

The Netherlands

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1. SOURCES OF INFORMATION

- Ministry of Housing, Spatial Planning and Environment (March 2007): 2007 Climate Policy Progress Report of the Netherlands submitted to the European Commission pursuant to Decision No 280/2004/EC, Article 3(2), (MHSPE 2007)
- Netherlands' fourth National Communication under the United Nations Framework Convention on Climate Change (December 2006)
- Questionnaire on the use of the Kyoto Protocol mechanisms and of sinks in meeting the Kyoto targets (2007)
- The Netherlands National Allocation Plan 2008-2012 submitted to the EU Commission on 26 September 2006, approved by the EU Commission on 16 January 2007
- Initial Report of The Netherlands, for the calculation of its assigned amount under the Kyoto Protocol to the UNFCCC (MHSPE 2006)

Base-year emissions

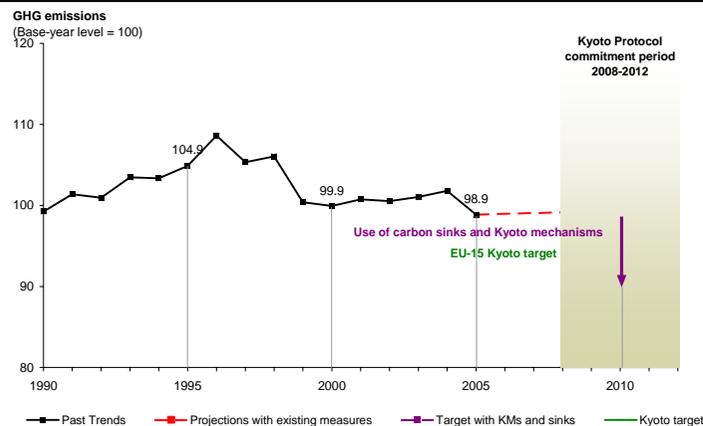
Base-year emissions of greenhouse gases are calculated using 1990 emissions for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) and 1995 emissions for fluorinated gases (SF₆, HFCs and PFCs). They include emissions from LUCF according to Art. 3.7 of the Kyoto Protocol.

Base-year data used in this country profile is as reported by the Member State in the sources noted above. The base year data is 1.6 Mt CO₂ eq lower than the 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

NETHERLANDS

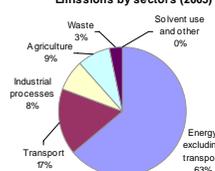
Share in total EU-15 GHG emissions 2005	5.1 %
Emissions base year incl. Art. 3.7 (initial report)	214.6 Mt
Emissions 2005	212.1 Mt
Emissions base year (for projections)	213.2 Mt
Projections 2010 with existing measures	218.0 Mt
+ ETS effect	211.8 Mt
No projections with additional measures	n.a.
Kyoto target (absolute)	201.7 Mt
Kyoto target (% from base year)	- 6.0 %
Change base year to 2005	- 1.1 %
Change 2004-05	- 2.9 %
Change base year to 2010 with existing measures	+ 2.3 %
+ ETS effect	-0.6 %
Change base year to 2010 additional measures	n.a.
Distance to linear target path 2005 -3.7 (+3.4) index points	
Use of Kyoto mechanisms	20.0 Mt
Sinks (Articles 3.3 and 3.4)	0.1 Mt
Emissions in 1990 (Article 3.7)	0.3 Mt



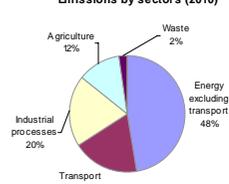
Past emissions: Dutch GHG emissions were 2.9 % below those of 2004 and 1.1 % below base-year levels in 2005. The main factor for decreasing emissions with regard to the previous year was declining fossil fuel combustion in public electricity and heat production and in households and services. Between 1990 and 2005, emission increases from power production and from road transport were mainly offset by emission decreases from industry (e.g. due to abatement measures in HCFC production), emission reductions from landfills and decreasing agricultural emissions.

Emission projections: Emissions in 2005 were three percentage points below the level projected with existing measures for 2010. The Netherlands will not achieve its Kyoto target with domestic or additional measures according to this projection. The Netherlands is currently planning to use Kyoto mechanisms to purchase an average of 20.0 million tonnes of CO₂ equivalent reductions per year during the commitment period. This will close the gap between GHG projections and the Kyoto target. Additionally, the Netherlands intend to make use of carbon sinks of 0.1 Mt.

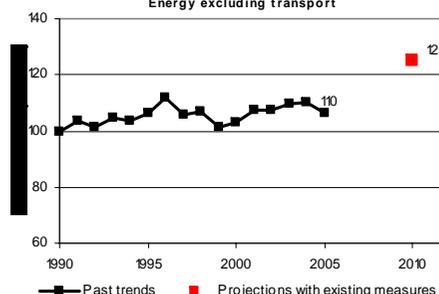
Emissions by sectors (2005)



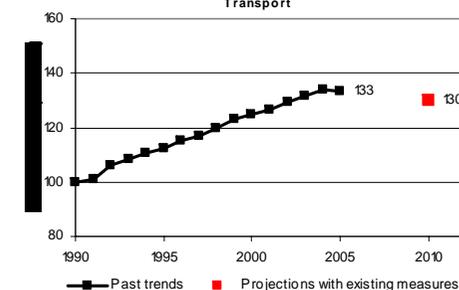
Emissions by sectors (2010)

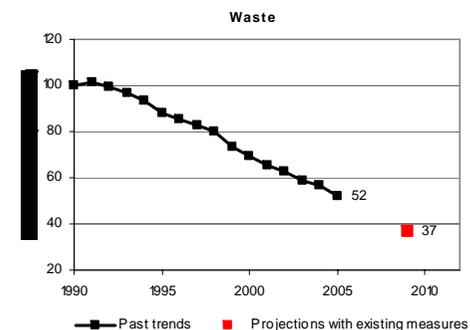
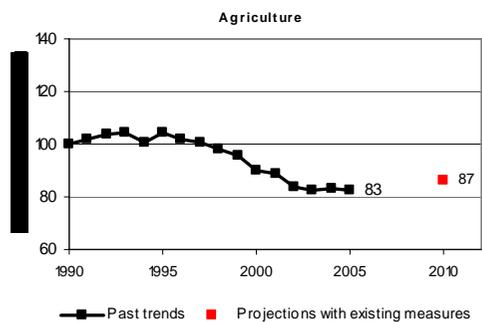
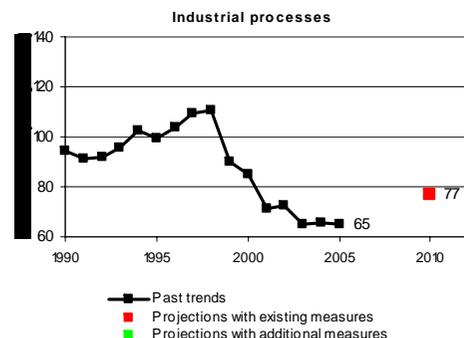


Energy excluding transport



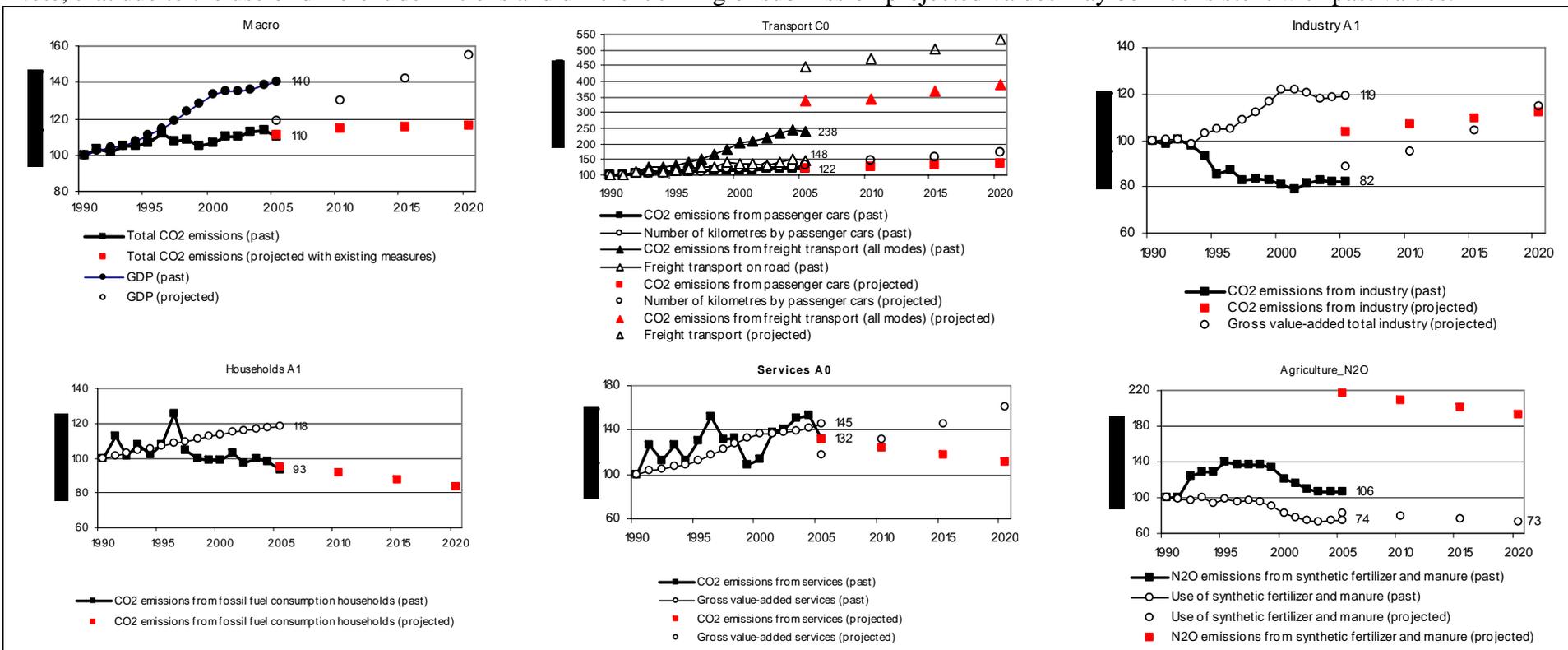
Transport

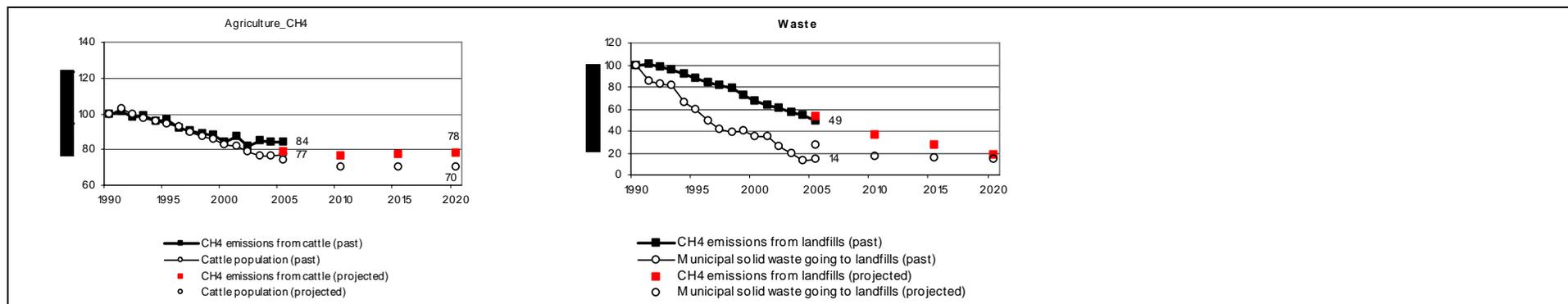




3. REPORTED INDICATORS

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





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Priority Indicators		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Macro	Total CO ₂ emissions, kt	159,389	164,380	162,418	166,802	166,734	170,625	177,709	171,126	173,239	167,725	169,577	175,163	175,699	179,619	181,290	175,905
	GDP, Bio Euro (EC95)	332	340	346	349	358	369	380	394	412	426	441	448	448	449	459	465
Macro B0	CO ₂ emissions from energy consumption, kt	149,980	154,986	153,681	158,364	157,528	161,493	169,257	162,192	164,641	159,277	161,366	167,591	167,248	171,113	172,691	167,269
	GDP, Bio Euro (EC95)	332	340	346	349	358	369	380	394	412	426	441	448	448	449	459	465
Transport C0	CO ₂ emissions from passenger cars, kt	16,401	16,462	16,938	17,368	17,834	18,246	18,493	18,625	18,852	19,103	18,968	19,279	19,694	19,840	19,923	20,003
	Number of kilometres by passenger cars, Mkm	81,200	83,200	85,500	85,300	87,050	88,800	90,000	91,600	93,400	97,200	97,900	99,100	101,000	102,400	103,700	105,531
Industry A1	CO ₂ emissions from industry, kt	33,045	32,484	33,065	32,281	30,700	28,155	28,833	27,317	27,557	27,327	26,795	26,095	26,816	27,414	27,166	27,182
	Gross value-added total industry, Bio Euro (EC95)	67	67	67	66	69	70	70	72	75	78	81	81	80	78	79	79
Households A1	CO ₂ emissions from fossil fuel consumption households, kt	19,495	21,990	19,780	20,978	19,888	20,962	24,399	20,434	19,439	19,248	19,229	19,984	18,892	19,357	19,087	18,179
	Stock of permanently occupied dwellings, 1000	5,802	5,892	5,969	6,043	6,116	6,192	6,276	6,358	6,441	6,522	6,590	6,651	6,710	6,764	6,810	6,859
Services A0	CO ₂ emissions from fossil fuel consumption in commercial and institutional sector, kt	7,501	9,469	8,451	9,480	8,380	9,748	11,406	9,822	9,977	8,133	8,541	10,338	10,499	11,314	11,465	9,899
	Gross value-added services, Bio Euro (EC95)	204	211	215	219	221	229	238	250	260	270	279	279	280	284	290	296
Transformation B0	CO ₂ emissions from public and autoproducer thermal power stations, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	All products - output and autoproducer thermal power stations, PJ	na	na	na	na	na	357	390	419	455	446	451	466	481	486	509	492
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	2,366	2,386	2,664	3,000	3,029	3,042	3,323	3,624	3,960	4,371	4,801	4,980	5,216	5,500	5,733	5,627
	Freight transport on road, Mtkm	22,900	23,300	25,600	26,000	25,700	27,000	27,600	28,330	29,230	32,723	31,561	31,031	30,088	32,200	34,393	34,003
Industry A1.1	Total CO ₂ emissions from iron and steel, kt	6,525	5,829	5,843	6,186	6,320	6,570	6,466	6,536	5,965	5,480	5,247	5,476	5,624	5,990	6,029	5,746
	Gross value-added - iron and steel industry, Bio Euro (EC95)	1,51145	1,46198	1,36005	1,32616	1,45412	1,47055	1,43464	1,55412	1,58483	1,58065	1,60821	1,59400	1,64400	1,69593	1,85333	1,85506
Industry A1.2	Energy related CO ₂ emissions chemical industries, kt	17,176	16,751	16,358	15,390	14,359	12,572	12,452	11,920	11,778	11,581	11,338	11,266	11,742	12,193	11,771	11,738
	Gross value-added - chemical industry, Bio Euro (EC95)	7	6	6	6	7	7	7	7	7	8	9	9	10	10	10	10
Industry A1.3	Energy related CO ₂ emissions - glass pottery and building materials industry, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Gross value added - glass pottery and building materials industry, Bio Euro (EC95)	1,952	1,900	1,820	1,777	1,917	1,907	1,946	1,917	1,984	2,110	2,246	2,245	2,119	1,981	2,043	2,101
Industry C0.1	Total CO ₂ emissions from iron and steel, kt	6,525	5,829	5,843	6,186	6,320	6,570	6,466	6,536	5,965	5,480	5,247	5,476	5,624	5,990	6,029	5,746
	Production of oxygen steel	5,180	4,943	5,196	5,812	5,949	6,147	6,170	6,474	6,225	5,947	5,507	5,902	5,996	5,462	na	na
Industry C0.2	Energy related CO ₂ emissions from glass, pottery and building materials, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cement production, kt	3,439	3,302	3,092	3,078	3,180	3,180	3,140	3,230	3,235	3,480	3,450	3,230	2,927	2,900	na	na

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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	3,326	3,379	3,469	3,412	3,601	3,707	3,831	4,013	4,154	4,480	4,872	4,997	5,325	5,562	5,867	6,180
	Number of km, of diesel-driven passenger cars, Mio km	16,200	16,800	16,500	16,000	17,100	17,700	18,300	19,100	20,600	22,400	24,200	25,100	26,700	27,400	28,549	29,927
Transport (B0) (petrol)	CO ₂ emissions of petrol-driven cars, kt	10,210	10,305	10,742	11,319	11,639	12,088	12,279	12,191	12,341	12,544	12,248	12,550	12,709	12,766	12,692	12,512
	Number of km, of petrol-driven passenger cars, Mio km	51,900	53,100	56,100	57,700	59,700	60,600	61,300	62,200	63,300	66,100	65,900	66,400	67,200	68,400	69,300	70,189
Transport C0	CO ₂ emissions from passenger cars, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Passenger transport by cars, Mpkm	125,900	124,500	129,100	126,100	128,800	131,400	132,700	136,500	137,100	141,300	141,100	141,600	144,200	146,100	151,500	148,800
Transport E1	CO ₂ emissions from domestic air transport, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Domestic air passenger, Mio	na															
Industry A1.4	Energy related CO ₂ emissions food industry, kt	4,079	4,174	4,533	4,491	4,405	4,122	4,393	4,195	4,321	4,598	4,342	4,148	4,257	4,085	4,019	3,918
	Gross Value Added food, drink and tobacco industry, Mio EUR (EC95)	8,222	8,412	9,228	9,711	10,628	10,795	10,968	11,100	11,160	11,635	11,645	11,500	11,916	11,961	12,010	12,198
Industry A1.5	Energy related CO ₂ emissions - paper and printing industry, kt	1,743	1,729	1,702	1,700	1,677	1,392	1,519	1,548	1,528	1,546	1,562	1,474	1,502	1,461	1,463	1,690
	Gross value added paper and printing industry, Mio EUR (EC95)	5,983	6,135	6,169	6,162	6,424	6,473	6,593	6,885	7,288	7,506	7,651	7,430	7,337	7,055	7,030	7,069
Households A0	Surface area of permanently occupied dwellings, Mio m ²	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Specific CO ₂ emissions of households for space heating, t/m ²	531	546	559	572	585	591	608	625	647	669	689	696	702	708	713	713
Services B0	CO ₂ emissions from space heating in commercial and institutional, kt	na															
	Surface area of services buildings, Mio m ²	na															
Transformation D0	CO ₂ emissions from public thermal power stations, kt	39,923	40,454	40,959	40,822	42,418	42,398	42,053	41,801	42,835	38,158	39,691	43,687	45,020	45,604	47,242	44,839
	All products output by public thermal power stations, PJ	na	na	na	na	na	244	252	259	269	244	255	277	289	298	320	315
Transformation E0	CO ₂ emissions from autoproducer, kt	-	-	-	1,398	2,898	5,773	7,014	7,876	8,593	10,311	9,980	9,511	9,362	9,623	9,565	9,053
	All products output by autoproducer thermal power stations, PJ	na	na	na	na	na	112	139	160	186	202	195	190	191	188	189	177
Transformation	CO ₂ emissions from classical power production, kt	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	All products output by public and autoproducer power stations, PJ	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transport	CO ₂ emissions from transport, kt	26,009	26,282	27,545	28,156	28,624	29,147	29,909	30,305	31,045	32,007	32,367	32,881	33,582	34,259	34,824	34,686
	Total final energy consumption from transport, PJ	364	366	381	389	396	409	435	433	431	445	450	455	464	471	476	473
Industry	Energy related CO ₂ emissions paper and printing industries, kt	1,743	1,729	1,702	1,700	1,677	1,392	1,519	1,548	1,528	1,546	1,562	1,474	1,502	1,461	1,463	1,690
	Physical output of paper, kt	2,742	2,866	2,835	2,855	3,010	2,967	2,988	3,159	3,180	3,256	3,333	3,174	3,338	3,341	3,459	3,471
Industry	CO ₂ emissions from the industry sector	33,045	32,484	33,065	32,281	30,700	28,155	28,833	27,317	27,557	27,327	26,795	26,095	26,816	27,414	27,166	27,182
	Total final energy consumption from industry, PJ	571	569	603	643	668	657	675	676	685	668	649	651	669	672	693	na
Households	CO ₂ emissions from households, kt	19,495	19,495	21,990	19,780	20,978	19,888	20,962	24,399	20,434	19,439	19,248	19,229	19,984	18,892	19,357	19,087
	Total final energy consumption from households, PJ	404	450	414	437	421	455	518	450	434	430	432	447	430	441	438	425

4. OVERVIEW OF CCPM IMPLEMENTATION IN MEMBER STATE

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

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

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)	B

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: MHSPE 2007

5. COMPLETENESS OF REPORTING

The Netherlands provide extensive information on policies and measures as well as on projections through its 4th National Communication, its submission under the EC Monitoring Mechanism and the policy evaluation memorandum. The information contained in these documents is consistent and clear. The level of information is summarized in Tables 1 and 2.

Table 2. Information provided on policies and measures

Information provided	Level of information provided	Comments
Policy names	+++	Not all abbreviations used are explained
Objectives of policies	+++	Described in the text and in overview table
Which greenhouse gases?	CO ₂ , CH ₄ , N ₂ O, HFC, PFC, SF ₆	
Status of Implementation	+++	Status of implementation is given in detail (however, year of implementation or adoption and budget means allocated to individual measures are not stated)
Implementation body specified	+++	
Quantitative assessment of implementation	+++	Assessment provided for PaM cluster only, not for individual PaM
Interaction with other policies and measures discussed	++	Relationship to CCPMs explained

Table 3. Information provided on projections

Category of Information	Level of information provided	Comments
Scenarios considered	six scenarios	Projections without, with and with add. measures are provided for two different socio-economic scenarios
Expressed relative to base year	+++	
Starting year	2000	
Split of projections	+++	7 sectors for CO ₂ , CH ₄ , N ₂ O and for F-gases
Presentation of results	+++	Overview on effects of P&Ms presented in a table split by sector and greenhouse gas.
Description of model (level of detail, approach and assumptions)	+++	Information on the models used and further references provided
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	+++	List of important uncertainty factors and correlation; two different scenarios
Discussion of uncertainty	+++	List of main drivers of uncertainties provided.
Details of parameters and assumptions	+++	Extensive list of parameters is provided

o, +, ++, +++ level of information available increases as the number of + signs increases

6. ASSESSMENT OF POLICIES AND MEASURES

The documents describe policies and measures implemented since 1990 which have had, or are expected to have, a large impact on greenhouse gas emissions in the Netherlands, even if the primary objective of the policy is (or was) not directly related to climate change. The scope is limited to domestic and EU policies and measures implemented in the Netherlands. Sectoral targets have been set for CO₂ for four sectors (Industry and Economy, Agriculture, Traffic and Transport, Buildings) and for non-CO₂ gases as a total for 2010. For each sector the responsible ministry has to ensure that the respective target will be met and take additional measures if necessary.

The policies and measures are provided by sector using the sectoral definitions requested by the UNFCCC guidelines (Energy, Transport, Industry, Agriculture, Forestry, and Waste). Additionally, information on policies in the buildings sector (households and services sector) and on cross-sectoral policies is provided. The effects of cross-sectoral policies are included in the respective sectors. Policies and measures which have been discontinued but still have impacts on emission levels are included in the projections. Compared to last year's submission most of the former additional measures are now part of the existing measures.

In the projections a 'Strong Europe' and a 'Global Economy' scenario are used representing different socio-economic developments on a global scale. The projected effects of the policies and measures have been estimated against the background of the 'Global Economy' scenario for the years 2005, 2010, 2015 and 2020. Additionally, for some of the policies and measures costs for affected market actors, the nation as a whole and the government are estimated.

Information on the projected annual emission reductions for the years 2010 by sector is provided in Table 4. Details on the two economic scenarios are provided in the description of the modelling approach in section 8.

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)	10.0	0.0
Energy Industries	7.8	0.0
Buildings	2.2	0.0
Transport (energy)	-0.2	0.0
Industrial processes	7.6	0.0
Waste	4.0	0.0
Agriculture	0.2	0.0
Effect of EU ETS*	6.2	0.0
Total (excluding LUCF)	27.8	0.0

* The effect of the EU ETS is not included in the projection but reported by the parties separately.
Source: MHSPE 2007

Table 5 provides an overview over all policies and measures included in the projections.

Table 5. Detailed information on policies and measures

Policies and measures in the “with measures” projection

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			<u>Costs [EUR/t]</u>
						2005	2010	2020	
Cross-cutting	WM	Energy tax	Fiscal	CO ₂	implemented				
Cross-cutting	WM	CO2 emissions trading	Other	CO ₂	implemented	300	1,100		
Energy supply	WM	Coal Covenant	Voluntary/ negotiated agreement	CO ₂	implemented	details	details		
Energy supply	WM	BLOW Covenant (Intergovernmental Wind Energy Agreement)	Voluntary/ negotiated agreement	CO ₂	implemented	details	details		
Energy consumption Energy supply	WM	EIA (Energy Investment Tax Deduction)	Economic	CO ₂	implemented	details	details		
Energy supply	WM	MEP (Environmentally Friendly Electricity Production Program)	Economic	CO ₂	implemented	details	details		
Energy supply	WM	Low methane oil and gas production and distribution	Voluntary/ negotiated agreement	CH ₄	implemented	300	300		
Energy supply	WM	Lowering MEP subsidy	Economic	CO ₂	planned				
Energy supply	WM	Manure fermentation	Economic	CH ₄ CO ₂	planned		170	170	
Energy supply	WM	Benchmark Covenant	Voluntary/ negotiated agreement	CO ₂	implemented	details	details		
Energy consumption	WM	EPA	Information	CO ₂	implemented	details	details		
Energy consumption	WM	CO2 Tender Scheme for Buildings	Economic	CO ₂	implemented	details	details		
Energy consumption	WM	Energy efficiency Appliances	Economic Information	CO ₂	implemented	300	600		
Energy consumption	WM	Energy Performance Norm	Regulatory	CO ₂	implemented	details	details		

<u>Sector</u>	<u>Projection Scenario</u>	<u>Name</u>	<u>Type</u>	<u>GHG</u>	<u>Status</u>	<u>Absolute Reduction [kt CO₂ eq. p.a.]</u>			<u>Costs [EUR/t]</u>
						<u>2005</u>	<u>2010</u>	<u>2020</u>	
Energy consumption	WM	Energy Performance Coefficient	Regulatory	CO ₂	implemented	details	details		
Energy consumption	WM	Energy Tax	Fiscal	CO ₂	implemented	details	details		
Agriculture Energy consumption	WM	Glami Covenant: Improvement of energy use in greenhouses	Voluntary/negotiated agreement	CO ₂	implemented	Cluster value	Cluster value		
Agriculture Energy consumption	WM	Greenhouse Horticulture Orders in Council	Regulatory	CO ₂	implemented	Cluster value	Cluster value		
Agriculture Energy consumption	WM	Inclusion of horticulture into EU ETS	Economic	CO ₂	planned	Cluster value	Cluster value		
Energy consumption	WM	Environmental Permit	Regulatory	CO ₂	implemented	details	details		
Energy consumption	WM	Vamil	Economic	CO ₂	expired	details	details		
Energy consumption	WM	LTAs	Voluntary/negotiated agreement	CO ₂	implemented	details	details		
Energy consumption	WM	Compass programme for information and support	Information	CO ₂	implemented				
Energy consumption	WM	EU Directive on Energy Performance of Buildings (EPBD)	Regulatory	CO ₂					
Energy consumption	WM	Coalition agreement of the new government		CO ₂	planned				
Energy consumption	WM	EIA (Energy Investment Tax Deduction)	Economic	CO ₂	implemented	details	details		
Energy supply									
Agriculture Energy consumption		Combined emission reduction of NL-ENC-100 NL-ENC-101 NL-ENC-102	Economic Regulatory Voluntary/negotiated agreement	CO ₂	implemented planned	200	400		

<u>Sector</u>	<u>Projection Scenario</u>	<u>Name</u>	<u>Type</u>	<u>GHG</u>	<u>Status</u>	<u>Absolute Reduction [kt CO₂ eq. p.a.]</u>			<u>Costs [EUR/t]</u>
						<u>2005</u>	<u>2010</u>	<u>2020</u>	
Transport	WM	Energy labelling cars	Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	EU strategy for reduced CO2 emissions from new cars (ACEA agreement)	Voluntary/negotiated agreement	CO ₂		Cluster value	Cluster value		
Transport	WM	CO2 Reduction Program/freight transport	Economic Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Quieter, Cleaner, More Fuel Efficient Program	Economic	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	KZRZ (Koop Zuining! Rij Zunining! = Buy fuel efficient! Drive fuel efficient!), followed by "The New Driving Force"	Education Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Stepped up enforcement of speed limits	Regulatory	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	REV (Rational Energy Use in Traffic and Transport), followed by EBIT (Energy Savings in Transport)	Economic Education Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Transactie Modal Shift (TMS)	Economic Education Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Chain Mobility	Economic Education Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Transport prevention	Economic Education Information	CO ₂	implemented	Cluster value	Cluster value		
Transport	WM	Kilometer Charge	Economic	CO ₂	planned	Cluster value	Cluster value		
Transport	WM	Excise duties on motor fuels	Fiscal	CO ₂	implemented				
Transport	WM	CO2 Reduction Program/Passenger Transport	Economic	CO ₂	implemented				
Transport	WM	EU Biofuels Directive	Economic	CO ₂	implemented				
Transport	WM	CO2 differentiation in vehicle purchase tax	Fiscal	CO ₂	implemented				
Transport	WM	Taxation of natural gas as an automotive fuel	Fiscal	CO ₂	implemented				

<u>Sector</u>	<u>Projection Scenario</u>	<u>Name</u>	<u>Type</u>	<u>GHG</u>	<u>Status</u>	<u>Absolute Reduction [kt CO₂ eq. p.a.]</u>			<u>Costs [EUR/t]</u>
						<u>2005</u>	<u>2010</u>	<u>2020</u>	
Transport	WM	Mandatory use of biofuels	Regulatory	CO ₂	implemented				
Transport		Combined emission reduction of NL-TRA-01 NL-TRA-03 NL-TRA-04 NL-TRA-05	Economic Information Voluntary/ negotiated agreement	CO ₂	implemented	200	400		
Transport		Combined emission reduction of NL-TRA-06 NL-TRA-07 NL-TRA-09 NL-TRA-10 NL-TRA-11 NL-TRA-12 NL-TRA-13	Economic Education Information Regulatory	CO ₂	implemented planned	500	900		
Industrial Processes	WM	Low HFC HCFC production	Regulatory	HFC	implemented	1,900	1,900		
Industrial Processes	WM	Low PFC aluminium production	Economic Regulatory Voluntary/ negotiated agreement	PFC	implemented	1,100	1,100		
Industrial Processes	WM	Low N₂O nitric acid production	Economic	N ₂ O	implemented		3,600		
Industrial Processes	WM	Reduction Program Non- CO₂ Gases	Regulatory Voluntary/ negotiated agreement	HFC PFC	implemented	500	1,000		
Industrial Processes	WM	PFC permit	Voluntary/ negotiated agreement	PFC	planned		100	100	
Industrial Processes	WM	F-gas directive	Regulatory	HFC PFC SF ₆	planned				
Agriculture	WM	Milk quota		CH ₄		100	300		

<u>Sector</u>	<u>Projection Scenario</u>	<u>Name</u>	<u>Type</u>	<u>GHG</u>	<u>Status</u>	<u>Absolute Reduction [kt CO₂ eq. p.a.]</u>			<u>Costs [EUR/t]</u>
						<u>2005</u>	<u>2010</u>	<u>2020</u>	
Agriculture	WM	Manure application & nitrogen norms	Regulatory	N ₂ O CH ₄ N ₂ O	implemented	400	600		
Agriculture Energy consumption	WM	Glami Covenant: Improvement of energy use in greenhouses	Voluntary/ negotiated agreement	CO ₂	implemented	Cluster value	Cluster value		
Agriculture Energy consumption	WM	Greenhouse Horticulture Orders in Council	Regulatory	CO ₂	implemented	Cluster value	Cluster value		
Agriculture Energy consumption	WM	Inclusion of horticulture into EU ETS	Economic	CO ₂	planned	Cluster value	Cluster value		
Agriculture Energy consumption		Combined emission reduction of NL-ENC-100 NL-ENC-101 NL-ENC-102	Economic Regulatory Voluntary/ negotiated agreement	CO ₂	implemented planned	200	400		
Forestry	WM	National Ecological Network	Other	CO ₂	implemented				
Forestry	WM	Day recreation facilities in urban areas	Other	CO ₂	implemented				
Waste	WM	Decree on Soil Protection from Landfills	Regulatory	CH ₄	implemented	Cluster value	Cluster value		
Waste	WM	Decree on Waste landfills and waste landfills bans	Regulatory	CH ₄	implemented	Cluster value	Cluster value		
Waste	WM	Landfilling Tax	Fiscal	CH ₄	implemented	Cluster value	Cluster value		
Waste	WM	Best available technology (BAT) implementation for operational landfills	Regulatory	CH ₄	planned	Cluster value	Cluster value		
Waste		Combined emission reduction of NL-WAM-02 NL-WAM-03 NL-WAM-04 NL-WAM-05	Fiscal Regulatory	CH ₄	implemented planned	3000	4000		

Policies and measures in the “with additional measures” projection

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ eq. p.a.]			<u>Costs [EUR/t]</u>
						2005	<u>2010</u>	2020	
Transport	WAM	Road pricing	Economic	CO ₂	planned				

Source: Öko Institut, (accessed 07/06/2007), ECCP Policies and Measures database, <http://www.oeko.de/service/pam/index.php>

7. EVALUATION OF PROJECTIONS

Table 6 provides the results of the projections for the year 2010 in the 'Strong Europe' and the 'Global Economy' scenarios for the 'with measures' and the 'with additional measures' variant. The results are aggregated by greenhouse gases. The same information aggregated by sectors is presented in tables 7 and 8. Figure 1 demonstrates the share of greenhouse gas emissions by sector for the year 2010 in the 'Global Economy' scenario according to the "With existing measures" projections. In table 9 the total emissions of the projections for the years 2010, 2015 and 2020 for the 'with additional measures' variant are summarised.

In table 10 the results of the target assessment are shown with a comparison of 2010 projections in 2005, 2006 and 2007. In the 'Strong Europe' scenario as well as in the 'Global Economy' scenario, the level of emissions in the 'with measures' and the 'with additional measures' variants do not differ. In the 'Strong Europe' scenario in 2007, the total GHG emissions will be at the slightly lower than in the base year, leaving a gap of approximately 11.2 Mt CO₂eq annually to reaching the Netherlands' Kyoto target (-6%). After including the emission reduction resulting from the ETS, the gap decreases by 3.4 Mt CO₂eq. In the 'Global Economy' scenario, emissions are projected to be 2.3% above 1990 levels, following inclusion of the emission reduction achieved via the ETS, the projected emissions are 1.5 Mt CO₂eq below the level of the base year. The Netherlands has already agreed to reductions of 20 Mt CO₂eq annually through project mechanisms (JI and CDM) for the first commitment period under the Kyoto Protocol. This is in order to close the gap between projected emissions and the burden sharing agreement.

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

	Base year ^a	Strong Europe		Global Economy	
		with measures	with additional measures	with measures	with additional measures
Carbon dioxide (excl. LUCF)	157.9	180.8	180.8	186.8	186.8
Methane	25.6	13.9	13.9	13.9	13.9
Nitrous oxide	21.3	13.6	13.6	14.0	14.0
HFCs	6.0	2.5	2.5	2.5	2.5
PFCs	1.8	0.5	0.5	0.5	0.5
SF ₆	0.3	0.3	0.3	0.3	0.3
Total (excl. LUCF)^b	213.2	211.6	211.6	218.0	218.0
% change relative to base year (excl. LUCF)		-0.7%	-0.7%	2.3%	2.3%

^a Base year is 1990 for all gases except 1995 for F-gases.

^b The total includes the use of Article 3.7 of the Kyoto Protocol which allows Parties to add net emissions from LULUCF in 1990 to their assigned amount. For the Netherlands this amounts to 0.28 Mt CO₂ eq. Source: MHSPE 2006; MHSPE 2007 (Annex 6)

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

	Base year	Strong Europe				Global Economy			
		with measures	% change relative to base year	with additional measures	% change relative to base year	with measures	% change relative to base year	with additional measures	% change relative to base year
Energy (total, excluding transport)	82.6	100.6	22%	100.6	22%	103.5	25%	103.5	25%
Energy Industries	55.3	73.3	33%	73.3	33%	75.4	36%	75.4	36%
Buildings	27.3	27.3	0%	27.3	0%	28.1	3%	28.1	3%
Transport (energy)	30.9	38.4	24%	38.4	24%	40.2	30%	40.2	30%
Industrial processes	56.2	42.4	-25%	42.4	-25%	43.3	-23%	43.3	-23%
Waste	12.8	4.7	-63%	4.7	-63%	4.7	-63%	4.7	-63%
Agriculture^a	30.4	25.5	-16%	25.5	-16%	26.3	-13%	26.3	-13%
Total (excl. LUCF)^b	213.2	211.6	-1%	211.6	-1%	218.0	2%	218.0	2%

^a includes emissions from 'other sources' in 1990 (0.2 Mt CO₂ eq).

^b Includes the use of Article 3.7 Kyoto Protocol in the base year (0.28 Mt CO₂ eq).

Source: MHSPE 2006; MHSPE 2007 (Annex 6)

**Table 8. Summary of projections by sector and by gas in 2010 (MtCO₂eq)
Strong Europe Scenario**

	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)	79.9	99.0	99.0	2.5	1.2	1.2	0.2	0.4	0.4	0.0	0.0	0.0
Energy Industries	53.0	72.5	72.5	2.1	0.5	0.5	0.2	0.3	0.3	0.0	0.0	0.0
Buildings	26.9	26.5	26.5	0.4	0.7	0.7	0.0	0.1	0.1	0.0	0.0	0.0
Transport (energy)	30.5	37.9	37.9	0.1	0.0	0.0	0.3	0.5	0.5	0.0	0.0	0.0
Industrial processes	39.2	35.6	35.6	0.4	0.0	0.0	8.5	3.5	3.5	8.1	3.3	3.3
Waste	0.0	0.0	0.0	12.3	4.4	4.4	0.5	0.3	0.3	0.0	0.0	0.0
Agriculture^a	8.3	8.3	8.3	10.3	8.3	8.3	11.8	8.9	8.9	0.0	0.0	0.0
Total (excl. LUCF)^b	158.2	180.8	180.8	25.6	13.9	13.9	21.3	13.6	13.6	8.1	3.3	3.3

Global Economy Scenario

	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)	79.9	102.0	102.0	2.5	1.2	1.2	0.2	0.3	0.3	0.0	0.0	0.0
Energy Industries	53.0	74.6	74.6	2.1	0.5	0.5	0.2	0.3	0.3	0.0	0.0	0.0
Buildings	26.9	27.4	27.4	0.4	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Transport (energy)	30.5	39.7	39.7	0.1	0.0	0.0	0.3	0.5	0.5	0.0	0.0	0.0
Industrial processes	39.2	36.3	36.3	0.4	0.0	0.0	8.5	3.7	3.7	8.1	3.3	3.3
Waste	0.0	0.0	0.0	12.3	4.4	4.4	0.5	0.3	0.3	0.0	0.0	0.0
Agriculture^a	8.3	8.8	8.8	10.3	8.3	8.3	11.8	9.2	9.2	0.0	0.0	0.0
Total (excl. LUCF)^b	158.2	186.8	186.8	25.6	13.9	13.9	21.3	14.0	14.0	8.1	3.3	3.3

^a includes emissions from 'other sources' in 1990 (0.2 Mt CO₂ eq)

^b Includes the use of Article 3.7 Kyoto Protocol in the carbon dioxide base year (0.28 Mt CO₂ eq).

Source: MHSPE 2006; MHSPE 2007 (Annex 6)

Figure 1. Share by sector of 2010 greenhouse gas emissions according to the "With existing measures" projections

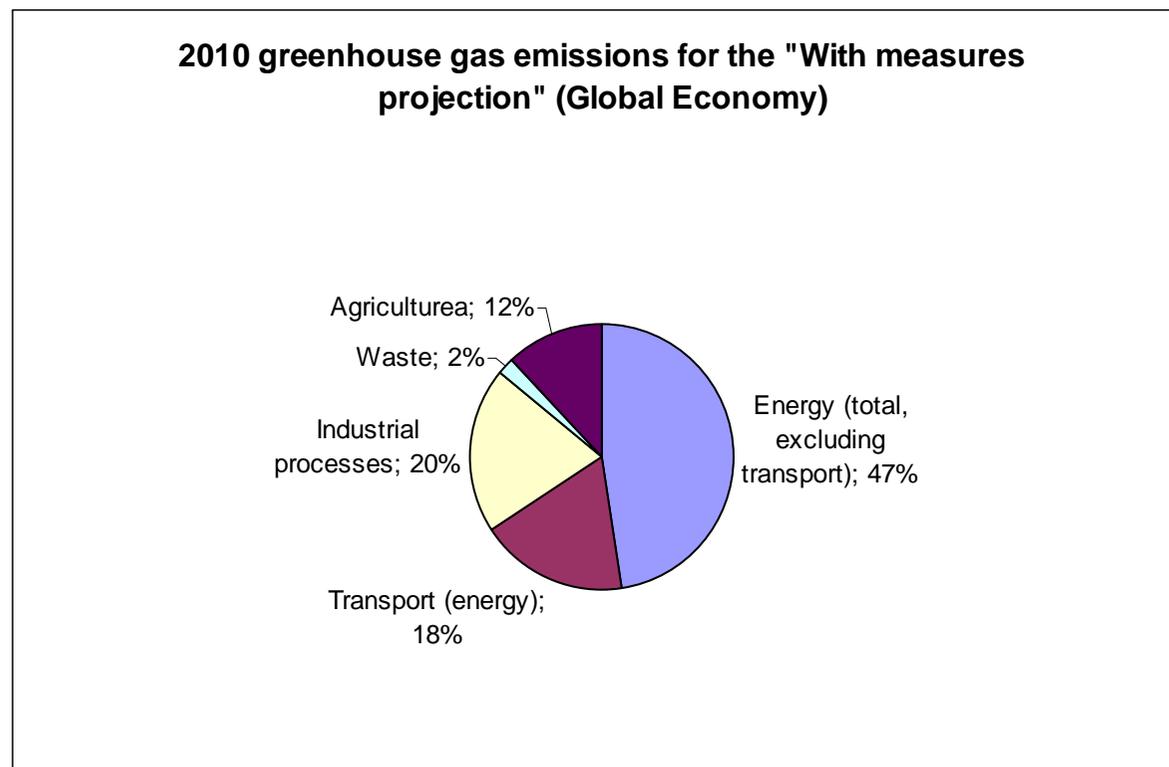


Table 9. Summary of projections (6 gas basket) in 2010, 2015 and 2020 for the "With additional measures" projections (Mt CO₂-eq.)

	Base year ^a	Strong Europe					
		2010	2010, % of base year level	2015	2015, % of base year level	2020	2020, % of base year level
Total (excluding LUCF)	213.2	211.6	-1%	219.0	3%	212.0	-1%
	Base year ^a	Global Economy					
		2010	2010, % of base year level	2015	2015, % of base year level	2020	2020, % of base year level
Total (excluding LUCF)	213.2	218.0	2%	226.2	6%	241.2	13%

^a Base year is 1990 for all gases except 1995 for F-gases and includes use of Art. 3.7 Kyoto Protocol
Source: MHSPE 2006, MHSPE 2007 (Annex 6)

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

	Strong Europe				Global Economy			
	Emissions in MtCO ₂ -equiv., excluding sinks				Emissions in MtCO ₂ -equiv., excluding sinks			
	2010 projections from 2005	2010 projections from 2006	2010 projections from 2007	2010 projections from 2007, % of base year level	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 ^a	212.9	214.0	213.2	100%	212.9	214.0	213.2	100%
Kyoto Commitment/burden sharing	200.1	201.2	200.4	-6.0%	200.1	201.2	200.4	-6.0%
With existing P&Ms projections	215.8	217.2	211.6	99.3%	220.3	221.7	218.0	102.3%
Gap (-ve means overachievement of target)	15.7	16.0	11.2	5.3%	20.2	20.5	17.6	8.3%
With additional P&Ms projections	210.3	211.1	211.6	99.3%	214.8	215.6	218.0	102.3%
Remaining gap	10.2	9.9	11.2	5.3%	14.7	14.4	17.6	8.3%
Effect of flexible mechanisms	20.0	20.0	20.0	9.4%	20.0	20.0	20.0	9.4%
Effect of EU ETS ^b			3.4				6.2	
Remaining gap (with use of flexible mechanisms)	-9.8	-10.1	-12.2	-5.7%	-5.3	-5.6	-8.6	-4.0%

^a Base year data is not 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 (214,6 MtCO₂-eq). This data is currently undergoing a review procedure by UNFCCC and is therefore subject to change

^b The projections include the physical (real) emissions in the Netherlands. Due to the EU ETS some part of the emissions from industry will be compensated through emissions trading which has been reported separately.

Above table excludes LUCF

LUCF will be covered in the main report, based on the questionnaire submissions

Source for 2005 data is MHSPE 2005. Source for 2006 data is 4NC, update of GHG projections May 2006. Source 2007 data is MHSPE 2007 (Annex 6), Questionnaire on the use of the Kyoto Protocol mechanisms (2007).

In table 11 a comparison is drawn concerning the projections for the trading sector between the 'Strong Europe' and the 'Global Europe' scenario for the 'with additional measures' variant and the NAP 2. NAP 2 projections show 6.8% and 4.1% higher emissions than the two scenarios submitted for this report.. In the NAP 2 projections for the energy sector, several sectors are aggregated which are not included under the energy sector in the two scenarios. These discrepancies may result in higher emissions in the projections.

Table 11. Comparison with projections for the trading sector (EU ETS) in Mt CO₂-eq.

	Strong Europe (WAM)	Global Europe (WAM)	NAP 2 projections	Difference
Energy sector	73,3 ^a	75,4 ^a	106,7 ^b	--
Energy sector included in EU ETS	--		87,98 ^c	--
Industry sector	42,4 ^d	43,3 ^d	16,85 ^e	--
Industry sector included in EU ETS	--		1,90 ^f	--
Total Energy & Industry	115,7	118,7	123,55	6,8% / 4,1%

Energy use from industry is normally included in the energy sector for projections under the UNFCCC and included in the industry sector for NAP 2 projections. Due to these and other differences in the sector definitions projections for the individual sectors might not be comparable.

^a Included are GHG emissions from energy industries

^b Included are GHG emissions from the sectors energy industries (1.A.1), Manufacturing industries and construction (1.A.2), Other (1.A.5), Fugitive emissions from fuels (1.B), Solvent and other product use(3), Other (7)

^c Included are CO₂ emissions from the sectors energy industries (1.A.1), Manufacturing industries and construction (1.A.2), Other (1.A.5), Fugitive emissions from fuels (1.B), Solvent and other product use(3), Other (7)

^d Included are GHG emissions from the industry sector including energy use

^e Included are GHG emissions from industrial processes

^f Included are CO₂ emissions from industrial processes

8. DESCRIPTION OF MODELLING APPROACH

Emissions associated with two socio-economic scenarios ('Strong Europe' and 'Global Economy') are projected by the Netherlands for three different policy variants ('without measures', 'with measures' and 'with additional measures'). While both scenarios reflect a world with broad international cooperation, they differ in their orientations.

In the 'Strong Europe' scenario, international cooperation is coupled to public responsibility. European institutions are reformed and the EU grows into a stronger economic and political block. The United States becomes part of a worldwide climate coalition pursuing successful policies which make extensive use of the Kyoto mechanisms. The public responsibility orientation is expressed through relatively even income distribution, greater social security and investments in education and research. A reasonable rate of economic growth is achieved mainly due to the larger markets. Annual average growth in GDP between 2002 and 2020 is at 1.7 per cent.

'Global Economy' is oriented sharply towards international trade but little political cooperation. A strong emphasis on the personal responsibility of citizens and corporations results in relatively high economic growth and material welfare. Population growth is highest in the 'Global Economy' scenario. Environmental awareness is not translated into strong regulations and international climate policies fail over the longer term, although in Western Europe climate policy remains strong until 2020. GDP grows by 2.7 per cent per year between 2002 and 2020.

Several important changes have been introduced into the approach for projecting future emissions since publication of the previous reference projection in 2002. First, sectoral definitions have shifted slightly to align more closely with IPCC source categories and Dutch government departments' policy responsibilities for certain sectors. Second, the projections now take account of the trend towards rising outside air temperature observed in the past decades. It is assumed that there will be a structural rise in outside air temperatures in the future leading to lower heating and higher cooling demand.

In the uncertainty assessment for the projections four main reasons for uncertainties have been identified:

- uncertainties in monitoring and historic data,
- simplifications in simulation models,
- future changes in policies and preferences in the Netherlands and Europe, and the
- future economic, social and technological developments which are the driving forces in the scenarios..

The inventory of uncertainties has been used to determine a range around the emissions projections in the 'Strong Europe' scenario. The methodologies used are those applied in in the 2000 IPCC Good Practice Guidance. Use of these methodologies results in a 95% confidence interval around the projections. The uncertainty range around the estimate of CO₂ emissions in the 'Strong Europe' scenario is ± 17 Mt ($\pm 10\%$) in 2010. For the non-CO₂ gases the uncertainty range amounts to circa $+7/-12$ Mt ($+20/-35\%$).

More information on the modelling parameters and indicators are provided in the table below and in table 12.

Modelling parameters additional to core indicators

Parameter	2000	Strong Europe		Global Economy	
		2010	2020	2010	2020
Population (M)	15.9	16.8	17.6	16.8	17.9
GDP (bn Euro 2000)	402	481	575	535	713
International fuel prices					
Coal (€/GJ)	1.50	1.70	1.70	1.70	1.70
Oil (€/GJ)	5.36	4.41	4.72	4.41	4.72
Natural gas (€/GJ)	3.06	2.89	3.39	2.89	3.39
Heating degree days	2,695	2,773	2,628	2,773	2,628
Cooling degree days	56	112	144	112	144

Source: MHSPE 2007

9. PROJECTION INDICATOR REPORTING

Table 12 shows the projection indicators for monitoring and evaluating progress with regard to policies and measures as well as the given numerators and denominators. Comprehensive information has been provided for the years 2005, 2010, 2015 and 2020.

10. REPORTING OF PARAMETERS ON PROJECTIONS

The mandatory parameters for projection are provided in table 13. For most parameters, information is provided in absolute values for the years 2010 and 2020; in some cases relative data are provided. Only in the waste sector are no projections available.

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

No	Eurostat Sectors	Indicator	2005	2010	2015	2020	Numerator/denominator	2005	2010	2015	2020
1	Macro	CO ₂ intensity of GDP, t/Euro million	448	422	391	362	Total CO ₂ emissions, kt	176,200	182,000	183,850	185,700
							GDP, bio Euro (EC95)	394	431	470	513
2	Transport C0						CO ₂ emissions from passenger cars, kt	20,203	20,465	21,210	21,955
							Number of kilometres by passenger cars, Mkm	107,907	118,008	129,123	140,237
3	Transport D0						CO ₂ emissions from freight transport (all modes), kt	8,019	8,169	8,707	9,245
							Freight transport (all modes), Mtkm	102,000	108,000	115,000	122,000
4	Industry A1	Energy related CO ₂ intensity of industry, t/Euro million	578	555	520	486	CO ₂ emissions from industry, kt	34,150	35,300	36,200	37,100
							Gross value-added total industry, Bio Euro (EC95)	59	64	70	76
5	Households A1	Specific CO ₂ emissions of households, t/dwelling	2.73	2.51	2.31	2.13	CO ₂ emissions from fossil fuel consumption households, kt	18,500	17,800	17,050	16,300
							Stock of permanently occupied dwellings, 1000	6,786	7,088	7,393	7,661
6	Services A0	CO ₂ intensity of the services sector, t/Euro million	41.2	34.8	29.8	25.4	CO ₂ emissions from fossil fuel consumption in commercial and institutional sector, kt	9,895	9,300	8,800	8,300
							gross value-added services, bio Euro (EC95)	240	267	296	327
7	Transformation B0	Specific CO ₂ emissions of public and autoproducer power plants, t/TJ	153.7	160.1	146.9	138.5	CO ₂ emissions from public and autoproducer thermal power stations, kt	51,642	53,788	59,489	57,612
							All products - output and autoproducer thermal power stations, PJ	336	336	405	416
8	Agriculture	Specific N ₂ O emissions of fertilizer and manure use, kg/kg	0.04	0.04	0.04	0.04	N ₂ O emissions from synthetic fertilizer and manure, kt	27	26	25	24
							Use of synthetic fertilizer and manure, kt nitrogen	682	649	626	603
9	Agriculture	Specific CH ₄ emissions of cattle production, kg/head	69.52	71.18	71.80	72.69	CH ₄ emissions from cattle, kt	253	247	249	252
							Cattle population, 1000 heads	3,639	3,470	3,468	3,467
10	Waste	Specific CH ₄ emissions from landfills, kt/kt	0.08	0.09	0.07	0.05	CH ₄ emissions from landfills, kt	305	208	156	104
							Municipal solid waste going to landfills, kt	3,810	2,400	2,150	1,900

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

1. Mandatory Parameters on Projections		Strong Europe Scenario											
		Absolut					relativ						
		2000	2005	2010	2015	2020	1996-2000	2001-2005	2002-2010	2006-2010	2011-15	2016-20	2011-2020
Assumptions for general economic parameters													
— GDP (value at given years or annual growth rate and base year)	Mio €	402291								1,8			1,8
— Population (value at given years or annual growth rate and base year)	Mio	15,9		16,8		17,6							
— International coal prices at given years in euro per tonne or GJ (Gigajoule)	€/GJ	1,5		1,7		1,7							
— International oil prices at given years in euro per barrel or GJ	€/GJ	5,36		4,41		4,72							
— International gas prices at given years in euro per m3 or GJ	€/GJ	3,06		2,89		3,39							
Assumptions for the energy sector													
— Total gross inland consumption (PJ) (split by oil,gas,coal,renewables,nuclear,other)	in PJ	3147		3428		3579							
	Oil	1061		1246		1384							
	Coal	323		369		371							
	Gas	1556		1520		1505							
	Renewable	21		101		149							
	Nuclear	39		43		43							
	Other (including heat and biomass)	136		149		127							
— Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)	in MWh	87611		111876		134837							
	Oil	3806		3333		3167							
	Coal	23389		24199		23850							
	Gas	52722		67325		80163							
	Renewable	1694		9935		20574							

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

	Nuclear	3722	4028	4028
	Other (including heat and biomass)	2278	3056	3056
— Energy demand by sector split by fuel (delivered)				
- energy industries	PJ	565	655	690
	Oil	152	150	183
	Coal	248	263	254
	Gas	288	342	363
	Nuclear	-191	-251	-312
	Other (including heat and biomass)	68	152	202
- industries	PJ	1136	1293	1410
	Oil	395	556	632
	Coal	75	106	118
	Gas	568	535	567
	Nuclear	70	61	62
	Other (including heat and biomass)	28	35	32
- tertiary sector	PJ	524	533	507
	Oil	54	55	56
	Coal	0	0	0
	Gas	348	326	282
	Nuclear	105	128	144
	Other (including heat and biomass)	18	23	25
- households	PJ	448	432	428
	Oil	4	4	4
	Coal	0	0	0
	Gas	352	316	293
	Nuclear	78	98	114
	Other (including heat and biomass)	14	15	16
- transport	PJ	463	515	546
	Oil	547	481	510
	Coal	0	0	0
	Gas	0	0	0
	Nuclear	6	6	7
	Other (including heat and biomass)	0	27	29

— Assumptions on weather parameters, especially heating or cooling degree days	heating degree days	2695	2846	2773	2700	2628				
	cooling degree days	56	98	112	127	144				
Assumptions for the industry sector										
For Member States using macroeconomic models:										
— The share of the industrial sector in GDP and growth rate										
For Member States using other models:										
— The production index for industrial sector										
Assumptions for the transport sector										
For Member States using macroeconomic models:										
— The growth of transport relative to GDP							4	2,6	5,6	4,6
For Member States using other models:										
— The growth of passenger person kilometres	Car kilometer	99966	110832	118492	126152					
— The growth of freight tonne kilometres	truck kilometer	8118	9412	11681	13950					
Assumptions for buildings (in residential and commercial or tertiary sector)										
For Member States using macroeconomic models:										
— The level of private consumption (excluding private transport)										
— The share of the tertiary sector in GDP and the growth rate										
For Member States using other models:										
— The rate of change of floor space for tertiary buildings and dwellings	floor space tertiary buildings, in mln m ²	186,6						0		1
	floor space residences, in mln m ²	416,2						1		2
— The number of dwellings and number of employees in the tertiary sector	number of dwellings/ in thousands	6589,6						1		1
	number of employees, MFTE	4,7						1		1
Assumptions in the agriculture sector										
For Member States using macroeconomic models:										
— The share of the agriculture sector in GDP and relative growth	GDP						1	0,2	1,3	0,2
	in relative growth						1,2	0	1	-0,2
For Member States using other models:										
— Livestock numbers by animal type (for enteric fermn cows, sheep, for manure, pigs, poultry)	beef cattle	448000							-4,05	-0,6

	dairy cows	1504000			-0,7	0,5
	sheep	1408000			0,4	1,7
	pigs	13118000			-1,6	-3,8
	poultry	1,04E+08			-1,5	-2,4
— The area of crops by crop type						
	hectare crop area	943640			-1,3	-0,3
	hectare grassland	1011887			0,1	-0,1
— Emissions factors by type of livestock for enteric fermentn and manure management (t)	t CH4, per average animal					
	beef cattle	0,054	0,053	0,054		
	dairy cows	0,109	0,119	0,12		
	sheep	0,008	0,008	0,008		
- manure management, fertilizer use	t N2O per t N	0,039	0,04	0,04		
Assumptions in the waste sector						
— Waste generation per head of population or tonnes of municipal solid waste	t in mln	9,8	n.a.	n.a.		
— The organic fractions of municipal solid waste	organic fraction %	35	n.a.	n.a.		
— Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)	disposed in landfills %	15	n.a.	n.a.		
	incinerated %	37	n.a.	n.a.		
	composted %	20	n.a.	n.a.		
Assumptions in the forestry sector						
— Forest definitions						
Areas of:						
— managed forests	hectare	342000	347700	353400		
— unmanaged forests	hectare	26000	26500	27000		
		Land with woody vegetation, tree crown cover of more than 20% and area of more than 0.5 hectare. Trees should be able to reach minimum higt of 5 meters at maturity in situ.				

1. Mandatory Parameters on Projections	Global Economy Scenario											
	Absolut					relativ						
	2000	2005	2010	2015	2020	1996-2000	2001-2005	2002-2010	2006-2010	2011-2015	2016-2020	2011-2020
Assumptions for general economic parameters												

— GDP (value at given years or annual growth rate and base year)	Mio €	402291			2,9	2,9
— Population (value at given years or annual growth rate and base year)	Mio	15,9	16,8	17,9		
— International coal prices at given years in euro per tonne or GJ (Gigajoule)	€/GJ	1,5	1,7	1,7		
— International oil prices at given years in euro per barrel or GJ	€/GJ	5,36	4,41	4,72		
— International gas prices at given years in euro per m3 or GJ	€/GJ	3,06	2,89	3,39		
Assumptions for the energy sector						
— Total gross inland consumption (PJ) (split by oil,gas,coal,renewables,nuclear,other)	in PJ	3147	3542	4007		
	Oil	1061	1288	1548		
	Coal	323	355	546		
	Gas	1556	1593	1529		
	Renewable	21	109	219		
	Nuclear	39	43	43		
	Other (including heat and biomass)	136	154	123		
— Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)	in MWh	87611	118030	156152		
	Oil	3806	3361	3028		
	Coal	23389	22796	45200		
	Gas	52722	72559	72027		
	Renewable	1694	12203	28786		
	Nuclear	3722	4028	4028		
	Other (including heat and biomass)	2278	3083	3083		
— Energy demand by sector split by fuel (delivered)						
- energy industries	PJ	565	665	828		
	Oil	152	151	212		
	Coal	248	249	428		
	Gas	288	371	292		
	Nuclear	-191	-263	-369		
	Other (including heat and biomass)	68	157	266		
- industries	PJ	1136	1317	1465		
	Oil	395	564	659		

	Coal	75	106	118					
	Gas	568	551	582					
	Nuclear	70	62	71					
	Other (including heat and biomass)	28	35	35					
- tertiary sector	PJ	524	566	599					
	Oil	54	60	67					
	Coal	0	0	0					
	Gas	348	346	344					
	Nuclear	105	135	163					
	Other (including heat and biomass)	18	24	25					
- households	PJ	448	450	470					
	Oil	4	4	4					
	Coal	0	0	0					
	Gas	352	325	312					
	Nuclear	78	106	136					
	Other (including heat and biomass)	14	15	18					
- transport	PJ	463	544	648					
	Oil	547	509	607					
	Coal	0	0	0					
	Gas	0	0	0					
	Nuclear	6	6	7					
	Other (including heat and biomass)	0	29	34					
— Assumptions on weather parameters, especially heating or cooling degree days	heating degree days	2695	2846	2773	2700	2628			
	cooling degree days	56	98	112	127	144			
Assumptions for the industry sector									
<i>For Member States using macroeconomic models:</i>									
— The share of the industrial sector in GDP and growth rate									
<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>									
— The growth of transport relative to GDP							4	1,5	2,7 2,7 2,7
<i>For Member States using other models:</i>									

— The growth of passenger person kilometres	Car kilometer	99966	110832	118492	126152					
— The growth of freight tonne kilometres	truck kilometer	8118	9412	11681	13950					
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)										
— The share of the tertiary sector in GDP and the growth rate										
<i>For Member States using other models:</i>										
— The rate of change of floor space for tertiary buildings and dwellings	floor space tertiary buildings, in mln m ²	186,6				1			1	
	floor space residences, in mln m ²	416,2				1			2	
— The number of dwellings and number of employees in the tertiary sector	number of dwellings/ in thousands	6589,6				1			1	
	number of employees, MFTE	4,7				1			1	
Assumptions in the agriculture sector										
<i>For Member States using macroeconomic models:</i>										
— The share of the agriculture sector in GDP and relative growth	GDP					1	0	1,6	1,2	1,3
	in relative growth					1,2	-0,2	1,2	0,9	1
<i>For Member States using other models:</i>										
— Livestock numbers by animal type (for enteric fermn cows, sheep, for manure, pigs, poultry)	beef cattle							-3,7		-16,5
	dairy cows							-0,7		2,1
	sheep							0,4		1,7
	pigs							-1,6		0,1
	poultry							-0,3		0,6
— The area of crops by crop type	hectare crop area							-0,8		-2,5
	hectare grassland							-0,4		0,6
— Emissions factors by type of livestock for enteric fermentn and manure management (t)	t CH ₄ , per average animal									
	beef cattle	0,054	0,053		0,055					
	dairy cows	0,109	0,119		0,123					
	sheep	0,008	0,008		0,008					
- manure management, fertilizer use	t N ₂ O per t N	0,039	0,04		0,04					

Assumptions in the waste sector			
— Waste generation per head of population or tonnes of municipal solid waste	t in mln	n.a.	n.a.
— The organic fractions of municipal solid waste	organic fraction %	n.a.	n.a.
— Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)	disposed in landfills %	n.a.	n.a.
	incinerated %	n.a.	n.a.
	composted %	n.a.	n.a.
Assumptions in the forestry sector			
— Forest definitions		Land with woody vegetation, tree crown cover of more than 20% and area of more than 0.5 hectare. Trees should be able to reach minimum higt of 5 meters at maturity in situ.	
Areas of:			
— managed forests	hectare	342000	347700 353400
— unmanaged forests	hectare	26000	26500 27000

11. COUNTRY CONCLUSIONS

The Netherlands 2007 Climate Policy Progress Report provides comprehensive information on policies and measures as well as projections, including expected emission reductions and projections for different socio-economic scenarios. The Netherlands will not meet its target under the burden sharing agreement by means of domestic actions alone. The Dutch government has already agreed to a reduction of 100 Mt CO₂ from project mechanisms which will be sufficient to fill the gap between projected emissions and the target under the burden sharing agreement.