



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 27.11.2007
SEC(2007) 1576

COMMISSION STAFF WORKING DOCUMENT

Accompanying document to the

COMMUNICATION FROM THE COMMISSION

PROGRESS TOWARDS ACHIEVING THE KYOTO OBJECTIVES

(required under Decision 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol)

{COM(2007)757 final}

1. DETAILED ANALYSIS OF EMISSION TRENDS IN THE MAIN ECONOMIC SECTORS

1.1. Energy supply and use, excluding transport

- By 2005, energy-related GHG emissions excluding transport in the EU-15 were 3% lower compared to the base year, due among other to efficiency improvements and fuel switch, while energy demand increased by 13 %.
- Between 1990 and 2005, CO₂ emissions from public electricity and heat production in the EU-15 increased by 6% due to an increase of 38% in electricity production in thermal power plants. However, in the last 3 years emissions have been decreasing by 1% per year.
- Between 1990 and 2005, the share of renewable energy in the EU-27's electricity increased from 11.9% to 14.0% and for the EU-15 from 12.9% to 14.5% due to growth in generation from wind, biomass and waste. The Commission has proposed binding targets of 20% for the share of renewable energy in overall EU energy consumption by 2020 (compared to a share of 6.7% in 2005) and 10% minimum share of biofuels in transport fuels by 2020. The EU-27 target on the share of electricity produced from renewable energy sources is unlikely to be met if the current trends dominated by the use of hydropower continue and no additional measures are taken. Hydropower is not projected to increase substantially (hydropower representing a 63 % share of output for the EU-27 in 2005, biomass/waste 15 %, and wind power 13 %).
- In 2004, the share of electricity from combined heat and power in total gross electricity production in the EU-27 was 10.5%. It was significantly higher in the new MS (16.3%) than in the EU-15 (9.5%). The EU-15 is not on track to meet the indicative target of doubling the share of CHP electricity in gross electricity production between 1994 (9%) and 2010 (18%).
- In 2005, CO₂ emissions from energy use in households accounted for 10 % of total EU-15 GHG emissions. Between 1990 and 2005, CO₂ emissions from households decreased by 1.7 %, while the number of dwellings increased by 18 %. This decoupling of emissions from growth in households seen until 2005 results from energy efficiency improvements due to thermal insulation, fuel switching to natural gas and an increase in district heating. However, most of the decreases previously achieved are being offset by the increases in population, and final energy intensity and a decrease in average household size.

1.2. Transport

- Between 1990 and 2005, EU-15 GHG emissions from domestic transport increased by 26 %, with emissions from transport by road increasing by 25 %. The main driving forces for rising emissions is the number of freight kilometres and the number of kilometres driven with passenger cars on road. The increase in transport growth could not be offset through efficiency improvements. GHG emissions from freight transport increased by 62 %.
- Between 1990 and 2005, passenger transport by road in the EU-15 increased by 28 % and freight transport by road by 62 % between 1990 and 2005.

- Between 2004 and 2005, CO₂ emissions from road transport decreased by 0.8 % for the first time since 1990. This is mainly due to the increased amounts of diesel oil driven cars in Germany.
- By 2010, EU-15 GHG emissions from domestic transport are projected to increase by 31% compared to 1990 levels using only existing domestic policies and measures.
- The average tailpipe CO₂ emissions of new passenger cars were reduced by about 12% from 1995 to 2004 due to the industry agreement and the resulting technological developments, especially in diesel cars, but progress is slow. The penetration of these lower emitting vehicles in the market is not yet sufficient for it to influence overall transport emissions.
- EU-15 CO₂ emissions from international aviation and maritime transport (not addressed under the Kyoto Protocol) have increased by 96% and 66% respectively between 1990 and 2005.

1.3. Agriculture

- Between 1990 and 2005, EU-15 GHG emissions from agriculture fell by 11% and EU-27 emissions by 20%. The reduction was due to efficiency improvements of farming practices, the several reforms of the EU's Common Agricultural Policy (CAP) as well as the implementation of the Nitrates Directive, aimed at reducing water pollution.
- By 2010, EU-15 GHG emissions from agriculture are projected to decrease more than 15% below the 1990 level and EU-27 emissions 23%. This is partly due to the continuing effect of the 2003 CAP reform and the Community environmental legislation setting limits on some practices, particularly the EU Nitrates Directive.

1.4. Industry (non-energy related)

- In 2005, EU-15 GHG emissions from industrial processes were reduced by 16% compared to base year levels while the gross value added in this sector increased by 20 %.
- By 2010, emissions are projected to decrease further to 23% below base year levels with existing domestic policies and measures and to 27% with additional measures.
- EU-15 HFCs emissions from refrigeration and air conditioning, currently accounting for 1% of total EU-15 GHG emissions, increased by a factor of nineteen between base year and 2005. This increase was due to the fact that HFCs are used to replace the damaging to the ozone layer CFCs and HCFCs.
- Between 1990 and 2005, EU-15 N₂O emissions from chemical industries decreased by 56%, so the share of total GHG decreased from 2.5 % to 1.1 %.

1.5. Waste management

- Between 1990 and 2005, EU-15 emissions from the waste sector fell by 35% and EU-27 emissions by 32%.

- By 2010, EU-15 GHG emissions from the waste sector are projected to be more than 54 % below base year levels mainly due to further implementation of the landfill directive. EU-27 emissions will remain relatively stable compared to 1990.

Table 1: GHG emissions in CO₂ equivalents (excl. LULUCF) and Kyoto Protocol targets for 2008–12

Member State	1990 (million tonnes)	Base year ⁽¹⁾ (million tonnes)	2005 ⁽⁴⁾ (million tonnes)	Change 2004–2005 (million tonnes)	Change 2004–2005 (%)	Change 1990–2005 (%)	Change base year– 2005 (%)	Targets 2008– 12 under Kyoto Protocol and "EU burden sharing" (%)
Austria	79.1	79.0	93.3	2.1	2.3%	18.0%	18.1%	-13.0%
Belgium	145.8	146.9	143.8	-3.8	-2.6%	-1.3%	-2.1%	-7.5%
Bulgaria	116.1	132.1	69.8	0.9	1.3%	-39.9%	-47.2%	-8.0%
Cyprus	6.0	6.0	9.9	0.0	0.2%	63.7%	63.7%	-
Czech Republic	196.2	196.3	145.6	-1.5	-1.0%	-25.8%	-25.8%	-8.0%
Denmark	69.0	69.3	63.9	-4.3	-6.3%	-7.4%	-7.8%	-21.0%
Estonia	43.6	43.0	20.7	-0.5	-2.3%	-52.6%	-52.0%	-8.0%
Finland	71.2	71.1	69.3	-11.9	-14.6%	-2.7%	-2.6%	0.0%
France	564.2	563.9	553.4	-2.7	-0.5%	-1.9%	-1.9%	0.0%
Germany	1,227.9	1,232.5	1,001.5	-23.5	-2.3%	-18.4%	-18.7%	-21.0%
Greece	108.7	111.1	139.2	1.6	1.2%	28.0%	25.4%	25.0%
Hungary	98.7	123.0	80.5	1.0	1.2%	-18.4%	-34.5%	-6.0%
Ireland	55.4	55.8	69.9	1.3	1.9%	26.3%	25.4%	13.0%
Italy	519.5	519.5	582.2	1.7	0.3%	12.1%	12.1%	-6.5%
Latvia	26.4	25.9	10.9	0.2	1.5%	-58.9%	-58.0%	-8.0%
Lithuania	48.1	48.1	22.6	1.5	7.2%	-53.0%	-53.1%	-8.0%
Luxembourg	12.7	12.7	12.7	-0.1	-0.4%	0.4%	0.4%	-28.0%
Malta ⁽²⁾	2.2	2.2	3.4	0.2	6.1%	54.8%	54.8%	-
Netherlands	213.0	214.6	212.1	-6.3	-2.9%	-0.4%	-1.1%	-6.0%
Poland	486.2	586.9	399.0	2.3	0.6%	-18.0%	-32.0%	-6.0%
Portugal	59.9	60.9	85.5	0.9	1.0%	42.8%	40.4%	27.0%
Romania	248.7	282.5	153.7	-6.4	-4.0%	-38.2%	-45.6%	-8.0%
Slovakia	73.0	73.4	48.7	-0.8	-1.6%	-33.3%	-33.6%	-8.0%
Slovenia	18.4	20.2	20.3	0.4	2.1%	10.2%	0.4%	-8.0%
Spain	287.4	289.4	440.6	15.4	3.6%	53.3%	52.3%	15.0%
Sweden	72.2	72.3	67.0	-2.7	-3.9%	-7.3%	-7.4%	4.0%
United Kingdom	771.4	779.9	657.4	-3.0	-0.5%	-14.8%	-15.7%	-12.5%
EU-15	4,257.2	4,278.8	4,192.0	-35.2	-0.8%	-1.5%	-2.0%	-8.0%
EU-27⁽³⁾	5,620.9	5,818.5	5,177.0	-37.9	-0.7%	-7.9%	-11.0%	na

⁽¹⁾ For EU-15 the base year for carbon dioxide, methane and nitrous oxide is 1990; for the fluorinated gases 12 Member States have selected 1995 as the base year, whereas Austria, France and Italy have chosen 1990. As the EU-15 inventory is the sum of Member States' inventories, the EU-15 base year estimates for fluorinated gas emissions are the sum of 1995 emissions for 12 Member States and 1990 emissions for Austria, France and Italy. The EU-15 base year emissions also include emissions from deforestation for the Netherlands, Portugal and the UK. The base year for carbon dioxide, methane and nitrous oxide for Bulgaria is 1988, for Hungary is the average of 1985-1987, for Slovenia 1986, for Poland 1988, for Romania 1989; for the fluorinated gases Slovakia has chosen 1990 as the base year and Romania 1989 all other new members states have selected 1995.

⁽²⁾ Malta did not provide GHG emission estimates for 2005, therefore the data provided in this table is based on gap filling.

⁽³⁾ EU-27 does not have a common Kyoto Protocol target.

⁽⁴⁾ This data has not yet been reviewed by the UNFCCC.

Note: Malta and Cyprus do not have Kyoto targets.

Table 2: EU Kyoto targets for 2008–12, compared with emission projections

			With existing policies and measures		Use of Kyoto Mechanisms (Govt.)		Use of Carbon Sinks		Additional policies and measures		With all measures, KM and carbon sinks				
	Projections' Base Year (BY) emissions	Kyoto targets		Projections for 2010		Effect in 2010		Effect in 2010		Effect in 2010		Projections for 2010		Gap between projections and target	
		MtCO ₂	MtCO ₂	% of BY	MtCO ₂	% of BY	Mt CO ₂	% of BY	MtCO ₂	% of BY	MtCO ₂	% of BY	MtCO ₂	% of BY	MtCO ₂
Austria	78.9	68.7	-13.0%	92.5	17.2%	-9.0	-11.4%	-0.7	-0.9%	-14.4	-18.2%	68.4	-13.4%	-0.3	-0.4%
Belgium	146.9	135.9	-7.5%	141.6	-3.6%	-7.0	-4.8%					134.6	-8.4%	-1.2	-0.9%
Bulgaria	138.3	127.3	-8.0%	87.1	-37.0%					-6.4	-4.6%	80.7	-41.7%	-46.6	-33.7%
Cyprus	6.0	na	na	12.2	101.6%					-0.8	-13.7%	11.3	87.9%		na
Czech Republic	196.3	180.6	-8.0%	145.7	-25.8%					-6.0	-3.1%	139.7	-28.8%	-40.9	-20.8%
Denmark	69.3	54.8	-21.0%	62.6	-9.7%	-4.2	-6.1%	-2.3	-3.3%			56.1	-19.0%	1.4	2.0%
Estonia	43.5	40.0	-8.0%	18.9	-56.6%					-1.4	-3.3%	17.4	-59.9%	-22.6	-51.9%
Finland	71.1	71.1	0.0%	85.0	19.6%	-2.4	-3.4%	-0.6	-0.8%	-12.4	-17.4%	69.6	-2.0%	-1.5	-2.0%
France	564.0	564.0	0.0%	569.0	0.9%					-24.0	-4.3%	545.0	-3.4%	-19.0	-3.4%
Germany	1231.5	972.9	-21.0%	955.4	-22.4%					-40.9	-3.3%	914.5	-25.7%	-58.4	-4.7%
Greece	111.7	139.6	25.0%	150.4	34.7%					-10.9	-9.8%	139.5	24.9%	-0.1	-0.1%
Hungary	122.2	114.9	-6.0%	87.4	-28.5%					-0.3	-0.2%	87.1	-28.7%	-27.8	-22.7%
Ireland	55.8	63.0	13.0%	68.4	22.6%	-3.6	-6.5%	-2.1	-3.7%	-0.1	-0.2%	62.6	12.3%	-0.4	-0.7%
Italy	519.5	485.7	-6.5%	587.3	13.1%	-19	-3.7%	-16.7	-3.2%	-63.3	-12.2%	488.3	-6.0%	2.6	0.5%
Latvia	25.3	23.3	-8.0%	13.6	-46.2%					-0.6	-2.4%	13.0	-48.6%	-10.3	-40.6%
Lithuania	48.0	44.1	-8.0%	33.5	-30.2%							33.5	-30.2%	-10.7	-22.2%
Luxembourg	12.7	9.1	-28.0%	14.2	11.9%	-4.73	-37.3%			-0.3	-2.7%	9.1	-28.0%	0.0	0.0%
Malta	1.0	na	na	2.2	123.5%							2.2	123.5%		na
Netherlands	213.2	200.4	-6.0%	211.8	-0.6%	-20	-9.4%	-0.1	-0.1%			191.7	-10.1%	-8.7	-4.1%
Poland	586.9	551.7	-6.0%	420.0	-28.4%							420.0	-28.4%	-131.7	-22.4%
Portugal	60.9	77.4	27.0%	88.0	44.3%	-5.8	-9.5%	-4.7	-7.6%	-2.5	-4.0%	75.0	23.1%	-2.3	-3.9%
Romania	282.5	259.9	-8.0%	192.5	-31.9%					-11.1	-3.9%	181.4	-35.8%	-78.5	-27.8%
Slovakia	73.0	67.2	-8.0%	58.3	-20.2%					-2.3	-3.1%	56.0	-23.3%	-11.1	-15.3%
Slovenia	20.2	18.6	-8.0%	21.6	6.8%	-0.6	-3.0%	-1.7	-8.3%	-1.7	-8.2%	17.6	-12.7%	-1.0	-4.7%
Spain	288.4	331.6	15.0%	410.2	42.3%	-31.8	-11.0%	-5.8	-2.0%			372.6	29.2%	41.0	14.2%
Sweden	72.3	75.2	4.0%	69.8	-3.4%			-2.1	-2.9%			67.7	-6.4%	-7.5	-10.4%
United Kingdom	775.2	678.3	-12.5%	595.6	-23.2%		0.0%	-4.1	-0.5%			591.6	-23.7%	-86.7	-11.2%
EU-15	4271.4	3929.7	-8.0%	4101.8	-4.0%	-107.5	-2.5%	-39.1	-0.9%	-168.8	-4.0%	3786.4	-11.4%	-143.2	-3.4%
EU-27	5814.5	na	na	5194.6	-10.7%	-108.1	-1.9%	-40.7	-0.7%	-199.3	-3.4%	4846.4	-16.7%	na	na

Note: The figures for the Czech Republic, Finland, France, Ireland, the Netherlands, Spain, Sweden and the United Kingdom include their estimate of the effect of the EU ETS.

Table 3: Aggregate of MS' projections for the various scenarios

	Base Year	Without Kyoto mechanisms and carbon sinks		With Kyoto mechanisms		With Kyoto mechanisms and carbon sinks		With additional measures, Kyoto mechanisms and carbon sinks	
		Mt CO2 eq.	2010 Mt CO2 eq.	% Change base year-2010	2010 Mt CO2 eq.	% Change base year-2010	2010 Mt CO2 eq.	% Change base year-2010	2010 Mt CO2 eq.
Aggregate of EU-15 MS with measures projections	4,271	4,102	-4.0%	3,994	-6.5%	3,955	-7.4%	3,786	-11.4%
Aggregate of EU-27 MS with measures projections	5,815	5,195	-10.7%	5,086	-12.5%	5,046	-13.2%	4,846	-16.7%

Note: Base year as used for projections (not consistent with Initial Report)

Table 4: Summary of implemented and planned policies and measures

Cross-cutting measures

Policies and measures 'Cross-cutting'	Emission reduction potential by 2010 in EU-15 (Mt CO₂-eq.)	Stage of implementation /timetable /comments
EU emissions trading scheme	146	In force
Revision of the monitoring mechanism	N/a	In force
Link Kyoto flexible mechanisms to emissions trading	187.5	In force

Energy Supply

Policies and measures 'Energy supply'	Emission reduction potential by 2010 in EU-15 (Mt CO₂-eq.)	Stage of implementation /timetable /comments
Directive on renewable electricity	100-125 ¹	In force
Directive on the promotion of transport bio-fuels	35-40 ¹	In force
Directive on promotion of cogeneration	22-42 ²	In force
Further measures on renewable heat (including biomass action plan)	36-48	Biomass Action Plan, Dec 2005 ³ , over 20 further actions planned
Intelligent Energy for Europe: programme for renewable energy	N/a	Programme for policy support in renewable energy
TOTAL in implementation	193-255	

Energy demand

Policies and measures 'Energy demand'	Emission reduction potential by 2010 in EU-15 (Mt CO₂-eq.)	Stage of implementation / timetable /comments
Directive on the energy performance of buildings	20 ⁴	In force Monitoring and review
Directive requiring energy labelling of domestic appliances		

¹ Second ECCP progress report April 2003

http://europa.eu.int/comm/environment/climat/pdf/second_eccp_report.pdf

² COM(2004)366 – final “The share of renewable energy in the EU, May 2004

³ COM(2005) 628 final “Biomass Action Plan, December 2005”

⁴ COM(2004)366 – final “The share of renewable energy in the EU, May 2004

Existing labels	20¹	In force
New (el. ovens & AC)	1	Monitoring and review
Envisaged revisions (refrigerators / freezers / dishwashers)	10	In preparation
Planned new (hot water heaters)	23	In preparation
Extension of scope of Directive	N/k	In preparation
Framework Directive on eco-efficiency requirements of energy-using products	dependent on implementation of daughter directives	In force; preparatory studies for daughter directives underway
Directive on Energy services	40-55¹	In force
Action Plan on Energy efficiency as a follow-up to the Green Paper	N/a	Launched Oct 2006 ⁵ . Identifies 10 priority actions to achieve up to 20% energy savings by 2020.
Action under the directive on integrated pollution prevention and control (IPPC) on energy efficiency	Not known	In preparation
Intelligent Energy for Europe programme for energy efficiency	N/a	Programme for policy support in energy efficiency
Public awareness campaign on energy efficiency	N/a	Supporting program as part of Intelligent Energy for Europe: In implementation
Programme for voluntary action on motors (Motor Challenge)	N/a	Supporting programme for voluntary action on efficient motor systems
Public procurement	N/a	EU Handbook developed for guidance for increased energy efficient public procurement
TOTAL in implementation	114-129	

⁵ COM(2006)545 – final “Action Plan for Energy Efficiency: Realising the Potential”

Transport

Policies and measures 'Transport'	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation / timetable / comments
Community strategy on CO ₂ from passenger cars (including voluntary commitment (VC) of car manufacturers' associations)	Total 107-115 Of which VC: 75-80 ⁶	<u>VC</u> : monitoring; review ongoing <u>Labelling</u> : in force <u>Communication on fiscal measures</u> : in implementation <u>Directive on taxation of passenger cars</u> : in preparation
Framework Directive Infrastructure use and charging	Not known	In implementation, in relation to heavy duty road transport only
Shifting the balance of transport modes	Not known	Package of measures in implementation
Fuel taxation	Not known	In force Focus on EU harmonisation of taxation, not on CO ₂ reduction
Directive on mobile air conditioning systems: HFCs	See regulation on fluorinated gases	In force
TOTAL in implementation	107 - 115	

Industry & non CO₂ gases

Policies and measures 'Industry'	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation / timetable / comments
Regulation on fluorinated gases	23 ⁷	In force
IPPC & non-CO ₂ gases	Not known	In force Review periodically

Waste

Policies and measures 'Waste'	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation / timetable / comments
Landfill Directive	41 ⁶	In force
Thematic strategy on waste	Not known	Launched December 2005 ⁸

⁶ Second ECCP progress report April 2003

http://europa.eu.int/comm/environment/climat/pdf/second_eccp_report.pdf

⁷ COM(2003) 492 final

⁸ COM(2005) 666 and 667 final "Thematic Strategy on Waste Prevention"

Integration Research & Development

Policies and measures	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation /timetable /comments
R&D framework Program	n/a	In force 6 and 7 Framework Programme for research and development. Includes support for R&D in the fields of energy, transport and climate.

Integration Cohesion Policy

Policies and measures	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation /timetable /comments
Integration climate change in structural funds & cohesion fund	n/a	For the new budgetary period 2007-2013 sustainable transport, adaptation, renewable energy and energy efficiency have been identified as eligible areas for support

Agriculture

Policies and measures 'Agriculture'	Emission reduction potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation /timetable /comments
Integration climate change in rural development	N/a	In force
Support scheme for energy crops	N/a	In force
CAP Reform	19	CAP reform of 2003: 1) Decoupling: change support to farmers towards direct aids decoupled from production (i.e., not linked to quantities produced) with the effect of reducing incentives to intensify production; 2) "Cross-compliance": links direct payments to farmers to their compliance with EU environmental and other legislation
Improve N fertiliser efficiency and reduce N ₂ O from soils	10	Improved implementation of the Nitrates Directive, setting rules, for instance, on fertiliser use, manure storage and application methods
CH ₄ from enteric fermentation	0.3	Livestock numbers predicted to decline with measures introduced by the CAP reform proposals
Anaerobic digestion (CH ₄ and N ₂ O)	1.7	Possibility for support through agri-environment scheme; Livestock numbers predicted to decline with measures introduced by the CAP reform proposals.

Forests

Policies and measures 'Forests'	Sequestration potential by 2010 in EU-15 (Mt CO ₂ -eq.)	Stage of implementation /timetable /comments
Afforestation and reforestation: - Afforestation programmes - Natural forest expansion	14 ⁹	Possibility for support through forestry scheme of rural development
Forest management (various measures)	19 ¹⁰	Possibility for support through forestry scheme of rural development, dependent on national implementation.

⁹ Second ECCP progress report April 2003
http://europa.eu.int/comm/environment/climat/pdf/second_eccp_report.pdf

¹⁰ Second ECCP progress report April 2003
http://europa.eu.int/comm/environment/climat/pdf/second_eccp_report.pdf

Table 5: Key figures of the emissions trading scheme for 2005 to 2007

EU-25 Type of installations		Average 2005/2006				
		Number of installations	Allocated allowances	Verified emissions	Difference between allocation and verified emissions	
			[1000 EUA ⁽¹⁾]	[kt CO ₂]	[1000 EUA]	[%]
1	Combustion installations	7 093	1 455 735	1 461 660	-5 925	0%
2	Mineral oil refineries	156	159 463	149 921	9 542	6%
3	Coke ovens	20	22 789	20 247	2 542	11%
4	Metal ore roasting or sintering	12	8 679	7 885	794	9%
5	Production of pig iron or steel	233	167 087	136 481	30 606	18%
6	Production of cement clinker or lime	518	188 424	178 594	9 830	5%
7	Manufacture of glass incl. glass fibre	406	22 291	19 834	2 457	11%
8	Manufacture of ceramic products	1 116	18 050	14 772	3 278	18%
9	Production of pulp, paper and board	809	37 035	30 092	6 943	19%
99	Other activity opted-in	437	427	293	134	31%
All installations		10 800	2 079 781 ⁽²⁾	2 019 572 ⁽³⁾	60 209	3%

Notes:

(1) EUA=European Union Allowance

(2) This figure does not include allowances reserved for new entrants and for auctioning, which amount to roughly 100 million allowances, resulting to a total of 2.18 bn.

(3) This figure does not correspond with the figure in Table 6 where additional installations, covered in Spain in 2006, have been netted out.

Exact numbers vary slightly continuously, due to new entrants, closures, corrections and other reasons.

Source: Community Independent Transaction Log (CITL) (5 July 2007); ETC/ACC, 2007.

Table 6: Overview of 2nd NAPs and estimated emission reductions

Member State	ETS share in total GHG emissions 2005	2005/2006 verified emissions	Proposed cap 2008-2012	Cap allowed 2008-2012 (relative to proposed)	Additional emissions in 2008-2012 ⁽¹⁾	(Cap allowed - additional emissions - avg.2005/2006 emissions)/base year emissions ⁽⁷⁾	JI/CDM limit 2008-2012
Austria	36%	32.9	32.8	30.7	0.3	-3.1%	10.0%
Belgium	38%	55.1	63.3	58.5	5.0	-1.0%	8.4%
Cyprus	51%	5.2	7.1	5.5	n.a.	5.2%	10.0%
Czech Republic	57%	83.0	101.9	86.8	n.a.	1.9%	10.0%
Denmark	41%	30.3	24.5	24.5	0.0	-8.4%	17.0%
Estonia	61%	12.4	24.4	12.7	0.3	0.1%	0.0%
Finland	48%	38.9	39.6	37.6	0.4	-2.4%	10.0%
France	24%	127.3	132.8	132.8	5.1	0.1%	13.5%
Germany	47%	476.1	482.0	453.1	11.0	-2.8%	20.0%
Greece	51%	70.6	75.5	69.1	n.a.	-1.4%	9.0%
Hungary	32%	25.9	30.7	26.9	1.4	-0.4%	10.0%
Ireland	32%	22.1	22.6	22.3	n.a.	0.5%	10.0%
Italy	39%	226.5	209.0	195.7	tbd ⁽³⁾	-5.9%	15.0%
Latvia	26%	2.9	7.7	3.4	n.a.	2.0%	10.0%
Lithuania	29%	6.6	16.6	8.9	0.1	4.6%	20.0%
Luxembourg	20%	2.7	4.0	2.5	n.a.	-1.3%	10.0%
Malta	58%	2.0 ⁽⁴⁾	3.0	2.1	n.a.	7.4%	tbd
Netherlands	38%	78.5	90.4	85.8	4.0	1.5%	10.0%
Poland	51%	205.7	284.6	208.5	6.3	-0.6%	10.0%
Portugal	43%	34.8	35.9	34.8	0.8	-1.2%	10.0%
Slovakia	52%	25.4	41.3	30.9	1.7	5.2%	7.0%
Slovenia	43%	8.8	8.3	8.3	n.a.	-2.4%	15.8%
Spain	42%	178.2 ⁽⁵⁾	152.7	152.3	6.7	-11.3%	20.0%
Sweden	29%	19.6	25.2	22.8	2.0	1.6%	10.0%
United Kingdom	37%	246.8	246.2	246.2	9.5	-5.2% ⁽⁶⁾	8.0%
EU-15	38%	1640.4	1636.3	1568.8	44.7	-3.4%	14.5%
EU-25	41%	2018.2	2162.1	1962.8	54.6	-2.6%	13.5%
Bulgaria	58%	40.6 ⁽²⁾	67.6	42.3	na	na	12.55%
Romania	46%	70.8 ⁽²⁾	95.7	75.9	na	na	10.0%
EU-27	41%	2129.6	2325.4	2081.0	54.6	-2.3%	13.4%

Notes:

(1) The figures indicated in this column comprise emissions in installations that come under the coverage of the scheme in 2008 to 2012 due to an extended scope applied by the Member State and do not include new installations entering the scheme in sectors already covered in the first trading period.

(2) Due to Bulgaria's and Romania's recent accession to the EU, the notified emissions for 2005 have not been independently verified.

(3) Italy has to include further installations. The amount of additional emissions is not known at this stage.

(4) Value for 2005 only.

(5) This figure does not account for the additional installations included as of January 2006.

(6) Verified emissions for 2005 and 2006 do not include installations which the UK opted to exclude temporarily from the scheme for those two years but which will be covered as of 2007 and are estimated to amount to some 30 Mt (included in this calculation).

(7) This column presents an approximation of the effect that the recent Commission decisions on allowance allocation for 2008 to 2012 will have on MS emissions by comparing the average 2005/2006 emissions of installations under the EU ETS to the cap allowed for the 2nd trading period. The positive sign indicates that for some MS emissions are allowed to increase compared to 2005/2006. In such cases the EU ETS is not used as a means to comply with the Kyoto target in 2008 to 2012.

Source: CITL (5 July 2007); ETC/ACC, 2007; European Commission 2007.

Table 7: Planned government use of the Kyoto mechanisms

Member State	Planned use of Kyoto mechanisms	Which Kyoto mechanisms? (ET, CDM, JI)	Achieving Kyoto target without making use of the Kyoto mechanisms?	Projected emission reduction 2008–12 through the use of Kyoto mechanisms [Mt CO ₂ -eq. per year]	Allocated Budget
Austria	Yes	JI, CDM, ET	No	9.0	€ 319 mn
Belgium	Yes	JI, CDM, ET	No	7.0	€ 104 mn
Bulgaria	No	-	Yes	-	
Cyprus	No	-	Not applicable ⁽¹⁾	-	
Czech Republic	No	-	Yes	-	
Denmark	Yes	JI, CDM, ET	No	4.2	€ 152 mn
Estonia	No	-	Yes	-	
Finland	Yes	JI, CDM, ET	No	2.4	€ 120 mn
France	No	-	Yes	-	No arrangements yet
Germany	No	-	Yes	-	€ 18 mn for climate fund € 5 mn for BASREC
Greece	No	-	Yes	-	No arrangements yet
Hungary	No	-	Yes	-	
Ireland	Yes	JI, CDM, ET	No	3.6	€ 290 mn
Italy	Yes	JI, CDM, ET	No	19.0	€ 169.5 mn already allocated: € 58.7 mn for World Bank funds € 8.5 mn for GEF Trust Fund € 10.3 mn for MEDREP € 8.5 mn for MEDREC € 79 mn for China-Italian Facility € 4.5 mn various funds
Latvia	No	-	Yes	-	
Lithuania	No	-	Yes	-	
Luxembourg	Yes	JI, CDM, ET	No	4.7	€ 300 mn
Malta	No	-	Not applicable ⁽¹⁾	-	
Netherlands	Yes	CDM, JI	No	20.0	€ 693 mn
Poland	No	-	Yes	-	
Portugal	Yes	JI, CDM, ET	No	5.8	€ 354 mn
Romania	No	-	Yes	-	
Slovakia	No	-	Yes	-	
Slovenia	Yes	JI, CDM, ET	No	< 0.6 ⁽²⁾	Not yet decided
Spain	Yes	JI, CDM, ET	No	31.8	€ 310 mn
Sweden ⁽³⁾	No	JI, CDM, ET	Yes	1.2	€ 25 mn
United Kingdom	No	-	Yes	-	
EU15	Yes	JI, CDM, ET	No	107.5 (108.7)	2.9 bn

Notes:

⁽¹⁾ Cyprus and Malta are non-Annex I Parties to the Kyoto Protocol and do not have an emissions target for the period 2008-12.

⁽²⁾ The value depends on the actual development of emissions, especially in the transport sector.

⁽³⁾ Sweden has made necessary preparations to be able to use the Kyoto mechanisms if necessary, but at the moment it doesn't plan to do so.

Source: Questionnaires submitted under the EC GHG Monitoring Mechanism; second national allocation plans

Table 8: Projected net carbon stock changes under Articles 3.3 and 3.4 for the first commitment period

	Article 3.3	Article 3.4			Total
	Net carbon stock change during 2008–12 [million tonnes CO ₂ per year]	Election of activities ⁽¹⁾	Net carbon stock change during 2008–12 [million tonnes CO ₂ per year]	Maximum allowance for forest management [million tonnes CO ₂ per year]	[million tonnes CO ₂ per year]
Austria	- 0.7	None	n.a.	n.a.	- 0.7
Belgium	No estimates available	None	n.a.	n.a.	
Bulgaria	No estimates available	None	n.a.	n.a.	
Czech Republic	No estimates available	FM	No estimates available	- 1.17	
Denmark	- 0.262	FM, CM, GM	FM: - 0.18 CM: - 1.82	- 0.18	- 2.3
Estonia	No estimates available	None	n.a.	n.a.	
Finland	+ 1.9 to + 2.4	FM	- 0.59	- 0.59	- 0.59 ⁽⁴⁾
France	No estimates available	FM	No estimates available	- 3.23	
Germany	No estimates available	FM	No estimates available	- 4.55	
Greece	No estimates available	FM	No estimates available	- 0.33	
Hungary	No estimates available	FM	No estimates available	- 1.06	
Ireland	- 2.07	None	n.a.	n.a.	- 2.1
Italy	- 6.480	FM	- 10.8	- 10.19	- 16.7
Latvia	No estimates available	None	n.a.	n.a.	
Lithuania	No estimates available	FM	No estimates available	- 1.03	
Luxembourg	No estimates available	None	n.a.	n.a.	
Netherlands	- 0.11	None	n.a.	n.a.	- 0.1
Poland	No estimates available	FM	No estimates available	- 3.00	
Portugal	- 3.36	FM, CM, GM	FM: - 0.8 CM & GM: - 10.58	- 0.81	- 4.7
Romania	No estimates available	FM, R		- 4.03	
Slovakia	net sink	None	n.a.	n.a.	
Slovenia	-0.36	FM	- 1.32	- 1.32	- 1.7
Spain ⁽²⁾	Not estimated separately	FM, CM	Not estimated separately	- 2.46	- 5.8
Sweden	Probably small net emissions	FM	Likely larger than max. allowance	- 2.13	
United Kingdom	- 2.7	FM	- 8.5	- 1.36	- 4.1
EU-15⁽³⁾	- 13.5		- 17.6		- 39.1
EU-27⁽³⁾	- 13.9		- 18.9		- 40.7

Notes:

Consistent with the reporting of emission inventories a negative sign ‘-’ is used for removals and a positive sign ‘+’ for emissions; n.a.: not applicable.

⁽¹⁾ FM: forest management; CM: cropland management; GM: grazing-land management.

⁽²⁾ Spain only estimated the aggregated reductions of Articles 3.3 and 3.4 together.

⁽³⁾ The totals for Art. 3.3 and 3.4 do not include Spain.

⁽⁴⁾ In addition to accounting for forest management up to the maximum allowance Parties may account for removals from forest management to compensate net emissions under Art. 3.3. In Finland removals from forest management are projected to exceed the sum of emissions under Art. 3.3. and the maximum allowance for forest management.

Source: Questionnaires submitted by Member States, The European Community's initial report under the Kyoto Protocol (EEA Technical report No 10/2006); Second national allocation plan under the EU ETS of Italy; Decisions 16/CMP.1 and 8/CMP.2 of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol.

Figure 1: Greenhouse gas emissions per capita of EU-27 Member States for 1990 and 2005

