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To: Mr Jeppe TRANHOLM-MIKKELSEN, Secretary-General of the Council of the European Union

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Subject: COMMISSION STAFF WORKING DOCUMENT Technical information Accompanying the document Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank - Kick-starting the journey towards a climate-neutral Europe by 2050 EU Climate Action Progress Report 2020

Delegations will find attached document SWD(2020) 298 final.

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COMMISSION STAFF WORKING DOCUMENT

Technical information

Accompanying the document

Report from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions and the European Investment Bank

- Kick-starting the journey towards a climate-neutral Europe by 2050

EU Climate Action Progress Report 2020

{COM(2020) 777 final}

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1. OVERVIEW OF EU CLIMATE TARGETS

Table 1: Overview of EU climate targets.

International commitments		EU domestic legislation				
Target year of period	The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework	
			EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)
	Second commitment period (2013-2020) (target for EU-28)	Already in force – covers the period post 2020	2013-2020	2013-2020	2021-2030	2021-2030
Emission reduction target	-20 %	at least -40 % in 2030	-21 % in 2020 compared to 2005 for ETS emissions	Annual targets by MS. In 2020 -10 % compared to 2005 for non-ETS emissions	-43 % in 2030 compared to 2005 for ETS emissions	0% (no-debit target based on accounting rules)
Further targets		<ul style="list-style-type: none"> limiting global warming to well below 2°C; every 5 years to set more ambitious targets as required by science; report on implementation/ track progress towards the long-term goal through 	Overall target: -20 % GHG emissions reduction vs 1990"	Overall target: -20 % GHG emissions reduction vs 1990"	Overall target: at least -40 % domestic GHG emissions reduction vs 1990	<ul style="list-style-type: none"> At least 32 % share of renewable energy in EU energy consumption (with an upward review by 2023);
			✓Renewable Energy Directive: 20 % share of renewable energy of gross final energy consumption;	✓Energy Efficiency Directive : Increase energy efficiency by 20 %.	✓At least 32.5 % improvement in energy efficiency (with an upward review by 2023).	

EU domestic legislation			
International commitments		2030 Climate and Energy Framework	
The EU's commitment under the Paris Agreement		EU ETS	Effort Sharing Regulation (ESR)
The EU's commitment under the Kyoto Protocol		EU ETS	LULUCF
	<p>The EU's commitment under the Paris Agreement</p> <p>a robust transparency and accountability system.</p> <ul style="list-style-type: none"> balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century. 		
Base year	1990, but subject to flexibility rules. 1995 or 2000 may be used as its base year for NF3	2005	2005
LULUCF	Included: afforestation, reforestation and deforestation (ARD) and forest management, other activities if elected (new accounting rules)	1990 for overall emission reduction target	1990 for overall emission reduction target
	Included: Contributes to the commitment of decreasing emissions by at least -40%.	2005	Subject to accounting rules
	Excluded from target, but reported in inventories.	2005	2005
	Included: Contributes to the commitment of decreasing emissions by at least -40%.	1990 for overall emission reduction target	1990 for overall emission reduction target

International commitments		EU domestic legislation				
The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	2020 Climate and Energy Package		2030 Climate and Energy Framework		
		EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
Aviation¹	Domestic aviation included. International aviation not attributed.	EU ETS: Domestic (national) and some international aviation included.	ESD: CO ₂ from domestic aviation excluded	EU ETS: Domestic and some international aviation included.	ESR: CO ₂ from domestic aviation excluded. Aviation generally excluded.	
Use of international credits	Use of KP flexible mechanisms subject to KP rules	Upper limit for credit use for period 2008-2020 at a maximum of 50 % of the reduction effort below 2005 levels	Annual use of carbon credits is limited to up to 3 % of each Member State's ESD emissions in 2005 ²	No ³	No	No
Carry-over of units from preceding periods⁴	Subject to KP rules including those agreed in the Doha Amendment	EU ETS allowances can be banked into subsequent ETS trading periods since the second trading period	No carry over from previous period	Indefinite validity of allowances not limited to trading periods, no need to carry over.	No	No

¹ May be reviewed in the light of the implementation of ICAO's global measure.

² Member States that do not use their 3 % limit for the use of international credits in any specific year can transfer the unused part of their limit to another Member State or bank it for their own use until 2020. Member States fulfilling additional criteria (Austria, Belgium, Cyprus, Denmark, Finland, Ireland, Italy, Luxembourg, Portugal, Slovenia, Spain and Sweden) may use credits from projects in Least Developed Countries (LDCs) and Small Island Developing States (SIDS) up to an additional 1 % of their verified emissions in 2005. These credits are not bankable and transferable. A maximum of approximately 750 Mt of international credits can be used during the period from 2013 to 2020 in the ESD.

³ A link with the permit system in Switzerland has been ratified.

⁴ For the CP2 it refers to carry over from CP1. For the ETS it refers to carry-over from previous trading period under the scheme itself.

		EU domestic legislation				
International commitments		2020 Climate and Energy Package		2030 Climate and Energy Framework		
		EU ETS	Effort Sharing Decision (ESD)	EU ETS	Effort Sharing Regulation (ESR)	LULUCF
Gases covered	The EU's commitment under the Kyoto Protocol	The EU's commitment under the Paris Agreement	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆	CO ₂ , CH ₄ , N ₂ O, HFCs, PFCs, SF ₆ , NF ₃	CO ₂ , CH ₄ , N ₂ O
Sectors included	CO ₂ , CH ₄ , N ₂ O, HFCs ⁵ , PFCs, SF ₆ , NF ₃	Energy, IPPU, agriculture, waste, LULUCF	Energy, IPPU, agriculture, waste, LULUCF	Power & heat generation, energy-intensive industry sectors, aviation	Transport (except aviation), buildings, non-ETS industry, agriculture (non-CO ₂) and waste	Power & heat generation, energy-intensive industry sectors, aviation
GWPs used	Energy, IPPU, agriculture, waste, LULUCF	Energy, IPPU, agriculture, waste, LULUCF	Energy, IPPU, agriculture, waste, LULUCF	Power & heat generation, energy-intensive industry sectors, aviation	Transport (except aviation), buildings, non-ETS industry, agriculture (non-CO ₂) and waste	Land use, land use change and forestry
Applicable to number of MS	IPCC SAR	IPCC AR4	IPCC AR5	IPCC AR4	IPCC AR5	EU-27, UK ⁷
	IPCC AR4	IPCC AR4	IPCC AR5	IPCC AR4	IPCC AR5	EU-27, UK ⁷
	15 (additional KP targets for single MS)	EU-27, UK ⁶ and Iceland	EU-27, UK	EU-27, UK ⁷	EU-27 ⁸	

⁵ HFCs are also covered by the Kigali Amendment to the Montreal Protocol, which entered into force on the 1st of January 2019.

⁶ EU-28 until 31 January 2020

⁷ In addition to the 27 MS and UK, Iceland, Liechtenstein, and Norway are also covered under the EU-ETS.

⁸ Within the Agreement on the European Economic Area, Iceland and Norway cooperate with the EU-27 towards achieving the 2030 targets in the LULUCF and Effort Sharing sectors.

2. GREENHOUSE GAS EMISSIONS COVERED BY THE KYOTO PROTOCOL AND THE CLIMATE AND ENERGY PACKAGE

Table 2: Emissions covered by the EU Climate and Energy Package and by the Kyoto Protocol, second commitment period 1990, 2018 and 2020 targets (Mt CO₂-eq. and % change from base year emissions)

	Base year emissions (Mt CO ₂ -eq.)	1990 emissions (Mt CO ₂ -eq.)	2018 emissions (Mt CO ₂ -eq.)	2018 emissions (% change from base year)	2020 targets (Mt CO ₂ -eq.)	2020 target (% change from base year)
Climate and energy package:						
Total GHG emissions, including international aviation (EU Convention scope)	5721	5721	4392	23%	4577	-20%
Kyoto Protocol:						
Total GHG emissions, excluding international aviation (EU KP scope + Iceland)	5876	5659	4234	28%	4701	-20%

Table 2 shows progress towards the EU's 2020 targets as defined under the EU Climate and Energy Package and under the Kyoto Protocol. The differences between the two approaches are described in table 1. Notably, emissions from international aviation are included in the Climate and Energy Package, but excluded under the Kyoto Protocol. The geographical scope of the commitment under the Kyoto protocol includes Iceland and certain regions not included in the Climate and Energy Package.

Under the Kyoto Protocol, base year emissions differs from 1990 because some Member States have used a different base year. Moreover, for NF₃ emissions, 1995 or 2000 may have been used as base year.

Under the Kyoto Protocol, Member States also need to account for emissions and removals from certain categories of land use, land use change and forestry (LULUCF) by applying the accounting rules of the Kyoto Protocol. Table 2 does not include emissions and removals from LULUCF. For the EU as a whole, the LULUCF sector has been a net accounted sink in 2013-2018, thereby contributing to achieving the commitment.

3. EU GREENHOUSE GAS EMISSIONS BY SECTOR

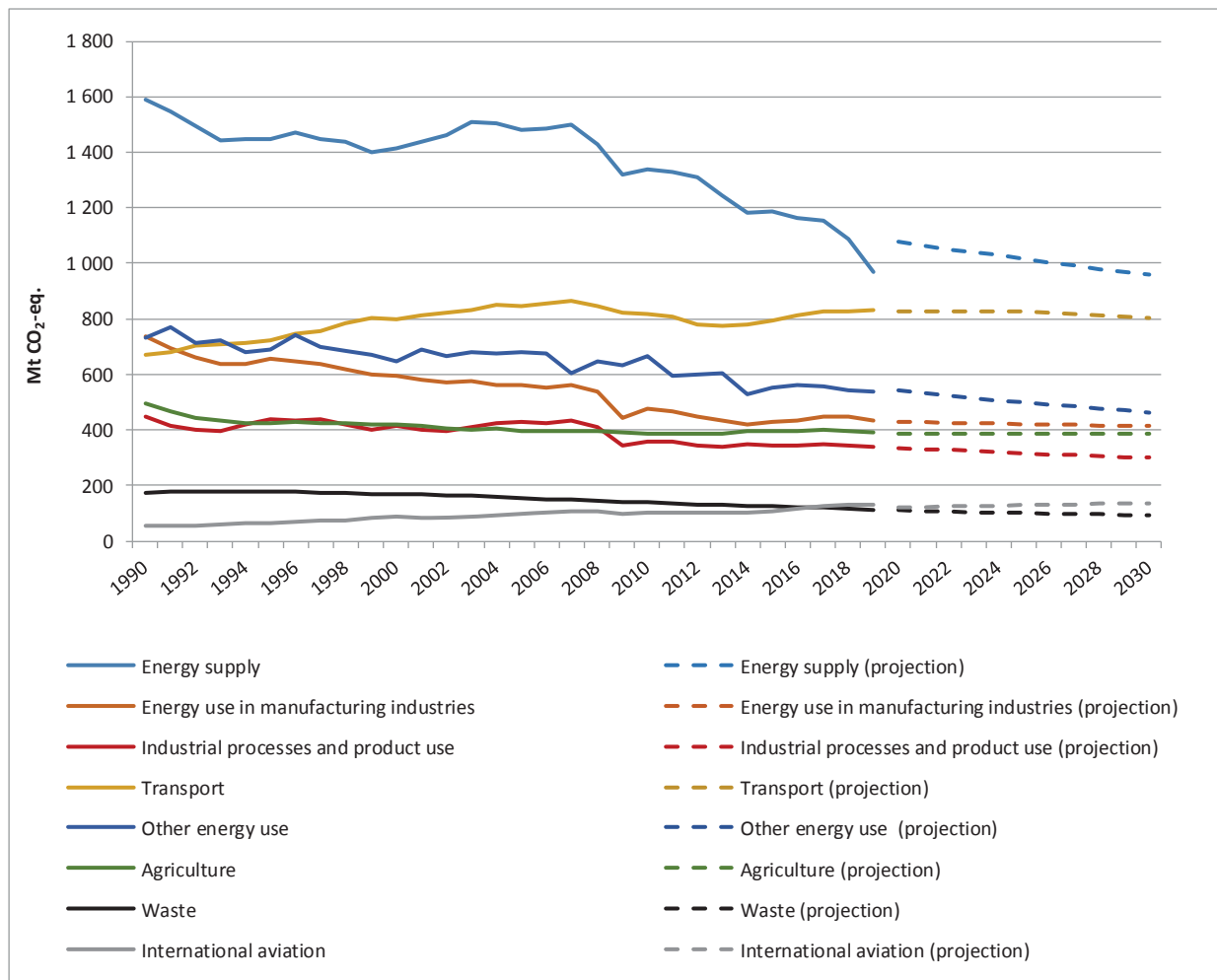


Figure 1: EU-27 greenhouse gas emissions by sector, historical data (1990-2019) and projections (2020-2030).⁹

⁹ Sources: EU greenhouse gas inventory 1990-2018. EU approximated greenhouse gas inventory 2019 (EEA). Member States projections with 'existing measures' reviewed by EEA (2020).

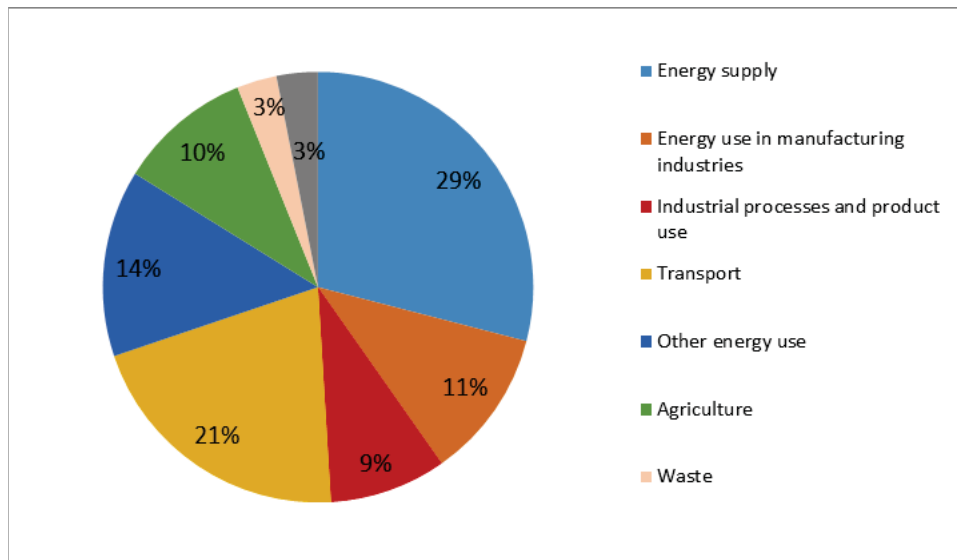


Figure 2: EU-27 greenhouse gas emissions by sector 2018 (in % of total emissions).¹⁰

The sectors used in Figure 1 and 2 correspond to the following IPCC sectors:

- Energy supply: 1A1, 1B and 1C,
- Energy use in manufacturing industries: 1A2,
- Industrial processes and product use: 2,
- Transport: 1A3,
- Other energy use: 1A4, 1A5 and 6,
- Agriculture: 3,
- Waste: 5,
- International aviation: memo item.

¹⁰ EU greenhouse gas inventory 1990-2018.

4. TOTAL GHG EMISSIONS PER MEMBER STATE

Table 3: Total GHG Emissions 2019, excl. LULUCF, including international aviation (Mt CO₂-eq. and % change from 1990 and 2005)

	1990	2005	2019	2019/1990	2019/2005
EU-27	4912	4647	3749	-24%	-19%
Austria	79	94	83	5%	-12%
Belgium	150	150	124	-17%	-17%
Bulgaria	103	65	57	-44%	-12%
Croatia	32	30	25	-22%	-17%
Cyprus	6	10	10	63%	-2%
Czechia	200	150	132	-34%	-12%
Denmark	73	69	48	-34%	-31%
Estonia	40	19	15	-62%	-20%
Finland	72	71	55	-23%	-22%
France	557	571	459	-18%	-20%
Germany	1262	1016	835	-34%	-18%
Greece	106	139	89	-16%	-36%
Hungary	94	76	64	-32%	-16%
Ireland	57	72	62	9%	-14%
Italy	520	595	427	-18%	-28%
Latvia	27	12	12	-55%	0%
Lithuania	48	23	21	-57%	-10%
Luxembourg	13	14	13	-3%	-10%
Malta	3	3	3	-12%	-12%
Netherlands	226	226	196	-13%	-13%
Poland	476	405	394	-17%	-3%
Portugal	60	88	69	15%	-22%
Romania	249	152	113	-55%	-26%
Slovakia	74	51	42	-43%	-18%
Slovenia	19	21	17	-10%	-18%
Spain	294	455	333	13%	-27%
Sweden	73	69	53	-27%	-23%

5. GREENHOUSE GAS INTENSITY IN THE EU AND ITS MEMBER STATES

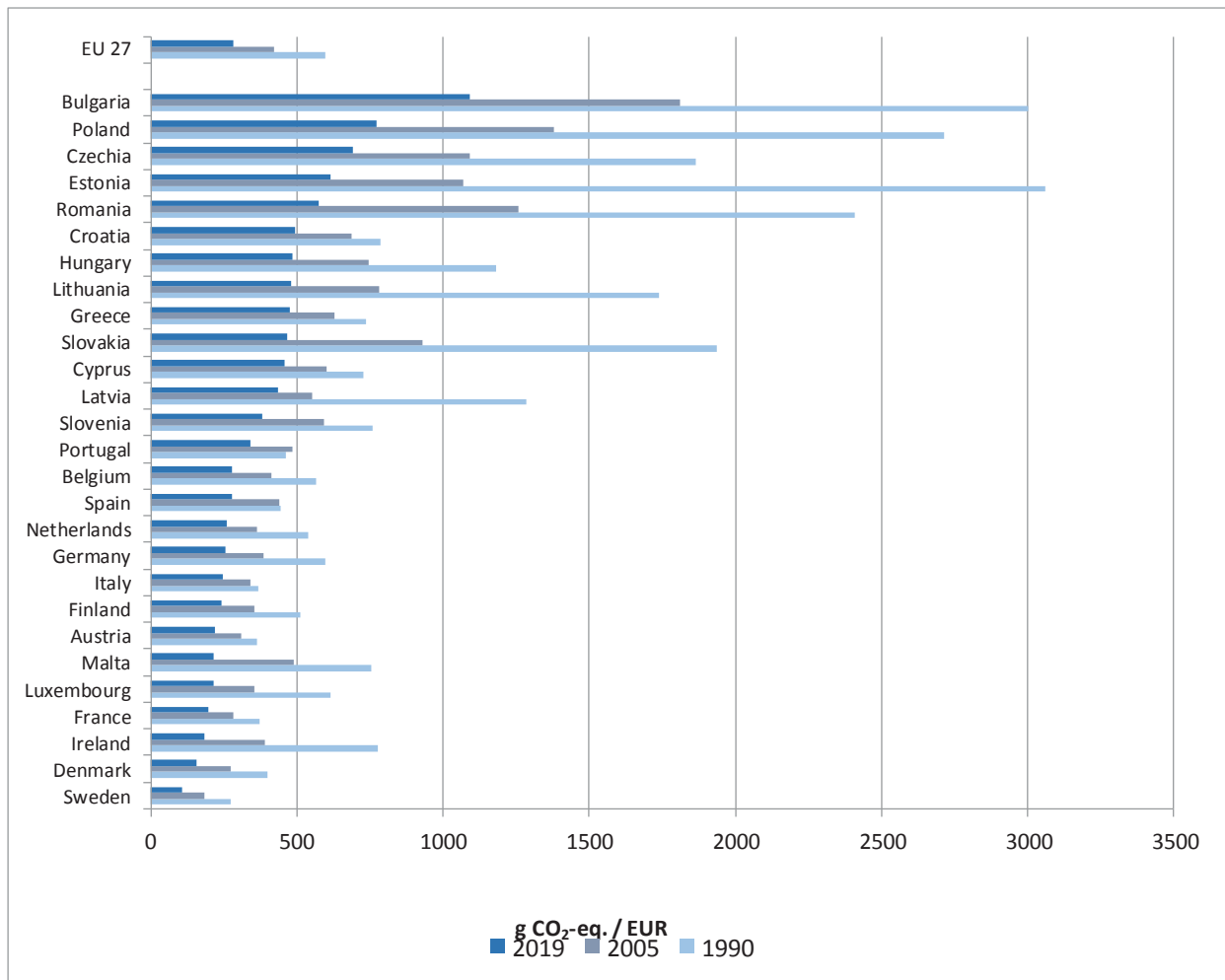


Figure 3: Greenhouse gas emissions intensity (i.e. the ratio between emissions and GDP) in the EU and its Member States 1990, 2005 and 2019 (g CO₂-eq./ EUR₂₀₁₅).¹¹

¹¹ Sources: EU greenhouse gas inventory 1990-2018, EU approximated greenhouse gas inventory 2019 (EEA). GDP in 2015-prices, data from Ameco database (European Commission, DG ECFIN) gap-filled by EEA.

6. GREENHOUSE GAS EMISSIONS PER CAPITA IN THE EU AND ITS MEMBER STATES

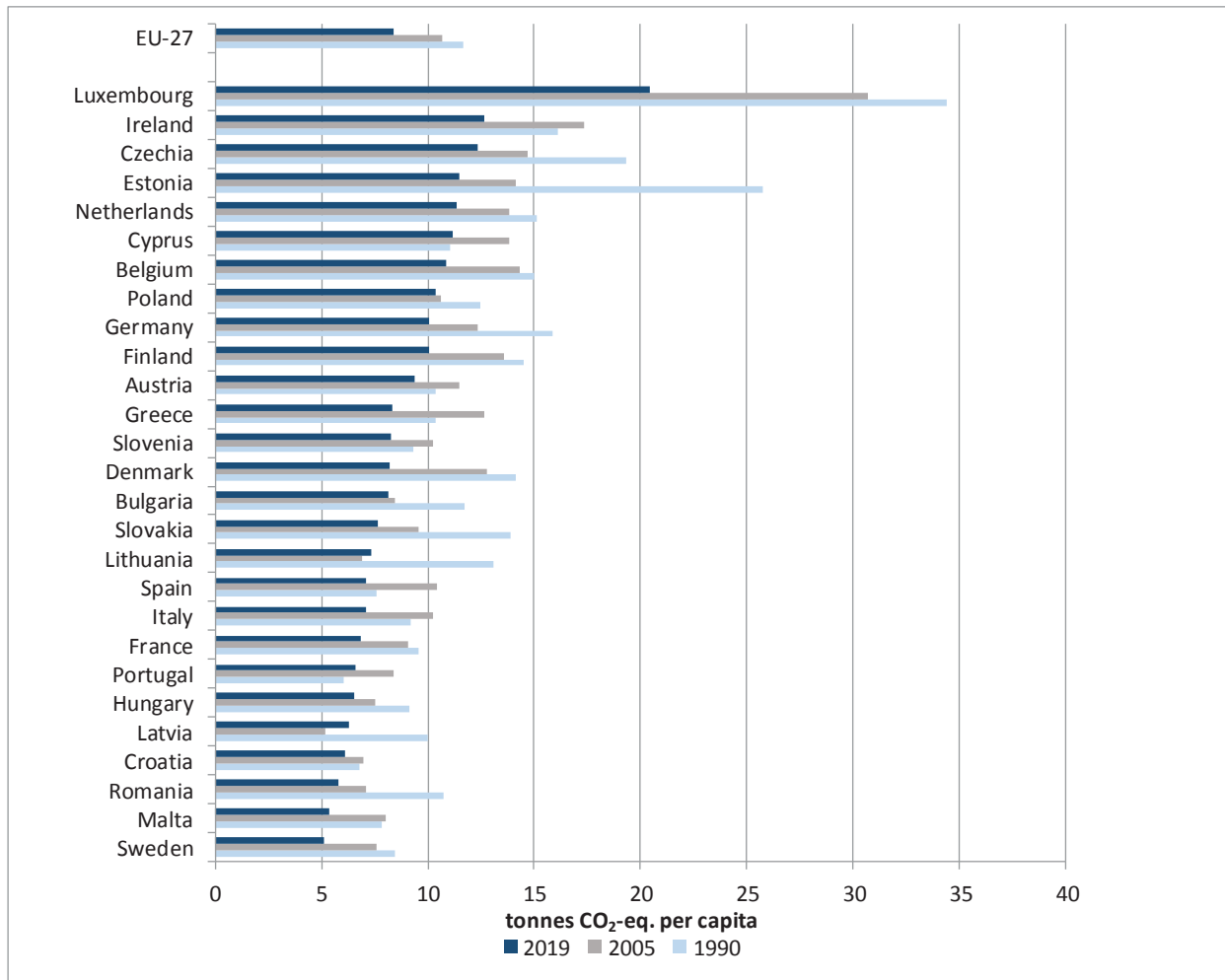


Figure 4: Greenhouse gas emissions per capita in the EU and its Member States 1990, 2005 and 2019 (tonnes CO₂-eq. per capita).¹²

¹² Sources: EU greenhouse gas inventory 1990-2018, EU approximated greenhouse gas inventory 2019 (EEA). Average population (total) (Eurostat).

7. EU ETS EMISSIONS

Table 4: Verified ETS emissions from stationary installations (Mt CO₂-eq. and percentage change from year X-1).

	2011	2012	2013	2014	2015	2016	2017	2018	2019
Verified total emissions	1904	1867	1908	1814	1803	1750	1755	1682	1530
Change to year x-1		-2.0%	2.2%	-4.9%	-0.6%	-2.9%	0.2%	-4.1%	-9.1%
Verified emissions from power sector	1206	1201	1138	1049	1043	1001	996	930	792
Change to year x-1		-0.5%	-5.2%	-7.8%	-0.5%	-4.1%	-0.5%	-6.6%	-14.9%
Verified emissions from industrial installations	698	666	770	765	760	750	759	753	738
Change to year x-1		-4.6%	15.6%	-0.7%	-0.7%	-1.3%	1.3%	-0.8%	-1.9%

8. EMISSIONS COVERED BY THE EFFORT SHARING LEGISLATION

In 2019 and 2020, Member States have submitted projections in the context of the NECPs and of the Monitoring Mechanism Regulation (EU) No. 525/2013 (MMR) Effort Sharing legislation. The aggregated “with existing measures” projections for effort sharing sectors are based on the GHG projection submissions under the MMR Monitoring Mechanism Regulation (EU) No. 525/2013 or the NECPs, whichever is more recent.

13 Member States reported updated GHG projections in 2020 (AT, BE, CY, DK, EE, EL, HU, IE, LV, LT, LU, PL and SI). The aggregated planned measures are based on the 2030 greenhouse gas projections “with additional measures” for effort sharing sectors that were included in the NECPs. If Member States provided projections in March 2020 under the MMR calibrated to more recent inventory data, these were used.

For the few Member States for which projections of planned measures for effort sharing sectors are not available (DK, NL, PT, RO, SE, SK), the following gap-fillers were applied: ESR targets for DK, NL and RO, as the targets set in the NECPs imply fulfilling the ESR targets domestically, national domestic ESR targets (SK), with additional measures projections submitted under the MMR in 2019 (PT).

For SE with existing measures projections submitted in March 2019 are presented; certain measures have been implemented or planned to achieve the domestic target for ESR sectors of at least -50% reductions since then which will only be reflected in updated projections in March 2021.

For Bulgaria it is noted that the WEM projection has lower emissions than the WAM projection. One reason is that they stem from different modelling exercises, WEM from the 2019 MMR submission and WAM from the final NECP.

The 2005 base year values as used under the Effort Sharing Decision and published in the accompanying Staff Working Document e.g. in SWD(2018)453 have been used unless Member State updates thereof based on more recent inventories are available from the NECPs.

Table 5: Member States targets, historical and projected emissions under the effort-sharing legislation and distance to targets in percentage change from 2005 base year emissions. Positive values indicate projected overachievement while negative values indicate projected underachievement. WEM = with existing measures, WAM = with additional measures.

Member State	2017	2018	2019 (preliminary)	2030 (projections WEM)	2030 (projections WMM)
Austria					
Target	-13%	-14%	-15%	-36%	-36%
Emissions	-9%	-11%	-11%	-16%	-27%
Distance to target (pp)	-4%	-2%	-4%	-20%	-9%
Belgium					
Target	-10%	-11%	-13%	-35%	-35%
Emissions	-12%	-8%	-7%	-14%	-34%
Distance to target (pp)	2%	-4%	-6%	-21%	-1%
Bulgaria					
Target	17%	18%	19%	0%	0%
Emissions	20%	19%	23%	8%	14%
Distance to target (pp)	-3%	-1%	-4%	-8%	-14%
Croatia					
Target	7%	9%	10%	-7%	-7%
Emissions	-4%	-7%	-3%	-13%	-19%
Distance to target (pp)	12%	15%	13%	6%	12%
Cyprus					
Target	0%	-1%	-3%	-24%	-24%
Emissions	2%	-1%	3%	-7%	-21%
Distance to target (pp)	-2%	-1%	-6%	-17%	-3%
Czechia					
Target	6%	7%	8%	-14%	-14%
Emissions	1%	-2%	10%	-12%	-14%
Distance to target (pp)	5%	9%	-2%	-2%	0%
Denmark					
Target	-13%	-15%	-18%	-39%	-39%
Emissions	-18%	-17%	-19%	-23%	-39%
Distance to target (pp)	5%	2%	1%	-16%	0%
Estonia					
Target	9%	10%	10%	-13%	-13%
Emissions	14%	13%	20%	-6%	-20%
Distance to target (pp)	-5%	-3%	-10%	-7%	7%
Finland					
Target	-11%	-13%	-14%	-39%	-39%
Emissions	-11%	-12%	-14%	-24%	-37%
Distance to target (pp)	0%	-1%	-1%	-15%	-2%
France					
Target	-10%	-11%	-13%	-37%	-37%
Emissions	-11%	-14%	-14%	-23%	-41%
Distance to target (pp)	1%	3%	2%	-14%	4%

Member State	2017	2018	2019 (preliminary)	2030 (projections WEM)	2030 (projections WMM)
Germany					
Target	-10%	-11%	-13%	-38%	-38%
Emissions	-2%	-9%	-8%	-24%	-35%
Distance to target (pp)	-7%	-2%	-5%	-14%	-3%
Greece					
Target	-5%	-5%	-4%	-16%	-16%
Emissions	-27%	-29%	-29%	-25%	-34%
Distance to target (pp)	22%	24%	25%	9%	18%
Hungary					
Target	4%	6%	8%	-7%	-7%
Emissions	-10%	-10%	-9%	-8%	-23%
Distance to target (pp)	14%	16%	18%	1%	16%
Ireland					
Target	-13%	-15%	-18%	-30%	-30%
Emissions	-7%	-4%	-5%	-6%	-29%
Distance to target (pp)	-6%	-12%	-12%	-24%	-1%
Italy					
Target	-11%	-12%	-12%	-33%	-33%
Emissions	-19%	-17%	-19%	-27%	-35%
Distance to target (pp)	8%	5%	6%	-6%	2%
Latvia					
Target	14%	15%	16%	-6%	-6%
Emissions	8%	7%	6%	-7%	-13%
Distance to target (pp)	6%	8%	10%	1%	7%
Lithuania					
Target	7%	9%	12%	-9%	-9%
Emissions	7%	8%	8%	2%	-24%
Distance to target (pp)	0%	2%	4%	-11%	15%
Luxembourg					
Target	-14%	-16%	-18%	-40%	-40%
Emissions	-14%	-11%	-9%	-16%	-53%
Distance to target (pp)	0%	-5%	-9%	-24%	13%
Malta					
Target	5%	5%	5%	-19%	-19%
Emissions	28%	24%	24%	47%	41%
Distance to target (pp)	-23%	-19%	-19%	-66%	-60%
Netherlands					
Target	-11%	-13%	-14%	-36%	-36%
Emissions	-20%	-22%	-22%	-31%	-36%
Distance to target (pp)	9%	9%	7%	-5%	0%
Poland					
Target	11%	12%	13%	-7%	-7%
Emissions	18%	18%	15%	11%	-7%
Distance to target (pp)	-6%	-6%	-2%	-18%	0%

Member State	2017	2018	2019 (preliminary)	2030 (projections WEM)	2030 (projections WMM)
Portugal					
Target	-1%	-1%	0%	-17%	-17%
Emissions	-17%	-17%	-14%	-40%	-47%
Distance to target (pp)	16%	16%	15%	23%	30%
Romania					
Target	11%	14%	16%	-2%	-2%
Emissions	0%	3%	0%	10%	-2%
Distance to target (pp)	12%	11%	16%	-12%	0%
Slovakia					
Target	9%	10%	12%	-12%	-12%
Emissions	-7%	-8%	-5%	-12%	-20%
Distance to target (pp)	17%	19%	17%	0%	8%
Slovenia					
Target	3%	3%	4%	-15%	-15%
Emissions	-8%	-7%	-9%	-10%	-26%
Distance to target (pp)	11%	10%	12%	-5%	11%
Spain					
Target	-8%	-8%	-9%	-26%	-26%
Emissions	-15%	-14%	-15%	-21%	-39%
Distance to target (pp)	7%	6%	6%	-5%	13%
Sweden					
Target	-13%	-14%	-16%	-40%	-40%
Emissions	-25%	-28%	-30%	-40%	-40%
Distance to target (pp)	12%	13%	14%	0%	0%
EU 27					
Target	-6%	-7%	-7%	-29%	-29%
Emissions	-9%	-10%	-10%	-19%	-32%
Distance to target (pp)	3%	3%	3%	-10%	3%

Table 6: Annual emissions allocations¹³, historical and projected emissions and distance to targets under the Effort Sharing Decision (Mt. CO₂-eq.). Positive gap to target indicate projected overachievement, negative values indicate projected underachievement. WEM = with existing measures, WAM = with additional measures.

Member State	2005 base year emissions	2013	2014	2015	2016	2017	2018 (preliminary)	2019 (proxy inventory)	2020
Austria									
AEA		52,6	52,1	51,5	51,0	49,5	48,9	48,3	47,8
Emissions	56,8	50,1	48,2	49,3	50,6	51,7	50,3	50,7	
Distance to target		2,5	3,9	2,2	0,4	-2,1	-1,4	-2,4	
Cumulative surplus of AEs		2,5	6,4	8,7	9,0	6,9	5,5	3,1	
Belgium									
AEA		78,4	76,9	75,3	73,8	72,5	71,1	69,7	68,2
Emissions	80,3	74,3	70,1	72,7	74,1	70,8	74,3	74,3	
Distance to target		4,1	6,8	2,6	-0,3	1,7	-3,2	-4,6	
Cumulative surplus of AEs		4,1	10,9	13,5	13,2	14,9	11,7	7,1	
Bulgaria									
AEA		26,9	27,2	27,5	27,7	25,9	26,1	26,3	26,5
Emissions	22,1	22,2	22,9	25,4	25,6	26,5	26,3	27,1	
Distance to target		4,7	4,3	2,1	2,1	-0,6	-0,2	-0,8	
Cumulative surplus of AEs		4,7	9,0	11,1	13,3	12,6	12,4	11,6	
Croatia									
AEA		19,6	19,8	20,0	20,2	18,7	18,9	19,1	19,3
Emissions	17,4	15,1	14,7	15,6	16,0	16,7	16,2	16,8	
Distance to target		4,5	5,1	4,4	4,2	2,0	2,7	2,3	
Cumulative surplus of AEs		4,5	9,6	14,1	18,2	20,3	22,9	25,2	
Cyprus									
AEA		5,9	5,9	5,9	5,9	4,2	4,1	4,0	4,0
Emissions	4,2	3,9	3,9	4,1	4,1	4,3	4,2	4,3	
Distance to target		2,0	2,0	1,9	1,8	-0,1	0,0	-0,3	
Cumulative surplus of AEs		2,0	4,0	5,8	7,7	7,6	7,5	7,3	
Czechia									
AEA		62,5	63,2	64,0	64,7	65,2	65,9	66,5	67,2
Emissions	61,7	61,5	57,6	61,3	62,8	62,4	60,6	67,8	
Distance to target		1,0	5,6	2,7	1,9	2,8	5,3	-1,2	
Cumulative surplus of AEs		1,0	6,6	9,3	11,2	14,0	19,2	18,0	
Denmark									

¹³ AEs for the years 2017-2020 have been recalculated for all Member States to reflect updates in methodologies for reporting of GHG inventories. This recalculation ensures maintaining of the originally intended effort of each Member State (in % of 2005 emissions).

Member State	2005 base year emissions	2013	2014	2015	2016	2017	2018 (preliminary)	2019 (proxy inventory)	2020
AEA		36,8	35,9	35,0	34,1	34,8	33,9	33,0	32,1
Emissions	40,1	33,7	32,6	32,5	33,1	32,7	33,1	32,5	
Distance to target		3,1	3,3	2,5	1,0	2,1	0,7	0,5	
Cumulative surplus of AEs		3,1	6,4	8,9	9,9	12,0	12,7	13,2	
Estonia									
AEA		6,3	6,3	6,3	6,4	5,9	6,0	6,0	6,0
Emissions	5,4	5,8	6,1	6,1	6,2	6,2	6,1	6,5	
Distance to target		0,5	0,2	0,2	0,2	-0,3	-0,2	-0,5	
Cumulative surplus of AEs		0,5	0,8	1,0	1,1	0,9	0,7	0,2	
Finland									
AEA		31,8	31,3	30,8	30,3	30,2	29,6	29,1	28,5
Emissions	33,9	31,6	30,1	29,9	31,4	30,1	29,9	29,3	
Distance to target		0,2	1,1	0,9	-1,0	0,1	-0,3	-0,3	
Cumulative surplus of AEs		0,2	1,3	2,2	1,2	1,3	1,0	0,8	
France									
AEA		394,1	389,5	384,4	379,4	358,2	352,9	347,7	342,5
Emissions	398,2	366,1	353,5	353,0	351,9	352,8	342,2	341,1	
Distance to target		28,0	35,9	31,4	27,5	5,4	10,7	6,6	
Cumulative surplus of AEs		28,0	63,9	95,3	122,8	128,2	138,9	145,5	
Germany									
AEA		472,5	465,8	459,1	452,4	432,3	425,2	418,1	410,9
Emissions	477,8	460,2	436,8	444,1	454,2	466,9	434,0	439,7	
Distance to target		12,3	29,0	15,1	-1,7	-34,5	-8,8	-21,6	
Cumulative surplus of AEs		12,3	41,4	56,4	54,7	20,2	11,3	-10,3	
Greece									
AEA		59,0	59,3	59,6	59,9	59,1	59,4	59,7	60,0
Emissions	62,6	44,2	44,4	45,4	44,9	45,4	44,7	44,3	
Distance to target		14,8	14,9	14,2	15,0	13,7	14,7	15,5	
Cumulative surplus of AEs		14,8	29,6	43,8	58,8	72,5	87,3	102,7	
Hungary									
AEA		50,4	51,5	52,6	53,8	50,1	51,0	51,9	52,8
Emissions	48,0	38,4	38,4	41,4	42,1	43,1	43,2	43,5	
Distance to target		12,0	13,1	11,2	11,7	6,9	7,7	8,4	
Cumulative surplus of AEs		12,0	25,1	36,3	47,9	54,9	62,6	71,0	
Ireland									
AEA		46,9	45,8	44,6	43,5	40,9	39,8	38,7	37,7
Emissions	47,1	42,2	41,7	43,0	43,8	43,8	45,4	44,6	

Member State	2005 base year emissions	2013	2014	2015	2016	2017	2018 (preliminary)	2019 (proxy inventory)	2020
Distance to target		4,7	4,1	1,6	-0,3	-2,9	-5,6	-5,8	
Cumulative surplus of AEs		4,7	8,8	10,4	10,1	7,1	1,6	-4,3	
Italy									
AEA		308,2	306,2	304,2	302,3	298,3	295,8	293,4	291,0
Emissions	334,5	273,3	265,3	273,3	270,7	270,1	278,7	272,3	
Distance to target		34,8	40,9	31,0	31,6	28,1	17,1	21,1	
Cumulative surplus of AEs		34,8	75,7	106,7	138,3	166,4	183,5	204,6	
Latvia									
AEA		9,3	9,4	9,4	9,5	9,7	9,8	9,9	10,0
Emissions	8,5	8,8	9,0	9,0	9,1	9,2	9,1	9,0	
Distance to target		0,5	0,3	0,4	0,4	0,5	0,7	0,9	
Cumulative surplus of AEs		0,5	0,8	1,3	1,7	2,2	2,9	3,7	
Lithuania									
AEA		12,9	13,3	13,7	14,0	14,1	14,5	14,9	15,2
Emissions	13,3	12,4	12,9	13,3	13,9	14,1	14,3	14,4	
Distance to target		0,5	0,4	0,4	0,1	0,0	0,2	0,5	
Cumulative surplus of AEs		0,5	0,9	1,3	1,4	1,4	1,6	2,1	
Luxembourg									
AEA		9,5	9,3	9,1	8,9	8,7	8,5	8,3	8,1
Emissions	10,1	9,4	8,9	8,6	8,5	8,7	9,1	9,2	
Distance to target		0,2	0,5	0,5	0,4	0,0	-0,5	-0,9	
Cumulative surplus of AEs		0,2	0,7	1,2	1,6	1,6	1,1	0,2	
Malta									
AEA		1,2	1,2	1,2	1,2	1,2	1,2	1,2	1,2
Emissions	1,1	1,3	1,3	1,3	1,3	1,4	1,4	1,4	
Distance to target		-0,1	-0,1	-0,1	-0,2	-0,3	-0,2	-0,2	
Cumulative surplus of AEs		-0,1	-0,2	-0,3	-0,5	-0,8	-1,0	-1,2	
Netherlands									
AEA		122,9	120,7	118,4	116,1	114,1	111,8	109,6	107,4
Emissions	127,8	108,3	97,9	101,1	101,3	102,3	99,7	100,2	
Distance to target		14,7	22,8	17,3	14,8	11,7	12,1	9,4	
Cumulative surplus of AEs		14,7	37,5	54,8	69,6	81,3	93,4	102,8	
Poland									
AEA		193,6	194,9	196,1	197,4	200,0	201,7	203,4	205,2
Emissions	180,0	186,1	181,5	186,8	198,7	211,5	213,0	206,9	
Distance to target		7,5	13,3	9,4	-1,3	-11,5	-11,3	-3,4	

Member State	2005 base year emissions	2013	2014	2015	2016	2017	2018 (preliminary)	2019 (proxy inventory)	2020
Cumulative surplus of AEs		7,5	20,9	30,2	29,0	17,4	6,1	2,7	
Portugal									
AEA		49,3	49,6	49,9	50,1	47,9	48,3	48,7	49,1
Emissions	48,6	38,6	38,8	40,6	41,6	40,2	40,6	41,6	
Distance to target		10,7	10,8	9,2	8,6	7,7	7,7	7,1	
Cumulative surplus of AEs		10,7	21,5	30,7	39,3	47,0	54,7	61,8	
Romania									
AEA		75,6	77,5	79,3	81,1	84,1	86,0	87,9	89,8
Emissions	75,5	72,7	72,5	74,6	73,1	75,4	77,6	75,5	
Distance to target		2,9	4,9	4,7	8,0	8,7	8,7	12,4	
Cumulative surplus of AEs		2,9	7,8	12,5	20,5	29,2	37,5	50,0	
Slovakia									
AEA		24,0	24,4	24,7	25,1	25,0	25,3	25,6	25,9
Emissions	23,0	21,1	19,8	20,1	19,8	21,2	21,1	21,8	
Distance to target		2,9	4,6	4,7	5,3	3,8	4,3	3,9	
Cumulative surplus of AEs		2,9	7,5	12,2	17,5	21,3	25,6	29,5	
Slovenia									
AEA		12,3	12,4	12,4	12,4	12,2	12,2	12,3	12,3
Emissions	11,8	10,9	10,5	10,7	11,2	10,9	11,0	10,8	
Distance to target		1,4	1,9	1,7	1,2	1,3	1,2	1,5	
Cumulative surplus of AEs		1,4	3,3	4,9	6,1	7,4	8,6	10,1	
Spain									
AEA		227,6	225,6	223,7	221,8	218,3	216,3	214,3	212,4
Emissions	236,0	200,3	199,8	196,2	198,5	201,1	203,0	200,9	
Distance to target		27,3	25,9	27,6	23,3	17,2	13,3	13,4	
Cumulative surplus of AEs		27,3	53,2	80,8	104,1	121,3	134,5	148,0	
Sweden									
AEA		41,7	41,0	40,4	39,8	37,8	37,2	36,7	36,1
Emissions	43,5	35,3	34,5	33,9	32,6	32,5	31,4	30,5	
Distance to target		6,4	6,5	6,5	7,2	5,3	5,8	6,2	
Cumulative surplus of AEs		6,4	12,9	19,4	26,6	31,9	37,7	43,8	
United Kingdom									
AEA		358,7	354,2	349,7	345,2	360,4	357,2	354,1	350,9
Emissions	417,8	339,5	324,4	326,0	333,9	332,1	329,9	326,8	
Distance to target		19,3	29,8	23,7	11,3	28,4	27,4	27,3	
Cumulative surplus of AEs		19,3	49,1	72,7	84,0	112,4	139,7	167,0	

9. USE OF REVENUES FROM AUCTIONING OF ETS ALLOWANCES

Table 7: Member States' revenues from auctioning of ETS allowances (EUR million), amounts spent on climate and energy purposes (EUR million) and share of the revenues spent on climate and energy purposes (%), 2013-2019.¹⁴

Member State	2013	2014	2015	2016	2017	2018	2019
Austria*¹⁵							
Total revenues	55,8	53,6	78,6	59,5	157,4	210,4	183,8
Amount spent on climate and energy	37,0	54,8	79,8	59,9			
Share spent on climate and energy	66%	102%	102%	101%			
Belgium							
Total revenues	115,0	97,1	141,6	107,9	145,1	381,5	356,8
Amount spent on climate and energy	0,0	0,0	0,0	37,5	133,1	213,7	357,8
Share spent on climate and energy	0%	0%	0%	35%	92%	56%	100%
Bulgaria							
Total revenues	52,6	36,4	121,8	85,3	130,4	368,2	440,3
Amount spent on climate and energy	51,3	36,2	103,5	94,1	138,2	368,2	440,3
Share spent on climate and energy	97%	99%	85%	110%	106%	100%	100%
Croatia¹⁶							
Total revenues	N/A	N/A	87,0	20,3	27,2	71,5	72,7
Amount spent on climate and energy	N/A	N/A	50,8	46,1	18,9	29,0	13,4
Share spent on climate and energy	N/A	N/A	100%	100%	100%	100%	100%
Cyprus							
Total revenues	1,9	0,7	1,4	0,4	6,4	26,0	26,1
Amount spent on climate and energy	0,5	0,4	2,8	0,3	0,8	6,4	
Share spent on climate and energy	28%	55%	195%	88%	12%	25%	
Czechia							
Total revenues	80,7	55,7	111,5	118,0	199,8	584,4	630,4
Amount spent on climate and energy	73,2	26,9	110,9	117,4	199,8	367,3	408,4
Share spent on climate and energy	91%	48%	99%	100%	100%	63%	65%
Denmark*							
Total revenues	56,0	48,1	71,3	53,7	71,7	189,8	166,1
Amount spent on climate and energy	56,0	48,1	71,3	53,7	71,7	189,8	166,1
Share spent on climate and energy	100%	100%	100%	100%	100%	100%	100%
Estonia							
Total revenues	18,1	7,4	21,3	23,6	39,4	141,3	142,8

¹⁴ Values for 2013-2015 are based on the study "Analysis of the use of Auction Revenues by the Member States" by Rambøll for the European Commission (2017). Values for 2016-2019 are presented as reported by the Member States.

¹⁵ For 2017 - 2019, Austria has not reported amounts spent on climate and energy purposes. Austria has reported that the total spending on such purposes was larger than the auction revenues in these years.

¹⁶ By Croatian law, 100% of the auctioning revenues are spent on climate and energy. This table lists the amount spent during the same year as the revenue was earned, the remainder is carried over to the next years

Member State	2013	2014	2015	2016	2017	2018	2019
Amount spent on climate and energy	9,0	3,6	9,5	12,4	15,9	53,3	64,5
Share spent on climate and energy	50%	49%	44%	52%	40%	38%	45%
Finland*							
Total revenues	67,0	63,5	93,8	71,2	95,3	251,8	219,9
Amount spent on climate and energy	2,0	31,1	93,8	71,2	9,5	251,8	219,9
Share spent on climate and energy	3%	49%	100%	100%	10%	100%	100%
France							
Total revenues	219,2	215,3	312,1	234,7	313,4	829,6	726,5
Amount spent on climate and energy	219,2	215,3	312,1	0,0	313,4	550,0	420,0
Share spent on climate and energy	100%	100%	100%	0%	100%	66%	58%
Germany							
Total revenues	790,9	750,0	1110,2	850,4	1146,8	2581,7	3164,0
Amount spent on climate and energy	790,9	750,0	1110,2	845,6	1130,8	2563,0	3147,2
Share spent on climate and energy	100%	100%	100%	99%	99%	99%	99%
Greece							
Total revenues	147,6	131,1	195,2	148,1	198,0	523,5	509,5
Amount spent on climate and energy	142,5	116,7	177,2	148,1	198,0	523,5	509,5
Share spent on climate and energy	97%	89%	91%	100%	100%	100%	100%
Hungary							
Total revenues	49,4	56,5	83,3	63,4	85,1	226,5	228,0
Amount spent on climate and energy	17,3	13,1	32,8	22,4	68,1	65,9	74,0
Share spent on climate and energy	35%	23%	39%	35%	80%	29%	32%
Ireland*							
Total revenues	41,7	36,0	41,7	40,1	53,6	142,1	124,3
Amount spent on climate and energy	41,7	36,0	41,7	40,1	53,6	142,1	124,3
Share spent on climate and energy	100%	100%	100%	100%	100%	100%	100%
Italy							
Total revenues	427,9	408,6	543,4	411,2	549,8	1453,4	1289,0
Amount spent on climate and energy	214,7	207,5	0,0	118,1	383,7	148,4	148,1
Share spent on climate and energy	50%	51%	0%	29%	70%	10%	11%
Latvia							
Total revenues	10,8	10,2	15,3	11,5	15,4	40,7	42,6
Amount spent on climate and energy	0,0	0,1	0,1	7,4	3,8	12,3	11,4
Share spent on climate and energy	0%	1%	1%	64%	25%	30%	27%
Lithuania							
Total revenues	20,0	17,3	28,4	20,8	31,5	80,4	84,0
Amount spent on climate and energy	20,0	17,3	28,4	20,8	31,5	80,4	83,7
Share spent on climate and energy	100%	100%	100%	100%	100%	100%	100%
Luxembourg*							
Total revenues	5,0	5,2	6,8	5,1	6,9	18,3	17,1
Amount spent on climate and energy	2,5	2,9	3,5	2,6	3,5	9,2	17,1
Share spent on climate and energy	50%	56%	52%	51%	50%	51%	100%
Malta*							

Member State	2013	2014	2015	2016	2017	2018	2019
Total revenues	4,5	3,9	6,2	4,5	6,0	15,7	15,9
Amount spent on climate and energy	4,5	3,9	6,2	4,5	6,9	4,9	9,1
Share spent on climate and energy	100%	100%	100%	100%	116%	31%	57%
Netherlands*							
Total revenues	134,2	131,1	187,3	142,6	190,7	504,2	440,1
Amount spent on climate and energy	134,2	131,1	187,3	141,6	190,7	504,2	440,1
Share spent on climate and energy	100%	100%	100%	100%	100%	100%	100%
Poland*							
Total revenues	244,0	78,0	132,8	136,1	506,0	1202,3	2548,8
Amount spent on climate and energy	128,7	39,0	68,5	68,1	290,4	609,9	1274,4
Share spent on climate and energy	53%	50%	52%	50%	57%	51%	50%
Portugal							
Total revenues	72,8	67,1	99,2	75,1	100,3	265,6	257,1
Amount spent on climate and energy	71,4	65,0	83,7	82,5	95,1	201,2	235,3
Share spent on climate and energy	98%	97%	84%	110%	95%	76%	92%
Romania							
Total revenues	122,7	97,9	195,2	194,0	260,8	719,1	749,8
Amount spent on climate and energy	91,2	67,7	42,5	52,0	0,0	160,0	42,7
Share spent on climate and energy	74%	69%	22%	27%	0%	22%	6%
Slovakia							
Total revenues	61,7	57,6	84,5	65,0	87,1	229,8	244,7
Amount spent on climate and energy	0,1	15,0	15,1	21,7	40,9	55,6	44,6
Share spent on climate and energy	0%	26%	18%	33%	47%	24%	18%
Slovenia¹⁷							
Total revenues	17,7	16,6	24,4	18,7	25,1	66,3	65,3
Amount spent on climate and energy	8,9	8,3	24,4	18,7	25,1		65,3
Share spent on climate and energy	50%	50%	100%	100%	100%		100%
Spain							
Total revenues	346,1	330,1	489,5	364,5	493,6	1306,0	1245,2
Amount spent on climate and energy	346,1	370,2	387,8	343,6	445,5	788,6	1054,1
Share spent on climate and energy	100%	112%	79%	94%	90%	60%	85%
Sweden*							
Total revenues	35,7	33,6	52,4	38,6	52,6	136,3	128,5
Amount spent on climate and energy	35,7	18,9	30,5	21,7	28,8	76,5	73,9
Share spent on climate and energy	100%	56%	58%	56%	55%	56%	58%
United Kingdom¹⁸							
Total revenues	485,4	401,5	586,3	424,3	614,8	1620,7	0,0
Amount spent on climate and energy	485,4	401,5	586,3	419,0	614,8	1334,2	
Share spent on climate and energy	100%	100%	100%	99%	100%	82%	

*Member States that do not earmark auction revenues.

¹⁷ Slovenia has not reported on the use of auctioning revenues in 2018 (by 15.10.2019).

¹⁸ There was no auctioning in the UK in 2019 due safeguard measures. Auctioning resumed in 2020.

10. NER 300 PROJECTS

Table 8: NER 300 commitments for projects under operation or development from first and second call

Call	Number	MS	Project name	Maximum funding amount (EUR)
First	1	AT	Windpark Handalm	11.259.564
First	2	DE	Verbiostraw	22.272.049
First	3	DE	Nordsee One	70.000.000
First	4	DE	Veja Mate	112.603.636
First	5	EL	Minos	42.041.991
First	6	FR	Vertimed	34.316.460
First	7	HU	South Hungarian Enhanced Geothermal System (EGS) Demonstration	39.295.008
First	8	PT	Windfloat	29.990.526
First	9	SE	Windpark Blaiken	15.000.000
Second	1	CY	EOS GREEN ENERGY	60.185.628
Second	2	EE	TORR	25.005.728
Second	3	ES	BALEA	33.365.908
Second	4	ES	FloCan5	34.000.000
Second	5	FR	GEOSTRAS	16.839.180
Second	6	HR	Geothermae	14.740.181
Second	7	IT	Puglia Active Network	84.976.708
Total				645.892.567
1 st call				376.779.234
2 nd call				269.113.333