

Denmark

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1. SOURCES OF INFORMATION

Denmark's national report submitted to the European Commission under the Monitoring Mechanism, Decision 280/2004/EC. Report dated 15 March 2007 / updated 31 May 2007.

Denmark's National Allocation Plan for 2008-2012

Projection of Greenhouse Gas Emissions – 2005 to 2030 National Environmental Research Institute, Denmark.

The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat), EEA Technical report No 10/2006.

European Climate Change Programme (ECCP), Database on Policies and Measures in Europe <http://www.oeko.de/service/pam/index.php>

Base-year emissions

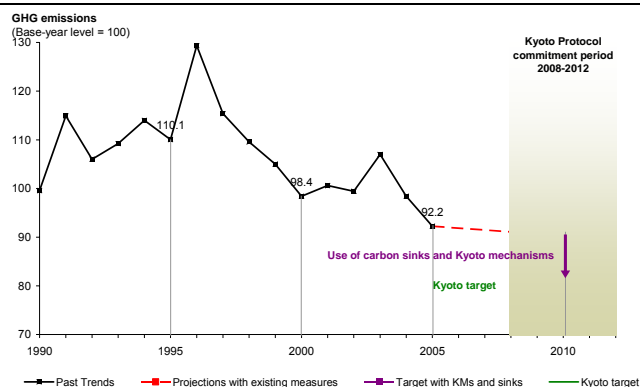
Base-year emissions of greenhouse gases are calculated using 1990 emissions for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) and 1995 emissions for fluorinated gases (SF₆, HFCs and PFCs).

Base-year data is as reported by Member States in the sources noted above. Base year data is consistent with data reported in *The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat)*, EEA Technical report No 10/2006. This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

2. SUMMARY

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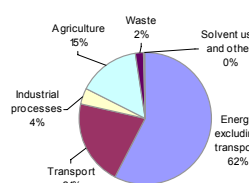
Share in total EU-15 GHG emissions 2005	1.5 %
Emissions base year (initial report)	69.3 Mt
Emissions 2005	63.9 Mt
Emissions base year (for projections)	69.3 Mt
Projections 2010 with existing measures	67.8 Mt
+ ETS effect	62.6 Mt
No projections with additional measures	n.a.
Kyoto target (absolute)	54.8 Mt
Kyoto target (% from base year)	- 21.0 %
Change base year to 2005	- 7.8 %
Change 2004-05	- 6.3 %
Change base year to 2010 with existing measures	- 2.2 %
+ ETS effect	- 9.7 %
No projections with additional measures	n.a.
Distance to linear target path 2004+1.0 (+8.0) index points	
Use of Kyoto mechanisms	4.2 Mt
Sinks (Articles 3.3. and 3.4)	2.3 Mt
Emissions in 1990 (Article 3.7)	n.a.



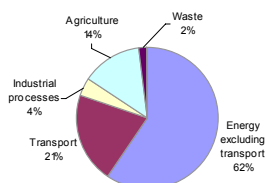
Past emissions: Denmark's GHG emissions were 6.3 % below those of 2004 and 7.8 % below base-year levels in 2005. The main factor for decreasing emissions with regard to 2004 was a decrease of fossil fuel combustion in electricity and heat production partly due to higher electricity imports. Between 1990 and 2005, large emission decreases from power production, agricultural soils and households offset increasing road transport emissions.

Emission projections: 'With existing measures' projections (including the effect of the EU ETS) were two percentage points below the 2005 emissions. Nevertheless, Denmark will not achieve the Kyoto target based on these projections. Projections with additional measures were not provided. Denmark intends to close the gap between GHG projections and the Kyoto target through Kyoto mechanisms. However, with the budgets allocated so far, only 4.2 million tonnes of Kyoto units can be purchased per year. Additionally, Denmark intends to make use of carbon sinks of about 2.3 million tonnes. Overall, Denmark projects to miss the Kyoto target by two percentage points.

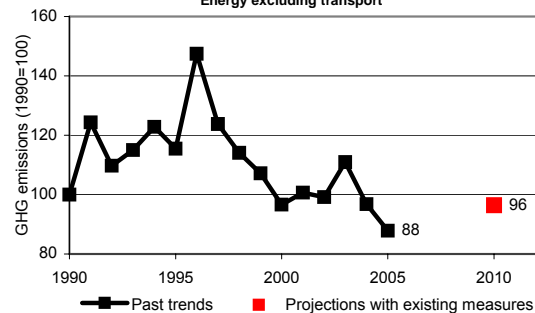
Emissions by sectors (2005)



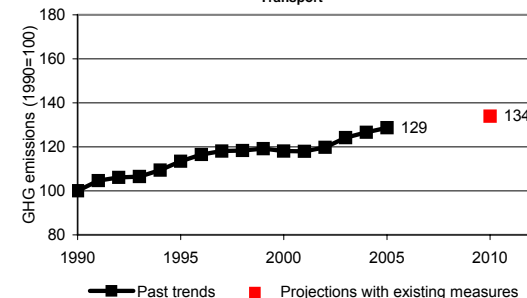
Emissions by sectors (2010)

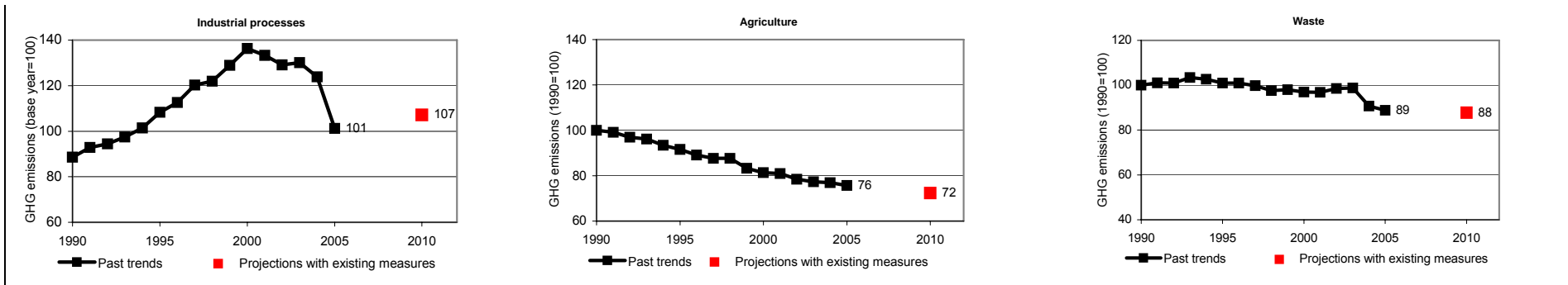


Energy excluding transport



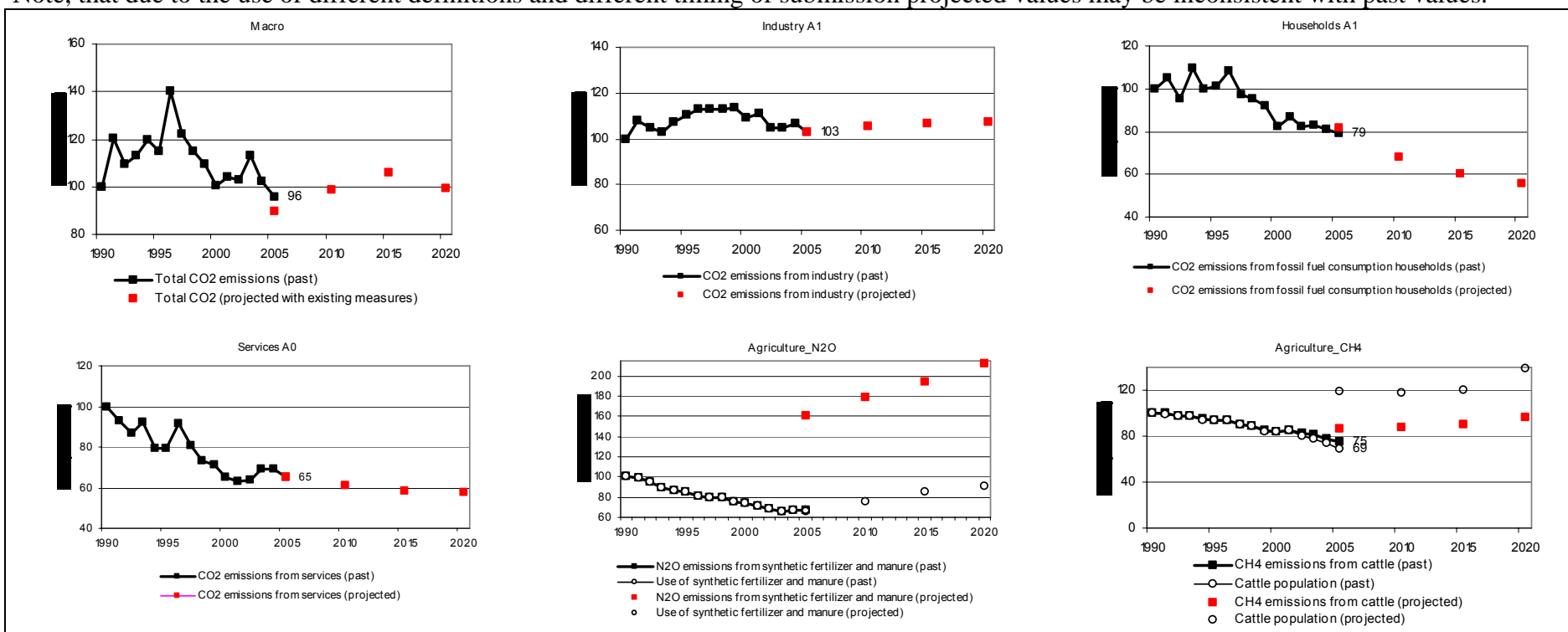
Transport

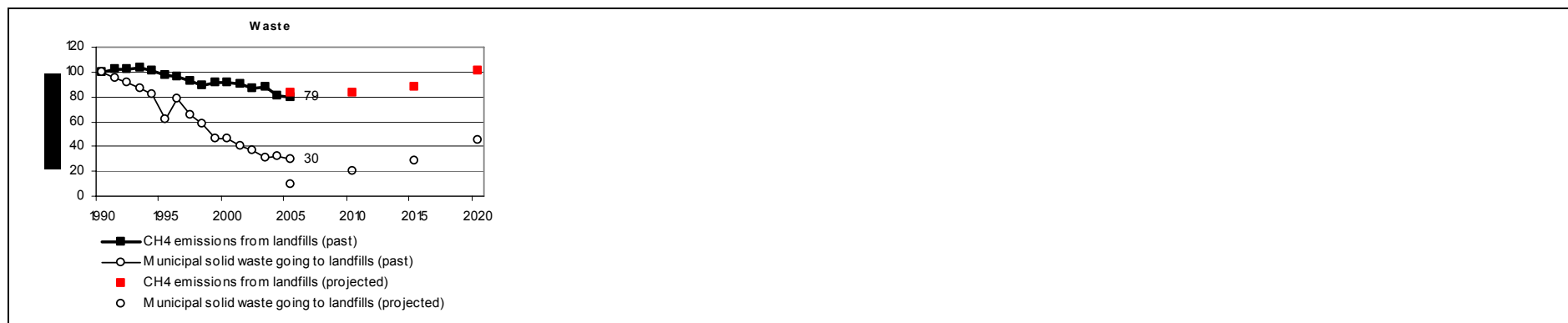




3. REPORTED INDICATORS

Note, that due to the use of different definitions and different timing of submission projected values may be inconsistent with past values.





Priority Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Macro	Total CO ₂ emissions, kt	52,705	63,389	57,599	59,752	63,245	60,461	73,973	64,468	60,409	57,542	53,074	54,703	54,257	59,465	53,987	50,426
	GDP, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	172
Macro B0	CO ₂ emissions from energy consumption, kt	51,198	61,456	55,532	57,733	61,203	58,513	71,886	62,053	58,138	54,869	50,671	52,242	51,907	57,230	51,531	48,214
	GDP, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	172
Transport C0	CO ₂ emissions from passenger cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,573	6,507
	Number of kilometres by passenger cars, Mkm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37,171	36,765
Industry A1	CO ₂ emissions from industry, kt	5,423	5,848	5,677	5,584	5,805	5,974	6,137	6,132	6,114	6,166	5,936	6,033	5,676	5,666	5,797	5,571
	Gross value-added total industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	28
Households A1	CO ₂ emissions from fossil fuel consumption households, kt	5,084	5,337	4,831	5,578	5,066	5,141	5,499	4,939	4,854	4,675	4,173	4,403	4,179	4,200	4,112	4,009
	Stock of permanently occupied dwellings, 1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,461	2,488
Services A0	CO ₂ emissions from fossil fuel consumption in commercial and institutional sector, kt	1,403	1,307	1,213	1,294	1,112	1,116	1,281	1,130	1,024	999	914	884	895	971	971	911
	Gross value-added services, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	108	116
Transformation B0	CO ₂ emissions from public and autoproducer thermal power stations, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23,076	19,717
	All products - output and autoproducer thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	227	211

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Additional Priority Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Transport D0	CO ₂ emissions from freight transport on road, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4,656	4,856
	Freight transport on road, Mtkm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10,538	11,058
Industry A1.1	Total CO ₂ emissions from iron and steel, kt	469	460	465	455	489	508	579	555	572	622	591	619	546	578	523	540
	Gross value-added - iron and steel industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Industry A1.2	Energy related CO ₂ emissions chemical industries, kt	360	380	402	409	431	415	463	504	511	509	487	506	467	508	524	517
	Gross value-added - chemical industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Industry A1.3	Energy related CO ₂ emissions - glass pottery and building materials industry, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,699	1,700
	Gross value added - glass pottery and building materials industry, Bio Euro (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Industry C0.1	Total CO ₂ emissions from iron and steel, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	82
	Production of oxygen steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250
Industry C0.2	Energy related CO ₂ emissions from glass, pottery and building materials, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,209	1,179
	Cement production, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,861	2,706

Supplementary Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Transport B0 (diesel)	CO ₂ emissions of diesel-driven cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,101	1,239
	Number of km, of diesel-driven passenger cars, Mio km	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,799	7,624
Transport (B0) (petrol)	CO ₂ emissions of petrol-driven cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5,472	5,267
	Number of km, of petrol-driven passenger cars, Mio km	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30,371	29,141
Transport C0	CO ₂ emissions from passenger cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6,573	6,507
	Passenger transport by cars, Mpkm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68,850	68,098
Transport E1	CO ₂ emissions from domestic air transport, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127	133
	Domestic air passenger, Mio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2
Industry A1.4	Energy related CO ₂ emissions food industry, kt	1,534	1,598	1,477	1,549	1,605	1,656	1,550	1,549	1,527	1,498	1,492	1,521	1,366	1,254	1,263	1,218
	Gross Value Added food, drink and tobacco industry, Mio EUR (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,471	3,676
Industry A1.5	Energy related CO ₂ emissions - paper and printing industry, kt	363	356	265	203	202	178	171	158	182	171	169	199	174	218	219	223
	Gross value added paper and printing industry, Mio EUR (EC95)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,963	1,884
Households A0	Surface area of permanently occupied dwellings, Mio m ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,654	3,549
	Specific CO ₂ emissions of households for space heating, t/m ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	337	341
Services B0	CO ₂ emissions from space heating in commercial and institutional, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	785	764
	Surface area of services buildings, Mio m ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	178	182
Transformation D0	CO ₂ emissions from public thermal power stations, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22,062	18,815
	All products output by public thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	205	186
Transformation E0	CO ₂ emissions from autoproducer, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,014	902
	All products output by autoproducer thermal power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	25
Transformation	CO ₂ emissions from classical power production, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23,076	19,717
	All products output by public and autoproducer power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	227	211
Transport	CO ₂ emissions from transport, kt	10,344	10,806	10,944	10,958	11,242	11,628	11,912	12,050	12,058	12,126	11,997	11,987	12,167	12,609	12,860	13,065
	Total final energy consumption from transport, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	176	179
Industry	Energy related CO ₂ emissions paper and printing industries, kt	363	356	265	203	202	178	171	158	182	171	169	199	174	218	219	223
	Physical output of paper, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industry	CO ₂ emissions from the industry sector	5,423	5,848	5,677	5,584	5,805	5,974	6,137	6,132	6,114	6,166	5,936	6,033	5,676	5,666	5,797	5,571
	Total final energy consumption from industry, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	123	120
Households	CO ₂ emissions from households, kt	5,084	5,337	4,831	5,578	5,066	5,141	5,499	4,939	4,854	4,675	4,173	4,403	4,179	4,200	4,112	4,009
	Total final energy consumption from households, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	187	188

4. OVERVIEW OF CCPM IMPLEMENTATION DENMARK

Table 1. Information provided on the implementation of policies and measures

Sector	CCPM	Status
Cross-cutting	Kyoto Protocol project mechanisms 2004/101/EC	
Cross-cutting	Emissions trading 2003/87/EC	N
Cross-cutting	Integrated pollution prevention and control 96/61/EC	
Energy supply	Promotion of cogeneration 2004/8/EC	R
Energy supply	Taxation of energy products 2003/96/EC	B
Energy supply	Internal electricity market 2003/54/EC	
Energy supply	Promotion of electricity from RE sources 2001/77/EC	B
Energy supply	Internal market in natural gas 98/30/EC	
Energy supply	Emissions from large combustion plants 88/609/EEC	
Energy consumption	Directives on energy labelling of appliances	B
Energy consumption	End-use efficiency and energy services 2006/32/EC	
Energy consumption	Ecodesign requirements for energy-using products 2005/32/EC	
Energy consumption	Energy performance of buildings 2002/91/EC	R
Energy consumption	Eco-management & audit scheme (EMAS) EC 761/2001	N
Energy consumption	Energy-efficiency labelling for office equipment Regulation No. 2422/2001	
Energy consumption	Efficiency fluorescent lighting 2000/55/EC	
Energy consumption	Efficiency of hot water boilers 92/42/EEC	B
Transport	Environmental performance freight transport (Marco Polo Programme)	
Transport	Motor challenge, voluntary EC programme	N
Transport	Promotion of biofuels for transport 2003/30/EC	N
Transport	Integrated European railway area (2nd + 3rd Railway package) (COM(2002)18 final)	
Transport	Transport modal shift to rail 2001/12/EC etc.	R
Transport	Consumer information on cars 1999/94/EC	R
Transport	Agreement with car manufacturers ACEA etc.	
Industrial Process	F-gas regulation (Regulation No 842/2006)	
Industrial Process	Industrial Process: HFC emissions from air conditioning in motor vehicles 2006/40/EC	
Agriculture	Support under CAP (1782/2003)	N
Agriculture	Support under CAP - amendment (1783/2003)	N
Agriculture	Nitrates 91/676/EEC	
Agriculture	Transition to rural development support No 2603/1999	
Agriculture	Agricultural production methods compatible with environment Regulation (EEC) No 2078/92	
Agriculture	Aid scheme for forestry measures in agriculture (Regulation (EEC) No 2080/92)	
Agriculture	Emission by engines to power agricultural or forestry 2000/25/EC	
Agriculture	Pre-accession measures for agriculture and rural development Regulation (EC) No 1268/1999	
Waste	Directive on waste 2006/12/EC	

Waste	Landfill directive 1999/31/EC	B
Waste	Packaging and packaging waste (Directive 94/62/EC, 2004/12/EC, 2005/20/EC)	

Legend

New national PAM implemented after CCPM was adopted

Existing national PAM **re-enforced** by CCPM

National PAM already in force **before** CCPM was adopted

Not reported

N
R
B

Source: MS responses to the CCPMs questionnaire, 2005 and updated information, 2007. Personal communications.

5. COMPLETENESS OF REPORTING

Table 2. Information provided on policies and measures

Information provided	Level provided	Comments
Policy names	+++	Policies are all named, and names are self-explanatory
Objectives of policies	++	The objectives for most policies are well described
Which greenhouse gases?	++	Almost all the policies specify
Status of Implementation	++	The implementation status of the majority of policies is stated
Implementation body specified	o	Implementation bodies are not stated for all PAMs
Quantitative assessment of implementation	+	Quantitative assessments of the effects of implementation are provided for some PAMs
Interaction with other P&Ms discussed	o	There is no discussion of interaction with other PAMs

Table 3. Information provided on projections

Category of Information	Level of Information Provided	Comments
Scenarios considered	++	With Measures. No With Additional Measure considered as Denmark estimates it already has many significant measures in place and there is little scope for additional cost-effective domestic measures
Expressed relative to base year	++	
Starting year	++	Projections start in 2005
Split of projections	+++	Split by gas and sector. Each gas also split by sector.
Presentation of results	+++	Clear
Description of model (level of detail, approach and assumptions)	++	Detailed information included in the referred report Projection of Greenhouse Gas Emissions – 2005 to 2030
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	+++	There are no new sensitivity analyses for the updated greenhouse gas projections, however the report refers to the sensitivity analysis carried out for the Fourth National Communication as being still valid for the purpose of the new projections.

Discussion of uncertainty	+++	Comprehensive discussion in the Effort Analysis report referenced
Details of parameters and assumptions	++	Information provided under the report Projection of Greenhouse Gas Emissions – 2005 to 2030 referred to in the MM report

6. ASSESSMENT OF POLICIES AND MEASURES

Table 4. Summary of the effect of policies and measures included in the 2010 projections (Mt CO₂-eq.) **

	With measures	With additional measures
Energy (total, excluding transport)	11.0 or 16.0*	
Transport (energy)	1.7	
Industrial processes	0.4	
Waste	1.9	
Agriculture	0.5	
Total	15.5 or 20.5*	

*The Danish Energy Authority estimates that approximately 5.0 of the 20.6 million tonnes CO₂ annually will be offset by increased electricity exports based on the calculation assumptions of the climate strategy.

The emission reduction potentials from selected PAMs shown above are the result of an ex-post evaluation exercise, the “Danish Effort Analysis”. This was a separate exercise carried out for the “with measures” projection, and thus the above figures are not necessarily the same as those used for the projection. Therefore the table should not be read as if the “with measures” projection is based on subtraction of the total effect from a “without measures” projection. Further information on the methodology for the Danish “with measures” projections is available in Denmark’s Fourth National Communication.

Table 5. Detailed information on policies and measures

(Where no projection scenario information was reported for a policy or measure, the status field was used to decide which projection scenario it should be included in. A status of implemented, adopted, expired or a blank field was assumed to belong to the “with measures” projection. If the status is reported as planned the policy or measure is included in the “with additional measures” projection scenario)

Policies and measures in the “with measures” projection

Sector	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			Costs
						2005	2010	2020	[EUR/t]
Cross-cutting	WM	Mineral-oil tax act	Fiscal	CO ₂	implemented				Cluster value
Cross-cutting	WM	Gas tax act	Fiscal	CO ₂	implemented				Cluster value
Cross-cutting	WM	Coal tax act	Fiscal	CO ₂	implemented				Cluster value
Cross-cutting	WM	Electricity tax	Fiscal	CO ₂	implemented				Cluster value
Cross-cutting	WM	Carbon dioxide tax on energy products	Fiscal	CO ₂	implemented				Cluster value
Cross-cutting	WM	EU-CO₂-allowances for electricity and district heat production and certain industrial processes (incl. Business)	Economic	CO ₂	implemented	6,000			
Cross-cutting	WM	Purchase CO₂ credits from JI and CDM projects	Voluntary/ negotiated agreement	CH ₄ CO ₂ HFC N ₂ O PFC SF ₆	implemented				

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			<u>Costs</u>
						2005	<u>2010</u>	2020	<u>[EUR/t]</u>
Cross-cutting		Combined emission reduction of DK-CRS-01 DK-CRS-02 DK-CRS-03 DK-CRS-04 DK-CRS-05	Fiscal	CO ₂	implemented		2700		
Energy supply	WM	Biomass Agreement	Economic Research	CO ₂	implemented				
Energy supply	WM	Energy research	Research	CO ₂	implemented				
Energy supply	WM	Price supplement for suppliers of environmental friendly electricity	Economic	CO ₂	implemented				
Energy supply	WM	Tender for off-shore wind turbines	Economic Regulatory	CO ₂					
Energy supply	WM	Biogas plant	Economic	CH ₄ CO ₂ N ₂ O	implemented	500			
Energy supply	WM	Scrapping scheme for old wind turbines	Economic	CO ₂	implemented				
Energy consumption	WM	Energy labelling of small and large buildings (incl. public sector and business)	Information Regulatory	CO ₂	implemented				
Energy consumption	WM	Electricity Saving Trust – campaigns and A club to promote energy efficient appliances	Economic	CO ₂	implemented				
Energy consumption	WM	Energy labelling of electric appliances	Information	CO ₂	implemented				

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			<u>Costs</u>
						2005	<u>2010</u>	2020	<u>EUR/t</u>
Energy consumption	WM	Savings activities by elec. grid, gas and district heating companies (incl. for the domestic and public sectors)	Information	CO ₂	implemented				
			Regulatory						
Energy consumption	WM	Circular on energy-efficiency in state institutions	Regulatory	CO ₂	implemented				
Energy consumption	WM	Agreements on energy efficiency with business	Economic Voluntary/ negotiated agreement	CO ₂	implemented				
Transport	WM	Green owner tax on motor vehicles	Fiscal	CO ₂	implemented			Cluster value	
Transport	WM	Information campaign on new cars' fuel consumption	Information	CO ₂	implemented			Cluster value	
Transport	WM	Energy correct driving techniques	Information	CO ₂	implemented			Cluster value	
Transport	WM	Initiative on enforcing speed limits	Economic Information	CO ₂	implemented				
Transport	WM	Establishment of intermodal installations	Economic	CO ₂	Other				
Transport	WM	Promotion of environment-friendly freight transport	Economic Information	CO ₂	implemented				
Transport	WM	Reduced travelling time for public transport	Regulatory	CO ₂	implemented			Cluster value	
Transport	WM	Spatial planning	Regulatory	CO ₂	implemented				
Transport	WM	Registration tax act	Fiscal	CO ₂	implemented			600	

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			<u>Costs</u>
						2005	<u>2010</u>	2020	<u>[EUR/t]</u>
Transport		Combined emission reduction of DK-TRA-01 DK-TRA-02 DK-TRA-03 DK-TRA-10	Fiscal Information Regulatory	CO ₂	implemented		600		
Industrial Processes	WM	Tax on HFCs, PFCs and SF6	Fiscal	HFC PFC SF ₆	implemented		Cluster value		
Industrial Processes	WM	Regulation on the use of industrial gases (HFCs, PFCs and SF6)	Regulatory	HFC PFC SF ₆	implemented		Cluster value		
Industrial Processes	WM	Enterprise scheme on HFCs	Economic	HFC					
Industrial Processes		Combined emission reduction of DK-IND-02 DK-IND-03	Fiscal Regulatory	HFC PFC SF ₆	implemented		400		
Agriculture	WM	Action Plan for the Aquatic Environment I and II and Action Plan for Sustainable Agriculture	Economic Information Regulatory	N ₂ O	implemented				
Agriculture	WM	Ban on burning of straw on fields	Regulatory	CH ₄ CO ₂ N ₂ O	implemented				
Agriculture	WM	Ammonia action plan and the new statutory order on manure: Optimisation of manure handling during housing.	Regulatory	N ₂ O	implemented		Cluster value		

Sector	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			Costs
						2005	2010	2020	[EUR/t]
Agriculture	WM	Action Plan for the Aquatic Environment III	Economic Regulatory	N ₂ O	implemented				
Agriculture	WM	Planting of windbreaks	Economic	CO ₂	implemented		140		
Agriculture	WM	Ammonia action plan and the new statutory order on manure: Rules on covering storage facilities.	Regulatory	N ₂ O	implemented		Cluster value		
Agriculture	WM	Ammonia action plan and the new statutory order on manure: Ban on surface spreading of manure	Regulatory	N ₂ O	implemented		Cluster value		
Agriculture	WM	Ammonia action plan and the new statutory order on manure: Reduction of the time on field surfaces.	Regulatory	N ₂ O	implemented		Cluster value		
Agriculture	WM	Ammonia action plan and the new statutory order on manure: Ban on ammonia treatment of straw.	Regulatory	N ₂ O	implemented		Cluster value		
Agriculture		Combined emission reduction of DK-AGR-03 DK-AGR-06 DK-AGR-07 DK-AGR-08 DK-AGR-09	Regulatory	N ₂ O	implemented		30		

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction			<u>Costs</u>
						[kt CO ₂ eq. p.a.]			<u>EUR/t</u>
						2005	<u>2010</u>	2020	
Waste	WM	Obligation to send combustibel waste for incineration	Regulatory	CH ₄	implemented		333		
Waste	WM	Waste tax	Fiscal	CH ₄	implemented				
Waste	WM	Weight and volume based packaging taxes	Fiscal	CH ₄	implemented				
Waste	WM	Increased recycling of waste plastic packaging	Regulatory	CO ₂			5		
Waste	WM	Implementation of the EU landfill directive	Regulatory	CH ₄					
Waste	WM	Subsidy programme – Enterprise Scheme (special scheme for businesses)	Economic	CH ₄	implemented				

Source: Öko Institut, (accessed 13th June 2007), ECCP Policies and Measures database, <http://www.oeko.de/service/pam/index.php>

Policies and measures in the “with additional measures” projection

No “with additional measures” projection or policies and measures were provided by Denmark.

7. EVALUATION OF PROJECTIONS

Table 6. Summary of projections by gas in 2010 (Mt CO₂-eq.)

	Base year	With measures	With additional measures
Carbon dioxide (excl. LUCF)	52.71	54.67	NE
Methane	5.69	5.46	NE
Nitrous oxide	10.59	6.77	NE
HFCs	0.22	0.83	NE
PFCs	0.00	0.01	NE
SF ₆	0.11	0.06	NE
Total (excl. LUCF)	69.3	67.8	NE
% change relative to base year (excl. LUCF)		-2.2%	

Table 7. Summary of projections (6 gas basket) by sector in 2010 (Mt CO₂-eq.)

	Base year	with measures	% change relative to base year	with additional measures	% change relative to base year
Energy (total, excluding transport)	41.6	40.1	-4%	NE	-100%
Energy supply	26.6	27.2	2%	NE	-100%
Energy – industry, construction	5.5	5.8	6%	NE	-100%
Energy – other (commercial, residential, agriculture)	9.5	7.1	-25%	NE	-100%
Transport (energy)	10.5	14.1	34%	NE	-100%
Industrial processes	2.6	2.8	7%	NE	-100%
Waste	1.5	1.4	-12%	NE	-100%
Agriculture	13.0	9.4	-28%	NE	-100%
Total (excl. LUCF)	69.3	67.8	-2%	NE	-100%

Table 8. Summary of projections by sector and by gas in 2010 (Mt CO₂-eq.) compared to base-year emissions

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF ₆ , HFCs and PFCs)		
	Base year	With measures	With additional measures	Base year	With measures	With additional measures	Base year	With measures	With additional measures	Base year	With measures	With additional measures
Energy (excl. transport)	41.138	39.25	NE	0.169	0.529	NE	0.284	0.331	NE	0	0	NE
Transport (energy)	10.336	13.528	NE	0.053	0.047	NE	0.141	0.521	NE	0	0	NE
Industrial processes	1.238	1.893	NE	0	0	NE	1.043	0	NE	0.326	0.9	NE
Waste	0	0	NE	1.46	1.296	NE	0.088	0.061	NE	0	0	NE
Agriculture	0	0	NE	4.011	3.587	NE	9.037	5.856	NE	0	0	NE
Total (excl. LUCF)	52.712	54.671	NE	5.693	5.459	NE	10.593	6.769	NE	0.326	0.9	NE

Figure 1. Share by sector of 2010 greenhouse gas emissions according to the "with measures" projection

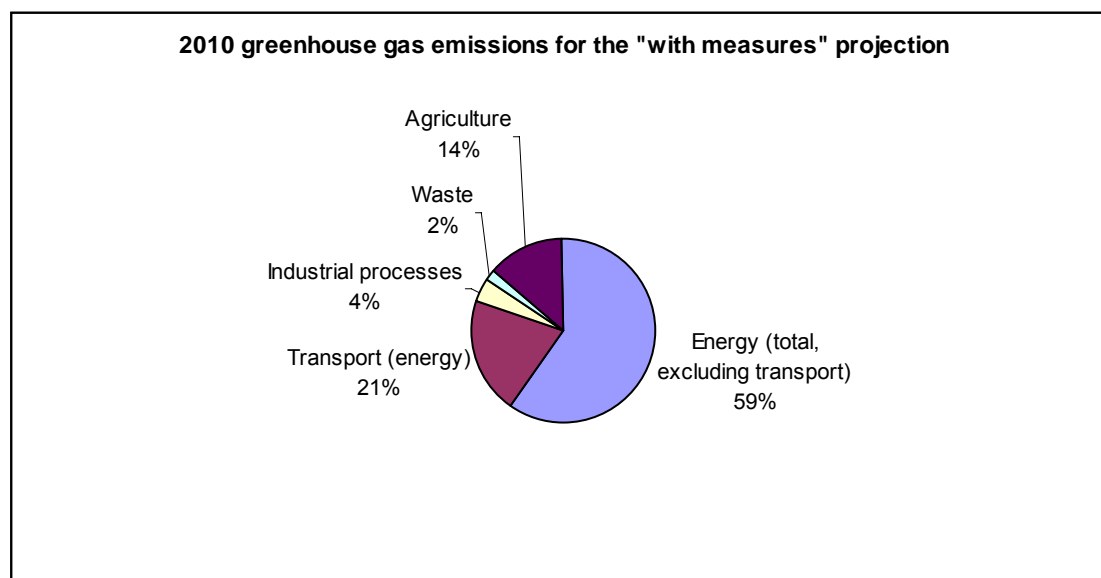


Table 9. Summary of projections (6 gas basket) in 2010, 2015 and 2020 (Mt CO₂-eq.)

	Base year*	2010	2010, % of base year level	2015	2015, % of base year level	2020	2020, % of base year level
Total (excluding LULUCF)	69.3	67.8	97.8%	67.4	97.2%	64.3	92.8%

*Base year is 1990 except 1995 for F-gases.

Table 10. Assessment of the target (6 gas basket), with a comparison of 2010 projections in 2005, 2006 and 2007 national reports

	Emissions in MtCO ₂ -eq., excluding LULUCF			
	2010 projections from 2005	2010 projections from 2006	2010 projections from 2007	2010 projections from 2007, % of base year level
Base year emissions used for projections	69.6	69.6	69.3	100%
Kyoto Commitment/burden sharing	55	55	54.8	-21.0%
With existing P&Ms projections	72.5	72.5	67.8	97.8%
Gap (-ve means overachievement of target)	17.5	17.5	13.0	18.8%
With additional P&Ms projections	72.5	72.5	67.8	
Remaining gap	17.5	17.5	13.0	18.8%
Effect of EU ETS not included in projections			5.2	
Effect of flexible mechanisms	4.5	4.5	4.2	6.1%
Remaining gap (including use of flexible mechanisms and EU ETS not included in projections)	13.0	13.0	3.6	5.2%

The above table excludes LULUCF, which will be covered in the main report, based on the questionnaire submissions.

Base year data is consistent with data reported in The European Community's initial report under the Kyoto Protocol - Report to facilitate the calculation of the assigned amount of the European Community pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol (Submission to the UNFCCC Secretariat), EEA Technical report No 10/2006 (69.3 MtCO₂-eq). This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change.

Source for 2005 data is Denmark's Monitoring Mechanism report under article 3.2 of the Council Decision No280/2004/EC, submitted June 2005.

Source for 2006 data is Denmark's 4th National Communication to the United Nations Framework Convention on Climate Change and Report on Demonstrable Progress under the Kyoto Protocol, both submitted December 2005. Source for effect of flexible mechanisms is Denmark's second National Allocation Plan.

Table 11. Comparison with projections for the trading sector (EU ETS)

	MMS projections	NAP 2 projections	Difference
Energy sector	40.11 ^a	40.23 ^b	--
Energy sector included in EU ETS	--	28.24 ^c	--
Industry sector	2.79 ^d	2.68 ^e	--
Industry sector included in EU ETS	--	1.46 ^f	--
Total Energy & Industry	42.90	42.91	100.0%

^a Included are all GHG emissions from the "Energy (total, excluding transport)" sector

^b Included are all GHG from "Energy generation" (which includes energy use by industry), "Commercial and institutional buildings" and "Transport"

^c Included are CO₂ emissions from the ETS sectors "Energy generation" (which includes energy use by industry), "Commercial and institutional buildings" and "Transport"

^d Included are all GHG emissions from the sector "Industrial processes"

^e Included are all GHG emissions from the sector "Industrial processes"

^f Included are CO₂ emissions from the sector "Industrial processes"

Table 11 provides a comparison of projections in the Monitoring Mechanism submission (MMS) and National Allocation Plan (NAP). The projections are consistent. Total emissions from energy and industry, 42.9 MtCO₂-eq., are the same in the two reports. The slight difference in sector totals is due to the inclusion of solvent emissions in the energy sector in the NAP, and in the industry sector in the MMS.

8. DESCRIPTION OF MODELLING APPROACH

The report refers to the Danish *Effort Analysis* report and *the Projection of greenhouse gas emissions – 2005 to 2030* (National Environmental Research Institute, University of Aarhus, Denmark) for information regarding the modelling carried out. Said referenced report includes detailed information on the type of model, specified by sectors (stationary combustion, oil and gas extraction, industrial processes, transport, agriculture and landfill site among others).

Sensitivity analysis

There was no sensitivity analysis carried out for the updated greenhouse gas emission projections, however the report refers to the sensitivity analyses carried out for the emissions projections included in Denmark's 4th National Communication, which are still valid for the purpose of showing the sensitivity of different parameters and assumptions in the projections.

In their 4th National Communication, Denmark carried out sensitivity analyses to assess the effects of various factors on selected policies. These factors include changes in electricity price, discount rate and demand elasticity. A variety of other scenarios built for sensitivity analyses is detailed including those assessing the impact of high to low fuel prices and prices of CO₂ allowances on energy consumption.

Uncertainty assessment

In the Danish *Effort Analysis* report referred to from within the Monitoring Mechanism report there the key uncertainties of the model are clearly discussed and presented, e.g. uncertainties regarding determining the socio-economic prices of various effects included in the analysis. Tables including ranges of values used for parameters in the analysis are given.

9. PROJECTION INDICATOR REPORTING

The report includes a number of indicators in field such as: general economic indicators, transport, industry, agriculture and waste.

The indicators included are:

- CO₂ intensity of GDP, t/EUR million
- CO emissions from passenger cars, kt
- Number of kilometres by passenger cars, Mkm
- CO₂ emissions from freight transport (all modes), kt
- Goods transport (all forms of transport) Mtkm
- Specific CO₂ emissions of households, t/EUR million
- CO₂ intensity of the services sector, t/dwelling
- Specific CO₂ emissions of public and autoproducer power plants, t/TJ
- Specific N₂) emissions of fertiliser and manure use, kg/kg
- Specific CH₄ emission from cattle production, kg/head
- Specific CH₄ emission from landfills, kt/kt

Numerators and denominators are given for the indicators where appropriate.

Information is given on the following years to 2020 and beyond: 2005, 2010, 2015, 2020, 2025 and 2030.

The report also gives the source of information for the indicator.

10. REPORTING OF PARAMETERS ON PROJECTIONS

Information is provided on all the mandatory indicators, for the years 2005, 2010, 2015, 2010, 2025 and 2030. No information is provided for any of the recommended parameters.

Table 12. Indicators for projections to monitor and evaluate progress with policies and measures (2005/166/EC) Annex III

N°	Eurostat Sectors	Indicator	2005	2010	2015	2020	Numerator/denominator	2005	2010	2015	2020
1	Macro	CO ₂ intensity of GDP, t/Euro million	318	322	321	279	Total CO ₂ emissions, kt	47110	51991	55935	52210
							GDP, bio Euro (EC95)	148	162	174	187
2	Transport C0	CO ₂ emissions from passenger cars, kt	7221	8059	8449	8879	CO ₂ emissions from passenger cars, kt	7221	8059	8449	8879
		Number of kilometres by passenger cars, Mkm	40916	45886	48321	51024	Number of kilometres by passenger cars, Mkm	40916	45886	48321	51024
3	Transport D0	CO ₂ emissions from freight transport (all modes), kt	4347	4263	4241	4198		4347	4263	4241	4198
		Freight transport (all modes), Mtkm	15160	16342	17522	18705		15160	16342	17522	18705
4	Industry A1	Energy related CO ₂ intensity of industry, t/Euro million	279	263	247	233	CO ₂ emissions from fuel consumption industry, kt	5585	5728	5782	5813
							Gross value-added total industry, Bio Euro (EC 95)	20	22	23	25
5	Households A1	Specific CO ₂ emissions of households, t/dwelling	1.98	1.58	1.34	1.20	CO ₂ emissions from fossil fuel consumption households, kt	4141	3460	3042	2821
							Stock of permanently occupied dwellings, 1000	2096	2191	2278	2359
6	Services A0	CO ₂ intensity of the services sector, t/Euro million	13.0	10.8	9.3	8.4	CO ₂ emissions from fossil fuel consumption services, kt	915	859	816	806
							gross value-added services, bio Euro (EC95)	70	80	88	96
7	Transformation B0	Specific CO ₂ emissions of public and autoproducer power plants, t/TJ	143.9	172.4	167.4	134.3	CO ₂ emissions from public and autoproducer thermal power stations, kt	15923	20240	22385	17581
							all products-output by public and autoproducer thermal power stations, PJ	111	117	134	131
8	Agriculture	Specific N ₂ O emissions of fertilizer and manure use, kg/kg	0.048	0.047	0.046	0.046	N ₂ O emissions from synthetic fertilizer and manure use, kt	18	17	16	16
							use of synthetic fertiliser and manure, kt nitrogen	376	366	355	349
9	Agriculture	Specific CH ₄ emissions of cattle	0.046	0.047	0.048	0.048	CH ₄ emissions from cattle, kt	121	115	107	102

		production, kg/head					cattle populations, 1000 head	2648	2445	2237	2140
10	Waste	Specific CH ₄ emissions from landfills, kt/kt	0.168	0.128	0.121	0.119	CH ₄ emissions from landfills, kt	52.8	51.3	51.1	51.1
							Municipal solid waste going to landfills, kt	315	400	421	431

Table 13. List of parameters on projections (Annex IV of Implementing Provisions¹)

1. Mandatory parameters on projections	2005	2010	2015	2020	2025	2030
Assumptions for general economic parameters						
GDP (value at given years or annual growth rate and base year)	148.03	161.68	174.33	186.81	197.31	206.66
Population (value at given years or annual growth rate and base year)(million years)	5.42	5.44	5.43	5.42	5.41	5.40
International coal prices at given years in euro per tonne or GJ (Gigajoule)	50.12	45.92	45.78	45.53	45.32	45.12
International oil prices at given years in euro per barrel or GJ	42.00	39.00	39.00	39.00	39.00	39.00
International gas prices at given years in euro per GJ	3.82	4.90	4.86	4.82	4.88	4.93
Assumptions for the energy sector						
Total gross inland consumption (PJ) (split by oil, gas, coal, renewables, nuclear, other)						
coal and coke	154.32	167.19	186.81	130.30	120.20	105.19
oil	316.17	318.01	322.53	330.63	332.87	334.97
gas	194.67	192.28	224.12	241.72	213.02	212.57
renewables	136.73	156.62	164.02	192.25	207.42	235.29
total	801.69	834.99	897.47	897.90	873.60	888.03
Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other) (PJ)						
coal and coke	10.28	17.20	19.54	13.45	12.45	10.78
oil	0.79	0.92	1.16	1.16	0.86	0.78
gas	9.43	5.98	5.40	7.77	6.00	6.20
renewables	12.18	13.87	42.37	41.76	41.48	44.31
total	32.67	37.98	42.37	41.76	41.48	44.31
Energy demand by sector split by fuel (delivered) (PJ)						
oil and gas sector	56.27	72.06	103.32	116.79	100.32	100.32
electricity and district heat sector	325.41	336.27	367.43	348.54	335.97	344.90
non energy purposes	11.95	10.82	10.82	10.62	10.82	10.82
transport	182.61	186.46	192.67	200.18	204.93	209.18
agriculture etc	31.31	34.15	33.72	32.87	32.45	32.22
manufacturing	76.38	87.24	87.96	88.52	88.72	88.15
construction	6.66	7.26	7.43	7.72	8.00	8.35
trade and service	19.06	18.04	17.36	17.19	17.01	16.80
households	88.04	80.68	76.75	75.29	75.37	77.28
total	801.89	834.99	897.47	897.90	873.60	888.03
Assumptions on weather parameters, especially heating or cooling degree days	2,856	3,023	2,982	2,941	2,900	2,859
Assumptions for the industry sector						

¹ Commission Decision of 10 February 2005 laying down rules implementing Decision No 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

<i>For Member States using macroeconomic models:</i>						
The share of the industrial sector in GDP and growth rate - share	0.14	0.14	0.13	0.13	0.13	0.13
%	-2.22	1.73	1.45	1.29	0.70	0.10
<i>For Member States using other models:</i>						
The production index for industrial sector						
Assumptions for the transport sector						
<i>For Member States using macroeconomic models:</i>						
number of kilometres driven by passenger cars relative to GDP (Mkm.billion EUR (EF95))	276	284	277	273	275	273
goods transport (all forms of transport) relative to GDP (Mkm/billion EUR (EF95))	102	101	101	100	99	98
The growth of transport relative to GDP						
<i>For Member States using other models:</i>						
The growth of passenger person kilometres (Mkm/billion EUR (95))	40,916	45,886	48,321	51,024	54,204	56,070
The growth of freight tonne kilometres (MtKm)	15,160	16,432	17,522	18,705	19,539	20,250
Assumptions for buildings (in residential and commercial or tertiary sector)						
<i>For Member States using macroeconomic models:</i>						
The level of private consumption (excluding private transport) (Million EUR EC)	77,102	86,068	96,443	107,167	117,155	126,692
The share of the tertiary sector in GDP and the growth rate						
Share	0.68	0.68	0.68	0.68	0.68	0.68
Growth rate	2.14	1.87	1.51	1.36	1.07	0.81
<i>For Member States using other models:</i>						
The rate of change of floor space for tertiary buildings and dwellings		0.84	0.71	0.69	0.66	0.64
The number of dwellings and number of employees in the tertiary sector (number of dwellings)	2,096	2,191	2,278	2,359	2,439	2,519
Assumptions in the agriculture sector						
<i>For Member States using macroeconomic models:</i>						
The share of the agriculture sector in GDP and relative growth						
Share	.032	.031	.030	.030	.030	.030
Growth Rate (% pa)	-1.40	1.10	1.10	1.10	1.10	1.10
<i>For Member States using other models:</i>						
Livestock numbers by animal type (for enteric fermentation beef, cows, sheep, for manure management pigs and poultry)						
Cattle	2,648	2,445	2,237	2,140	2,042	2,042

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Mother Sheep	84	85	86	87	88	88
Goats	12	12	12	12	13	13
Pigs (differs from the annual census)	13,295	14,154	15,069	15,438	15,807	15,807
Poultry (differs from the annual census)	19,744	21,109	22,475	22,529	22,782	22,782
The area of crops by crop type (ha)						
Permanent crops	11,010	10,767	10,524	10,343	10,161	10,161
Agric. Crops ex. Permanent grasslands	2,232,892	2,183,627	2,134,362	2,097,593	2,060,825	2,060,825
of which grains	1,474,301	1,441,773	1,409,245	1,384,968	1,360,691	1,360,691
pulses	31,082	30,396	29,710	29,198	28,687	28,687
rootfruits	92,818	90,770	88,722	87,194	85,665	85,665
industrial crops	105,556	103,228	100,899	99,160	97,422	97,422
seeds	86,430	84,523	82,616	81,193	79,770	79,770
feeding	230,320	225,239	220,157	216,364	212,572	212,572
grass in rotation	210,096	205,460	200,825	197,365	193,906	193,906
other areas	2,289	2,238	2,188	2,150	2,112	2,112
vegetables	9,696	9,482	9,269	9,109	8,949	8,949
permanent grassland	176,081	172,196	168,311	165,412	162,512	162,512
set-aside	204,777	200,259	195,741	192,369	188,997	188,997
total	2,634,456	2,576,331	2,518,206	2,474,825	2,431,444	2,431,444
Emissions factors by type of livestock for enteric fermentation and manure management (t)						
<i>CH₄-enteric fermentation - implied emissions factor (kg per head)</i>						
cattle	40.88	42.19	42.78	42.83	42.90	42.90
mother sheep	17.17	17.17	17.17	17.17	17.17	17.17
goats	13.15	13.15	13.15	13.15	13.15	13.15
pigs	1.06	1.04	0.97	0.96	0.95	0.95
<i>CH₄-manure management - implied emission factor (kg per head)</i>						
cattle	4.88	5.02	5.05	5.04	5.03	5.03
mother sheep	0.32	0.32	0.32	0.32	0.32	0.32
goats	0.26	0.26	0.26	0.26	0.26	0.26
pigs	2.57	2.56	2.38	2.37	2.36	2.36
poultry	0.01	0.01	0.01	0.01	0.01	0.01
N ₂ O						
mineral fertiliser (1000 tonne N per year)	193.00	179.00	168.00	163.00	159.00	159.00
manure (1000 tonne N ab storage per year)	184.00	186.00	187.00	186.00	184.00	184.00
mineral fertiliser (fraction of N)	0.01	0.01	0.01	0.01	0.01	0.01
manure (fraction of N)	0.01	0.01	0.01	0.01	0.01	0.01
Assumptions in the waste sector						
Waste generation per head of population or tonnes of municipal solid waste (kg/capita)	197	235	248	254	254	265
The organic fractions of municipal solid waste (% carbon)	12.90	12.90	12.90	12.90	12.90	12.90
Municipal solid waste disposed to landfills, incinerated or composted (1,000 tonnes)	315	400	421	431	431	431
Assumptions in the forestry sector						
Forest definitions	The FAO definition is used					
Areas of:						
managed forests (ha)	453,884	463,383	472,884	482,384	491,884	501,384
unmanaged forests (ha)	0.00	0.00	0.00	0.00	0.00	0.00

The growth of transport relative to GDP						
<i>For Member States using other models:</i>						
The growth of passenger person kilometres (Mkm/billion EUR (95))	40,916	45,886	48,321	51,024	54,204	56,070
The growth of freight tonne kilometres (MtKm)	15,160	16,432	17,522	18,705	19,539	20,250
Assumptions for buildings (in residential and commercial or tertiary sector)						
<i>For Member States using macroeconomic models:</i>						
The level of private consumption (excluding private transport) (Million EUR EC)	77,102	86,068	96,443	107,167	117,155	126,692
The share of the tertiary sector in GDP and the growth rate						
Share	0.68	0.68	0.68	0.68	0.68	0.68
Growth rate	2.14	1.87	1.51	1.36	1.07	0.81
<i>For Member States using other models:</i>						
The rate of change of floor space for tertiary buildings and dwellings		0.84	0.71	0.69	0.66	0.64
The number of dwellings and number of employees in the tertiary sector (number of dwellings)	2,096	2,191	2,278	2,359	2,439	2,519
Assumptions in the agriculture sector						
<i>For Member States using macroeconomic models:</i>						

2. Recommended parameters on projections	2005	2010	2015	2020
Assumptions for general economic parameters				
GDP growth rates split by industrial sectors in relation to 2000				
Comparison projected data with official forecasts				
Assumptions for the energy sector				
National coal, oil and gas energy prices per sector (including taxes)				
National electricity prices per sector as above (may be model output)				
Total production of district heating by fuel type				
Assumptions for the industry sector				
Assumptions fluorinated gases:				
Aluminium production and emissions factors				
Magnesium production and emissions factors				
Foam production and emissions factors				
Stock of refrigerant and leakage rates				
<i>For Member States using macroeconomic models:</i>				
Share of GDP for different sectors and growth rates				
Rate of improvement of energy intensity (1990 = 100)				
<i>For Member States using other models:</i>				
Index of production for different sectors				
Rate of improvement or index of energy efficiency				

2. Recommended parameters on projections	2005	2010	2015	2020
Assumptions for buildings (in residential and commercial / tertiary sector)				
<i>For Member States using macroeconomic models:</i>				
Share of tertiary and household sectors in GDP				
Rate of improvement of energy intensity				
<i>For Member States using other models:</i>				
Number of households				
Number of new buildings				
Rate of improvement of energy efficiency (1990 = 100)				
Assumptions for the transport sector				
<i>For Member States using econometric models:</i>				
Growth of transport relative to GDP split by passenger and freight				
Improvements in energy efficiency split by vehicle type				
Improvements in energy efficiency split by vehicle type, whole fleet/new cars				
Rate of change of modal split (passenger and freight)				
Growth of passenger road kilometres				
Growth of passenger rail kilometres				
Growth of passenger aviation kilometres				
Growth of freight tonne kilometres on road				
Growth of freight tonne kilometres by rail				
Growth of freight tonne kilometres by navigation				
Assumptions for the agriculture sector				
<i>For Member States using econometric models:</i>				
Agricultural trade (import/export)				
Domestic consumption (e.g. milk/beef consumption)				
<i>For Member States using other models:</i>				
Development of area of crops, grassland, arable, set-aside, conversion to forests etc				
Macroeconomic assumptions behind projections of agricultural activity				
Description of livestock (e.g. by nutrient balance, output/animal production, milk production)				
Development of farming types (e.g. intensive conventional, organic farming)				
Distribution of housing/grazing systems and housing/grazing period				
Parameters of fertiliser regime:				
Details of fertiliser use (type of fertiliser, timing of application, inorganic/organic ratio)				
Volatilisation rate of ammonia, following spreading of manure on the soil				
Efficiency of manure use				
Parameters of manure management system:				
Distribution of storage facilities (e.g. with or without cover):				
Nitrogen excretion rate of manures				
Methods of application of manure				
Extent of introduction of control measures (storage systems, manure application), use of best available techniques				
Parameters related to nitrous oxide emissions from agricultural soils				
Amount of manure treatment				

11. COUNTRY CONCLUSIONS

Denmark's update on climate policies and measures and greenhouse gas projections contains updated projection emissions for Denmark. These updated projections take into account significant changes with regards to legislation, and policies implemented, since the previous submission in March 2005.

The report does not include projections for a "with additional measures" scenario. This is explained by the fact that, Denmark having historically had a very good track record with regards to improving energy efficiency and the use of CHP and renewable energy sources, some of the most cost-effective additional measures among the remaining options to reduce Denmark's emissions are the use of Kyoto Protocol flexible mechanisms. However, there is currently a project investigating options for further cost-effective domestic measures to reduce greenhouse gas emissions. This project is due to report in spring 2007.

It is projected that Denmark's emissions for 2010 will decrease to 67.8 MtCO₂ eq, from 69.32 MtCO₂ eq in the Kyoto Protocol base year (1995 for F-gases, 1990 for the rest of gases). This is for the "with measures" scenario, which is most advanced one reported on in this report. This represents a decrease of 2.2%, which still leaves a gap compared to Denmark's burden sharing commitment of 18.8 % reduction below the base year.

Denmark foresees that this gap between projected emissions and its target emissions under the Kyoto protocol (54.8 MtCO₂) will be covered through a combination of domestic and foreign environmental energy measures to be implemented by the Danish government and by Danish enterprises with CO₂ emissions. Denmark projects to fill its gap by initiating new national climate initiatives although these have not been defined yet. This includes the use of flexible mechanisms under the Kyoto Protocol. Denmark is planning on using both the Joint Implementation and Clean Development Mechanisms to reduce its emissions by up to 4.2 MtCO₂eq if required to meet the Kyoto Protocol target.

Finally, Denmark's NAP2 has been approved and estimates that EU ETS will have a reduction effect of 5.2 Mt CO₂ on Danish emissions in 2010. As such, Denmark's emissions in 2010 are projected to be 3.6 Mt CO₂-eq. above the Kyoto target.

Changes from last year's emission projections

There has been a slight decrease in the base year emissions since last year's report – from 69.6 to 69.3 MtCO₂ eq. There has been a more significant change in the emissions projections for the 2010 with measures scenario, which are now expected to be 67.8 instead of 75.2 MtCO₂ eq.