.	-0.2	-0.2	-0.2	-0.1	0.0	0.0	-0.1	0.0	-0.2	-0.3	-0.3
Denmark	-2.0	-2.0	-1.7	-1.5	-0.6	-0.4	-1.5	-0.2	-3.1	-4.2	-4.7
Estonia	-0.7	-0.7	-0.5	-0.5	-0.2	-0.2	-0.5	-0.2	-1.2	-1.4	-1.7
Finland	-0.4	-0.4	-0.3	-0.3	-0.2	-0.1	-0.4	-0.1	-0.8	-1.0	-1.2
France	-0.9	-1.2	-1.1	-0.9	-0.2	-0.1	-0.9	-0.1	-1.2	-2.0	-2.3
Germany	-0.7	-0.7	-0.6	-0.5	-0.1	-0.1	-0.5	0.0	-0.9	-1.3	-1.5
Greece	-0.5	-1.0	-0.9	-0.7	-1.0	-0.2	-0.6	-0.5	-2.0	-2.3	-2.5
Hungary	-0.1	-0.2	-0.1	-0.1	-0.1	0.0	-0.1	0.0	-0.1	-0.2	-0.2
Ireland	-1.1	-1.4	-1.3	-1.1	-0.2	-0.1	-0.9	-0.1	-1.4	-2.5	-2.8
Italy	-0.3	-1.0	-0.6	-0.5	-1.0	-0.1	-0.5	-0.5	-1.3	-1.6	-1.7
Latvia	-0.5	-0.5	-0.4	-0.2	-0.1	-0.1	-0.4	0.0	-0.6	-0.9	-1.0
Lithuania	-0.5	-0.5	-0.4	-0.3	-0.1	-0.1	-0.3	0.0	-0.6	-0.9	-1.0
Luxembourg	-0.9	-0.9	-0.9	-0.4	-0.4	-0.4	-0.9	-0.4	-0.9	-1.3	-1.8
Malta	-0.7	-8.1	-7.4	-3.0	-9.6	0.0	-5.2	-5.9	-14.1	-14.8	-16.3
Netherlands	-1.5	-1.6	-1.5	-1.3	-0.4	-0.3	-1.3	-0.1	-2.4	-3.4	-3.9
Poland	-0.2	-0.2	-0.2	-0.1	-0.1	0.0	-0.1	0.0	-0.2	-0.4	-0.4
Portugal	-0.2	-3.0	-2.9	-2.8	-0.2	-0.1	-1.6	-0.1	-0.3	-4.0	-4.4
Romania	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0	-0.1	-0.2	-0.2
Slovakia	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1
Slovenia	-0.2	-0.5	-0.2	-0.2	-0.4	0.0	-0.2	-0.1	-0.5	-0.7	-0.8
Spain	-0.4	-1.7	-1.5	-1.2	-1.3	-0.1	-0.9	-0.7	-2.0	-3.1	-3.4
Sweden	-1.2	-1.2	-1.0	-1.0	-0.4	-0.3	-0.9	-0.2	-2.2	-2.8	-3.1
United Kingdom	-1.1	-1.5	-1.3	-1.1	-0.2	-0.2	-1.1	-0.1	-1.6	-2.6	-3.0
Croatia	-0.2	-0.5	-0.4	-0.2	-0.4	0.0	-0.2	-0.2	-0.5	-0.7	-0.8
EU-28	-0.5	-0.9	-0.8	-0.6	-0.4	-0.1	-0.6	-0.2	-1.1	-1.6	-1.8
Non-EU	0.0	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	-0.1

Annex IV Change in impact indicators by country (% reduction from the baseline level)

Premature deaths due to ozone in 2030

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria	-0.7	-1.3	-1.0	-0.7	-0.7	-0.3	-1.0	-0.3	-1.0	-2.0	-2.3
Belgium	0.0	-0.8	-0.8	-0.8	0.0	0.0	-0.8	0.0	-0.4	-1.9	-2.3
Bulgaria	-0.6	-1.4	-0.6	-1.0	-1.2	0.0	-0.8	-0.8	-1.7	-2.9	-3.3
Cyprus	-2.3	-4.7	-2.3	-2.3	-4.7	0.0	-2.3	-2.3	-4.7	-7.0	-7.0
Czech Rep.	-0.6	-1.1	-0.8	-0.6	-0.3	0.0	-0.8	-0.3	-0.8	-1.9	-2.2
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.8	-0.8
Estonia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-3.7
Finland	0.0	-1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.4	-2.9
France	-0.1	-1.6	-1.2	-1.0	-0.5	0.0	-1.2	-0.4	-0.5	-2.8	-3.4
Germany	-0.1	-0.7	-0.6	-0.5	-0.2	0.0	-0.6	-0.2	-0.3	-1.3	-1.5
Greece	-0.2	-1.9	-0.5	-1.3	-2.2	0.0	-1.6	-1.7	-2.4	-3.6	-4.2
Hungary	-0.6	-1.2	-0.8	-0.8	-0.6	0.0	-0.8	-0.4	-1.0	-2.1	-2.3
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2.0	-2.0
Italy	-0.4	-1.9	-0.6	-1.2	-1.6	-0.1	-1.3	-1.2	-1.9	-3.3	-3.9
Latvia	-3.1	-3.1	-1.6	-1.6	-1.6	0.0	-1.6	0.0	-3.1	-4.7	-4.7
Lithuania	-1.0	-2.0	-1.0	-1.0	0.0	0.0	-1.0	0.0	-1.0	-3.0	-3.0
Luxembourg	-8.3	-8.3	-8.3	-8.3	-8.3	0.0	-8.3	-8.3	-8.3	-8.3	-8.3
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-5.6
Netherlands	0.0	-0.9	-0.6	-0.6	0.0	0.0	-0.6	0.0	-0.3	-1.5	-1.8
Poland	-1.0	-1.4	-1.1	-0.8	-0.4	-0.1	-0.9	-0.2	-1.1	-2.3	-2.6
Portugal	-0.5	-3.8	-3.6	-2.5	-0.5	0.0	-2.9	-0.2	-0.9	-6.8	-7.9
Romania	-0.5	-1.1	-0.6	-0.7	-0.8	-0.1	-0.7	-0.5	-1.2	-2.0	-2.4
Slovakia	-0.5	-1.0	-1.0	-0.5	-0.5	0.0	-0.5	-0.5	-1.0	-2.0	-2.0
Slovenia	0.0	-1.2	-1.2	-1.2	-1.2	0.0	-1.2	-1.2	-1.2	-2.4	-2.4
Spain	-0.3	-2.3	-2.0	-1.6	-0.8	-0.1	-1.9	-0.7	-1.1	-4.5	-5.3
Sweden	-0.6	-0.6	-0.6	-0.6	0.0	0.0	-0.6	0.0	-0.6	-1.2	-1.8
United Kingdom	-0.1	-1.1	-1.0	-0.8	-0.1	0.0	-0.9	-0.1	-0.2	-2.2	-2.6
Croatia	-0.5	-1.9	-0.5	-0.9	-1.4	0.0	-1.4	-0.9	-1.9	-3.3	-3.8
EU-28	-0.4	-1.5	-1.0	-1.0	-0.8	-0.1	-1.1	-0.6	-1.1	-2.7	-3.2
Non-EU	-0.5	-0.8	-0.6	-0.5	-0.5	-0.1	-0.5	-0.3	-0.9	-1.5	-1.8

Area of ecosystems with acid deposition above critical loads for acidification in 2030

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTFR	MCE
Austria											
Belgium	-15.8	-16.5	-15.8	-15.1	-5.9	0.0	-15.1	0.0	-15.8	-16.8	-16.8
Bulgaria											
Cyprus											
Czech Rep.	-1.2	-1.3	-1.2	-0.6	-0.4	-0.1	-0.6	-0.1	-1.2	-1.6	-2.4
Denmark	-15.5	-15.5	-12.9	-11.1	-0.2	-0.2	-1.5	0.0	-15.5	-26.2	-26.2
Estonia											
Finland											
France	-1.7	-13.0	-13.0	-1.7	0.0	0.0	-1.7	0.0	-1.7	-24.7	-25.7
Germany	-3.4	-4.1	-3.3	-2.2	-0.9	-0.5	-2.3	-0.4	-3.6	-5.6	-6.6
Greece	-35.0	-36.9	-35.0	-35.0	-36.9	-28.3	-35.0	-35.0	-38.7	-40.4	-40.4
Hungary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.2	-0.2
Ireland	-1.0	-1.9	-1.9	-1.0	-0.1	0.0	-1.0	0.0	-1.0	-3.4	-3.4
Italy	0.0	-0.2	0.0	0.0	-0.2	0.0	0.0	0.0	-0.2	-0.7	-0.7
Latvia	-7.7	-9.1	-7.0	-5.3	-2.6	-0.7	-5.3	-0.2	-7.7	-11.5	-12.6
Lithuania	-1.6	-1.7	-1.5	-1.1	-0.3	-0.2	-1.1	-0.2	-1.6	-2.2	-2.2
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malta											
Netherlands	-1.0	-1.1	-1.0	-0.7	-0.3	-0.1	-0.7	-0.1	-1.0	-1.6	-1.9
Poland	-2.2	-2.4	-1.9	-1.4	-0.8	-0.3	-1.4	-0.3	-2.2	-3.5	-3.9
Portugal	-1.8	-14.8	-14.8	-14.5	-1.8	0.0	-14.5	-0.3	-2.8	-18.8	-24.2
Romania	-17.8	-17.8	-17.8	-17.8	-17.8	0.0	-17.8	-4.7	-17.8	-17.8	-17.8
Slovakia	-0.6	-1.9	-0.6	-0.6	-0.6	-0.1	-0.6	-0.4	-1.9	-4.4	-4.9
Slovenia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-9.9
Spain	-15.9	-25.3	-25.3	-15.9	-10.1	-3.1	-11.2	0.0	-11.2	-28.8	-30.5
Sweden	-1.9	-2.0	-1.6	-1.2	-0.8	-0.4	-0.9	-0.4	-1.8	-3.0	-3.4
United Kingdom	-4.7	-6.1	-5.8	-3.9	-1.1	-0.5	-3.9	-0.2	-4.0	-10.1	-11.2
Croatia	-1.6	-21.9	-5.2	-5.2	-16.9	0.0	-6.6	-1.2	-21.9	-29.4	-30.8
EU-28	-2.2	-3.7	-3.2	-1.6	-0.9	-0.4	-1.6	-0.4	-2.4	-5.8	-6.3
Non-EU	-4.5	-6.0	-4.2	-2.8	-0.6	-0.1	-2.8	-0.3	-4.9	-8.4	-8.7

Area of ecosystems with nitrogen deposition above critical loads for eutrophication in 2030

Annex IV Change in impact indicators by country (% reduction from the baseline level)

Country	Sc. 1	Sc. 2	Sc. 3	Sc. 4	Sc. 5	Sc. 6	Sc. 6v1	Sc. 6v2	Sc. 7	MTR	MCE
Austria	-1.4	-2.2	-1.3	-1.3	-0.6	-0.2	-1.3	-0.5	-2.0	-3.2	-4.0
Belgium	-11.6	-14.3	-11.5	-7.1	-0.5	-0.5	-7.4	-0.4	-11.6	-41.1	-43.8
Bulgaria	-0.5	-0.9	-0.5	-0.5	-0.5	0.0	-0.5	-0.5	-0.9	-0.9	-0.9
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Rep.	-0.5	-0.6	-0.3	-0.3	-0.2	-0.1	-0.3	-0.1	-0.6	-1.0	-1.1
Denmark	-0.2	-0.2	-0.1	-0.1	0.0	0.0	-0.1	0.0	-0.1	-0.3	-1.2
Estonia	-6.2	-6.6	-4.9	-2.8	-0.7	-0.4	-2.8	-0.3	-6.1	-10.9	-12.2
Finland	-13.8	-14.1	-11.8	-8.9	-4.0	-2.2	-8.6	-1.2	-13.5	-21.3	-23.2
France	-2.8	-5.2	-4.2	-3.3	-2.6	-0.6	-3.4	-0.9	-4.1	-6.4	-7.0
Germany	-1.3	-1.4	-1.2	-0.8	-0.2	-0.1	-0.9	-0.1	-1.3	-2.1	-2.4
Greece	-0.4	-0.8	-0.3	-0.5	-0.7	-0.1	-0.4	-0.4	-0.9	-1.7	-1.9
Hungary	-0.8	-1.1	-0.7	-0.7	-0.7	-0.1	-0.7	-0.6	-1.1	-2.1	-2.3
Ireland	-3.6	-5.6	-4.9	-3.1	-0.6	-0.3	-3.3	-0.1	-3.5	-8.2	-9.0
Italy	-1.6	-3.4	-1.0	-2.3	-3.4	-0.3	-2.2	-2.5	-4.2	-7.0	-7.9
Latvia	-3.5	-3.6	-2.9	-1.7	-0.6	-0.3	-1.8	-0.2	-3.4	-5.6	-6.2
Lithuania	-0.3	-0.3	-0.2	-0.1	0.0	0.0	-0.1	0.0	-0.3	-0.5	-0.6
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malta											
Netherlands	-0.4	-1.0	-0.4	-0.3	-0.1	-0.1	-0.3	0.0	-0.4	-1.6	-1.7
Poland	-1.0	-1.1	-0.8	-0.5	-0.2	-0.1	-0.5	-0.1	-1.0	-1.6	-1.8
Portugal	0.0	-0.6	-0.5	-0.3	-0.1	0.0	-0.4	0.0	-0.1	-1.0	-1.3
Romania	-0.1	-0.1	-0.1	-0.1	-0.1	0.0	-0.1	-0.1	-0.1	-0.3	-0.3
Slovakia	-0.3	-0.3	-0.3	-0.2	-0.1	0.0	-0.2	0.0	-0.3	-0.5	-0.6
Slovenia	-2.5	-6.2	-1.7	-3.1	-4.6	-0.3	-3.1	-2.6	-6.3	-11.4	-13.2
Spain	-0.2	-0.6	-0.6	-0.4	-0.1	0.0	-0.5	-0.1	-0.2	-1.0	-1.2
Sweden	-10.7	-10.9	-8.5	-6.2	-2.5	-1.5	-5.7	-0.6	-10.2	-16.2	-18.0
United Kingdom	-7.1	-8.7	-7.7	-5.8	-0.4	-0.2	-6.4	0.0	-7.0	-14.0	-17.0
Croatia	-0.3	-2.0	-0.3	-0.5	-1.6	0.0	-0.7	-0.6	-2.2	-2.7	-3.3
EU-28	-1.6	-2.3	-1.7	-1.4	-1.0	-0.3	-1.4	-0.5	-2.1	-3.5	-3.9
Non-EU	-0.7	-0.8	-0.5	-0.4	-0.3	-0.1	-0.4	-0.2	-0.8	-1.3	-1.5

Life-years lost due to PM pollution from anthropogenic sources (YOLL) in 2050

Country	MTFR	MCE
Austria	-0.5	-0.5
Belgium	-4.0	-4.2
Bulgaria	-0.4	-0.4
Cyprus	-1.6	-1.8
Czech Rep.	-0.5	-0.5
Denmark	-7.4	-7.8
Estonia	-2.5	-2.8
Finland	-1.8	-1.9
France	-3.5	-3.7
Germany	-2.2	-2.4
Greece	-3.9	-4.0
Hungary	-0.4	-0.4
Ireland	-3.9	-4.1
Italy	-2.5	-2.7
Latvia	-1.4	-1.6
Lithuania	-1.4	-1.5
Luxembourg	-1.9	-2.3
Malta	-21.3	-22.0
Netherlands	-6.0	-6.4
Poland	-0.6	-0.7
Portugal	-6.2	-6.5
Romania	-0.2	-0.3
Slovakia	-0.2	-0.2
Slovenia	-1.3	-1.3
Spain	-4.9	-5.1
Sweden	-4.7	-5.0
United Kingdom	-4.3	-4.6
Croatia	-2.7	-2.9
EU-28	-1.0	-1.1
Non-EU	-2.7	-2.8

Premature deaths due to ozone in 2050

Country	MTFR	MCE
Austria	-3.1	-3.4
Belgium	-2.7	-2.7
Bulgaria	-4.7	-5.1
Cyprus	-8.7	-10.9
Czech Rep.	-3.1	-3.1
Denmark	-1.6	-1.6
Estonia	-3.7	-3.7
Finland	-2.9	-4.3
France	-4.6	-4.9
Germany	-2.1	-2.2
Greece	-5.5	-6.0
Hungary	-3.4	-3.6
Ireland	-2.0	-2.0
Italy	-5.2	-5.6
Latvia	-4.7	-6.3
Lithuania	-5.0	-5.0
Luxembourg	0.0	0.0
Malta	-5.6	-5.6
Netherlands	-2.4	-2.7
Poland	-3.7	-3.9
Portugal	-10.6	-11.2
Romania	-3.3	-3.5
Slovakia	-3.2	-3.2
Slovenia	-3.8	-5.1
Spain	-7.0	-7.5
Sweden	-2.4	-3.0
United Kingdom	-3.4	-3.7
Croatia	-4.3	-4.6
EU-28	-5.3	-5.8
Non-EU	-4.4	-4.7

Area of ecosystems with acid deposition above critical loads for acidification in 2050

Country	MTFR	MCE
Austria		
Belgium	-0.1	-0.1
Bulgaria		
Cyprus		
Czech Rep.	-8.9	-9.4
Denmark	-25.3	-27.2
Estonia		
Finland		
France	-25.8	-26.1
Germany	-8.2	-8.6
Greece	-69.5	-69.5
Hungary	-2.1	-2.6
Ireland	-9.0	-9.7
Italy	-10.1	-10.1
Latvia	-13.9	-14.2
Lithuania	-2.0	-2.0
Luxembourg	0.0	-0.1
Malta		
Netherlands	-3.3	-3.5
Poland	-5.5	-5.9
Portugal	-28.7	-29.0
Romania	0.0	0.0
Slovakia	-5.2	-5.5
Slovenia	-8.7	-8.7
Spain	-36.5	-36.5
Sweden	-5.2	-5.6
United Kingdom	-13.5	-14.1
Croatia	-7.8	-8.2
EU-28	-11.1	-11.1
Non-EU	-7.8	-8.2

Area of ecosystems with nitrogen deposition above critical loads for eutrophication in 2050

Country	MTFR	MCE
Austria	-4.3	-4.6
Belgium	-67.7	-69.6
Bulgaria	-2.2	-2.2
Cyprus	0.0	0.0
Czech Rep.	-2.6	-2.8
Denmark	-1.6	-1.9
Estonia	-16.4	-17.7
Finland	-30.0	-31.0
France	-7.7	-7.8
Germany	-3.7	-4.0
Greece	-2.7	-2.9
Hungary	-4.4	-4.6
Ireland	-10.2	-10.6
Italy	-10.8	-11.5
Latvia	-8.7	-9.3
Lithuania	-0.8	-0.9
Luxembourg	-0.1	-0.1
Malta		
Netherlands	-3.4	-3.4
Poland	-2.8	-3.0
Portugal	-0.7	-0.7
Romania	-0.4	-0.4
Slovakia	-0.3	-0.3
Slovenia	-17.8	-18.7
Spain	-1.9	-2.0
Sweden	-23.4	-24.9
United Kingdom	-16.0	-16.6
Croatia	-5.2	-5.5
EU-28	-3.7	-3.8
Non-EU	-5.2	-5.5