

The Netherlands

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1. SUMMARY

This country profile is mainly based on the submission 2007.

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 'with additional measures' scenario projects slightly higher emissions in 2010 than the 'with existing measures' scenario and has not been included in this analysis. The Netherlands report two different 'with existing measures' scenarios taking different socio-economic developments into account.

Netherlands' Kyoto Protocol commitment is a 6% decrease in emissions relative to the base year. Under the 'with existing measures' projections emissions are expected to stabilise or decrease by up to 2% compared to base year emissions. The Netherlands will therefore not meet its target under the EU burden sharing agreement by means of domestic actions alone; the Dutch government has therefore decided to offset 100 Mt CO₂-eq. through the use of flexible mechanisms. This will be sufficient to fill the gap between projected and target emissions. The present use of flexible mechanisms has been reported at 13 Mt annually.

2. GHG PROJECTIONS AND PROGRESS TO KYOTO TARGETS

The Kyoto base-year is 1990 for CO₂, CH₄ and N₂O and 1995 for fluorinated gases (SF₆, HFCs and PFCs).

Emissions associated with two socio-economic scenarios ('Strong Europe' and 'Global Economy') are projected by the Netherlands for three different policy variants ('without measures' (WOM), 'with existing measures' (WEM) and 'with additional measures' (WAM)) and years. However, the 2010 WAM projections had to be equalised with the WEM values since both WAM scenarios showed higher emissions levels than in the WEM variant.

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.

In the both settings, i.e. 'Strong Europe Scenario' and 'Global Economy Scenario', the Netherlands do not meet the 2010 Kyoto target. The WEM projection for 2010 in the 'Strong Europe Scenario' shows an emission level 2% below base year emissions or 4% above the Kyoto target. The respective projection in the 'Global Economy Scenario' shows an emission level 0.5% below base year emissions or 6% above the Kyoto target level. However, both of them lie within the range of the intended use of flexible mechanisms, i.e. up to 20 Mt annually, in order to comply with the Kyoto target. The present use of flexible mechanisms has been reported at 13 Mt annually. The highest sectoral contributions to domestic emission reduction (total: 21.6 Mt) are projected to come from energy supply (7.8 Mt or 36%), industrial processes (7.6 Mt or 35%) and waste (4 Mt or 19%).

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Till 2020, WAM projections show a stabilised emission level 1.5% below base year emissions Mt in the 'Strong Europe Scenario'; in the 'Global Economy Scenario' emissions are expected to rise by 13% compared to base year emissions in 2020.

Former projections showed higher emissions (before +5.6 Mt) in the WEM variant and a higher use of flexible mechanisms (before +7 Mt).

Table 1a/1b show, for all gases and main sectors:

- GHG emission projections in the WEM scenario for the two variants 'strong Europe' and 'global economy', as reported by the Netherlands;
- Historic emissions (in the "reference year") as reported together with projections. For the Netherlands, the reference year is 1990.

Table 2a/2b show, for all gases and main sectors:

- 1990 GHG emissions as reported in the latest (2008) GHG emissions inventory (1990-2006);
- Adjusted GHG emission projections for the WEM and scenario in both variants. This adjustment of the projections reported in Table 1a/1b is carried out to allow consistency and comparability between projections and the latest (2008) GHG inventory data¹. In the case of the Netherlands, the correction factor is very small (1.0003).

¹ The adjustment consists in applying an adjustment factor to projections from Table 1. This factor is the ratio between total emissions in the reference year as reported in the 2008 GHG inventory report (or, if the reference year is the base-year under the Kyoto Protocol, in the report of the review of the initial report under the Kyoto Protocol) and total emissions in the reference year as reported by the country with projections (Table 1).

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Table 1a. Summary of reported projections by sector and by gas in 2010 (Mt CO₂-eq.) - Strong Europe Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF ₆ , HFCs and PFCs)			Total		
	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures
Energy (excl. transport)	119.9	136.0	136.0	2.6	1.2	1.2	0.2	0.4	0.4	0.0	0.0	0.0	122.7	137.7	137.7
Energy supply	53.0	72.5	72.5	2.1	0.5	0.5	0.2	0.3	0.3	0.0	NE	NE	55.3	73.3	73.3
Energy – industry, construction ¹	31.7	28.7	28.7	0.1	NE	NE	0.0	0.0	0.0	0.0	NE	NE	31.8	28.8	28.8
Energy – other (commercial, residential, agriculture)	35.2	34.8	34.8	0.4	0.7	0.7	0.0	0.1	0.1	0.0	NE	NE	35.6	35.6	35.6
Transport (energy)	30.5	37.9	37.9	0.1	NE	NE	0.3	0.5	0.5	0.0	NE	NE	30.9	38.4	38.4
Industrial processes	7.5	6.9	6.9	0.3	NE	NE	8.5	3.5	3.5	6.7	3.3	3.3	23.0	13.6	13.6
Waste	0.0	NE	NE	12.3	4.4	4.4	0.5	0.3	0.3	0.0	NE	NE	12.8	4.7	4.7
Agriculture*	0.0	0.0	0.0	10.3	8.3	8.3	11.6	8.9	8.9	0.0	NE	NE	21.9	17.2	17.2
Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Total (excl. LULUCF)**	158.2	180.8	180.8	25.6	13.9	13.9	21.1	13.6	13.6	6.7	3.3	3.3	211.6	211.6	211.6
Emission reduction effect of EU-ETS***		3.4	3.4											3.4	3.4
Total (excl. LULUCF)**	158.2	177.4	177.4	25.6	13.9	13.9	21.1	13.6	13.6	6.7	3.3	3.3	211.6	208.2	208.2

¹1990 is the reference year for all greenhouse gases

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

*** reported separately

Source: Based on the Netherlands' Submission 03/2007

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Table 1b. Summary of reported projections by sector and by gas in 2010 (Mt CO₂-eq.) - Global Economy Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF ₆ , HFCs and PFCs)			Total		
	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures
Energy (excl. transport)	119.9	140.1	140.1	2.6	1.2	1.2	0.2	0.3	0.3	0.0	0.0	0.0	122.7	141.6	141.6
Energy supply	53.0	74.6	74.6	2.1	0.5	0.5	0.2	0.3	0.3	0.0	NE	NE	55.3	75.4	75.4
Energy – industry, construction ¹	31.7	29.3	29.3	0.1	NE	NE	0.0	0.0	0.0	0.0	NE	NE	31.8	29.3	29.3
Energy – other (commercial, residential, agriculture)	35.2	36.2	36.2	0.4	0.7	0.7	0.0	NE	NE	0.0	NE	NE	35.6	36.9	36.9
Transport (energy)	30.5	39.7	39.7	0.1	NE	NE	0.3	0.5	0.5	0.0	NE	NE	30.9	40.2	40.2
Industrial processes¹	7.5	7.0	7.0	0.3	NE	NE	8.5	3.7	3.7	6.7	3.3	3.3	23.0	14.0	14.0
Waste	0.0	NE	NE	12.3	4.4	4.4	0.5	0.3	0.3	0.0	NE	NE	12.8	4.7	4.7
Agriculture*	0.0	0.0	0.0	10.3	8.3	8.3	11.6	9.2	9.2	0.0	NE	NE	21.9	17.5	17.5
Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Total (excl. LULUCF)**	158.2	186.8	186.8	25.6	13.9	13.9	21.1	14.0	14.0	6.7	3.3	3.3	211.6	218.0	218.0
Emission reduction effect of EU-ETS***		6.2	6.2											6.2	6.2
Total (excl. LULUCF)**	158.2	180.6	180.6	25.6	13.9	13.9	21.1	14.0	14.0	6.7	3.3	3.3	211.6	211.8	211.8

¹1990 is the reference year for all greenhouse gases

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

*** reported separately

Source: Based on the Netherlands' Submission 03/2007

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Table 2a. Summary of projections by sector and by gas in 2010 compared to 1990 emissions (Mt CO₂-eq.) - Strong Europe Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF ₆ , HFCs and PFCs)			Total		
	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures
Energy (excl. transport)	125.1	136.1	136.1	2.2	1.2	1.2	0.2	0.4	0.4	0.0	0.0	0.0	127.6	137.7	137.7
Energy supply	53.7	72.5	72.5	1.7	0.5	0.5	0.1	0.3	0.3	0.0	NE	NE	55.6	73.3	73.3
Energy – industry, construction ¹	33.0	28.8	28.8	0.1	NE	NE	0.0	0.0	0.0	0.0	NE	NE	33.1	28.8	28.8
Energy – other (commercial, residential, agriculture)	38.4	34.8	34.8	0.4	0.7	0.7	0.1	0.1	0.1	0.0	NE	NE	38.9	35.6	35.6
Transport (energy)	26.0	37.9	37.9	0.2	NE	NE	0.3	0.5	0.5	0.0	NE	NE	26.4	38.4	38.4
Industrial processes¹	7.9	6.9	6.9	0.3	NE	NE	7.1	3.5	3.5	6.9	3.3	3.3	22.2	13.6	13.6
Waste	0.0	NE	NE	12.3	4.4	4.4	0.5	0.3	0.3	0.0	NE	NE	12.8	4.7	4.7
Agriculture*	0.0	0.0	0.0	10.5	8.3	8.3	11.6	8.9	8.9	0.0	NE	NE	22.1	17.2	17.2
Other	0.3	NE	NE	0.0	NE	NE	0.2	NE	NE	0.0	NE	NE	0.5	NE	NE
Total (excl. LULUCF)**	159.4	177.5	177.5	25.4	13.9	13.9	19.9	13.6	13.6	6.9	3.3	3.3	211.7	208.3	208.3

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

¹ 1995 is the reference year for fluorinated greenhouse gases

Source: Based on the Netherlands' Submission 03/2007

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Table 2b. Summary of projections by sector and by gas in 2010 compared to 1990 and base year emissions (Mt CO₂-eq.) - Global Economy Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF ₆ , HFCs and PFCs)			Total		
	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures	Reference year emissions	With existing measures	With additional measures
Energy (excl. transport)	125.1	140.2	140.2	2.2	1.2	1.2	0.2	0.3	0.3	0.0	0.0	0.0	127.6	141.7	141.7
Energy supply	53.7	74.6	74.6	1.7	0.5	0.5	0.1	0.3	0.3	0.0	NE	NE	55.6	75.4	75.4
Energy – industry, construction ¹	33.0	29.3	29.3	0.1	NE	NE	0.0	0.0	0.0	0.0	NE	NE	33.1	29.3	29.3
Energy – other (commercial, residential, agriculture)	38.4	36.2	36.2	0.4	0.7	0.7	0.1	NE	NE	0.0	NE	NE	38.9	36.9	36.9
Transport (energy)	26.0	39.7	39.7	0.2	NE	NE	0.3	0.5	0.5	0.0	NE	NE	26.4	40.2	40.2
Industrial processes¹	7.9	7.0	7.0	0.3	NE	NE	7.1	3.7	3.7	6.9	3.3	3.3	22.2	14.0	14.0
Waste	0.0	NE	NE	12.3	4.4	4.4	0.5	0.3	0.3	0.0	NE	NE	12.8	4.7	4.7
Agriculture*	0.0	0.0	0.0	10.5	8.3	8.3	11.6	9.2	9.2	0.0	NE	NE	22.1	17.5	17.5
Other	0.3	NE	NE	0.0	NE	NE	0.2	NE	NE	0.0	NE	NE	0.5	NE	NE
Total (excl. LULUCF)**	159.4	180.7	180.7	25.4	13.9	13.9	19.9	14.0	14.0	6.9	3.3	3.3	211.7	211.9	211.9

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

¹ 1995 is the reference year for fluorinated greenhouse gases

Source: Based on the Netherlands' Submission 03/2007

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Table 3a: Summary of projections by sector and by gas in 2010 compared to 1990 emissions (index 100 = reference year) - Strong Europe Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF6, HFCs and PFCs)			Total		
	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures
Energy (excl. transport)	100	108.7	108.7	100	54.8	54.8	100	183.4	183.4	100	0.0	0.0	100	107.9	107.9
Energy supply	100	135.1	135.1	100	28.7	28.7	100	214.4	214.4	100	NE	NE	100	132.0	132.0
Energy – industry, construction ¹	100	87.0	87.0	100	NE	NE	100	49.1	49.1	100	NE	NE	100	86.8	86.8
Energy – other (commercial, residential, agriculture)	100	90.6	90.6	100	177.7	177.7	100	185.2	185.2	100	NE	NE	100	91.6	91.6
Transport (energy)	100	145.8	145.8	100	NE	NE	100	183.9	183.9	100	NE	NE	100	145.3	145.3
Industrial processes¹	100	87.0	87.0	100	NE	NE	100	49.1	49.1	100	47.7	47.7	100	61.5	61.5
Waste	100	NE	NE	100	35.8	35.8	100	58.4	58.4	100	NE	NE	100	36.7	36.7
Agriculture*	100	0.0	0.0	100	79.1	79.1	100	76.7	76.7	100	NE	NE	100	77.9	77.9
Other	100	NE	NE		NE	NE		NE	NE		NE	NE		NE	NE
Total (excl. LULUCF)**	100	111.4	111.4	100	54.7	54.7	100	68.2	68.2	100	47.7	47.7	100	98.4	98.4

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

¹ 1995 is the reference year for fluorinated greenhouse gases

Source: Based on the Netherlands' Submission 03/2007

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Table 3b: Summary of projections by sector and by gas in 2010 compared to 1990 and base year emissions (index 100 = reference year) - Global Economy Scenario

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF6, HFCs and PFCs)			Total		
	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures	1990	With existing measures	With additional measures
Energy (excl. transport)	100	112.0	112.0	100	54.8	54.8	100	139.7	139.7	100	0.0	0.0	100	111.1	111.1
Energy supply	100	139.0	139.0	100	28.7	28.7	100	214.4	214.4	100	NE	NE	100	135.8	135.8
Energy – industry, construction ¹	100	88.7	88.7	100	NE	NE	100	51.9	51.9	100	NE	NE	100	88.5	88.5
Energy – other (commercial, residential, agriculture)	100	94.2	94.2	100	177.7	177.7	100	NE	NE	100	NE	NE	100	94.9	94.9
Transport (energy)	100	152.7	152.7	100	NE	NE	100	183.9	183.9	100	NE	NE	100	152.1	152.1
Industrial processes¹	100	88.7	88.7	100	NE	NE	100	51.9	51.9	100	47.7	47.7	100	63.0	63.0
Waste	100	NE	NE	100	35.8	35.8	100	58.4	58.4	100	NE	NE	100	36.7	36.7
Agriculture*	100	0.0	0.0	100	79.1	79.1	100	79.3	79.3	100	NE	NE	100	79.2	79.2
Other	100	NE	NE		NE	NE		NE	NE		NE	NE		NE	NE
Total (excl. LULUCF)**	100	113.4	113.4	100	54.7	54.7	100	70.2	70.2	100	47.7	47.7	100	100.1	100.1

* includes emissions from 'other sources' in 1990 (0.2 Mt CO₂-eq.)

** 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)

¹ 1995 is the reference year for fluorinated greenhouse gases

Source: Based on the Netherlands' Submission 03/2007

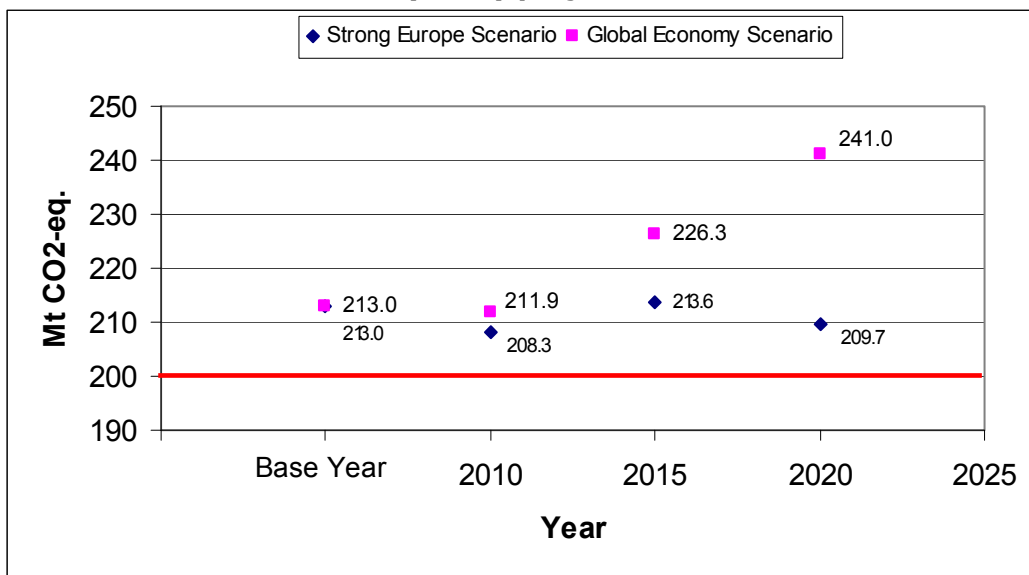
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Table 4: Summary of projections in 2010 compared to base year emissions under the Kyoto Protocol

	Unit	Base-year emissions under the Kyoto Protocol	2010 projections 'strong Europe'	2010 projections 'global economy'
Total GHG emissions (excluding LULUCF)	Mt CO ₂ -eq.	213.0	208.3	211.9
	Index (base-year emissions = 100)	100	97.8	99.5

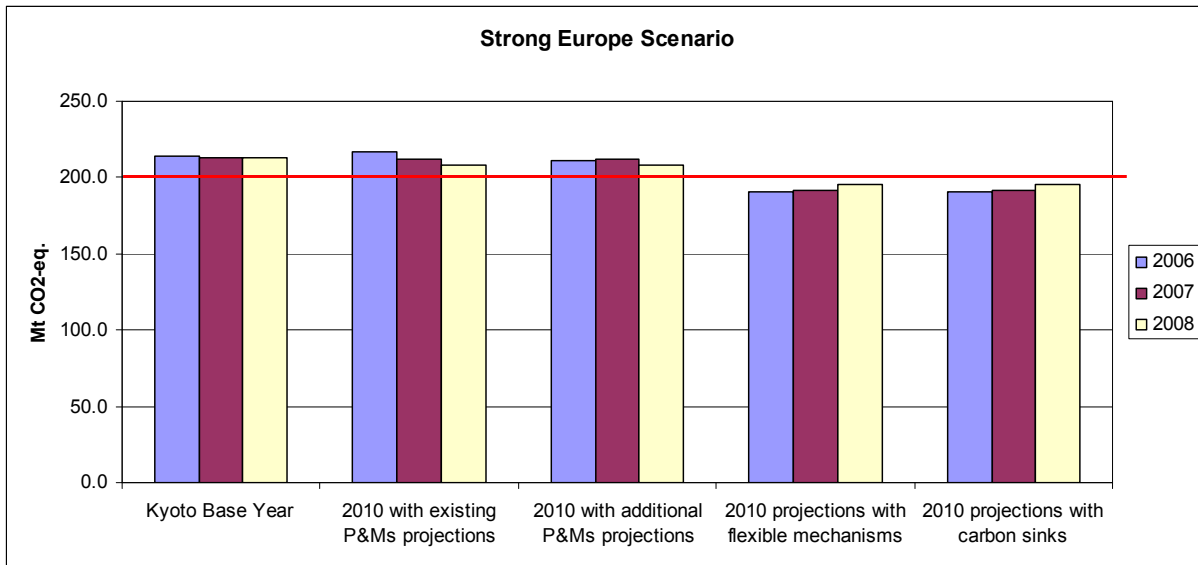
In Figure 1, the same correction factor used in Table 2 has been applied to the projections for 2010, 2015 and 2020.

Figure 1. Greenhouse gas projections in 2010, 2015 and 2020 (Mt CO₂-eq.) – 'with additional measures' (WAM) projection



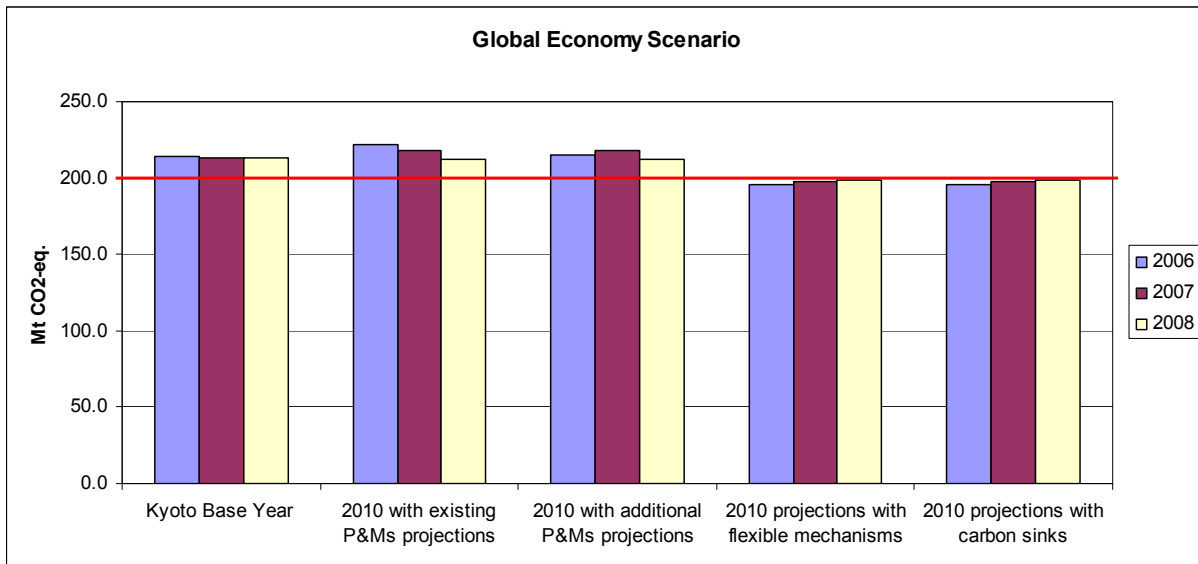
Source: Based on the Netherlands' Submission 03/2007

Figure 2a. Comparison of 2010 projections reported in 2006, 2007 and 2008) - Strong Europe Scenario



Source: For 2006 data is 4th NC, update of GHG projections May 2006; for 2007 data is MHSPE 2007 (Annex 6), questionnaire on the use of the Kyoto Protocol mechanisms (2007); for 2008 data is MHSPE 2007 (Annex 6), questionnaire on the use of the Kyoto Protocol mechanisms (2008)

Figure 2b. Comparison of 2010 projections reported in 2006, 2007 and 2008 - Global Economy Scenario



Source: For 2006 data is 4th NC, update of GHG projections May 2006; for 2007 data is MHSPE 2007 (Annex 6), questionnaire on the use of the Kyoto Protocol mechanisms (2007); for 2008 data is MHSPE 2007 (Annex 6), questionnaire on the use of the Kyoto Protocol mechanisms (2008)

3. CLIMATE CHANGE MITIGATION POLICIES AND MEASURES

The comparison of existing measures between the top-down and bottom-up approaches shows that the sectoral PAMs each (total: 15.9 Mt CO₂-eq.) nearly correspond to the sectoral projections (total: 21.6 Mt), apart from the energy supply sector, which is projected to reduce 7.8 Mt (36%) more. Moreover, in the NAP 2 projections for the energy sector, several sectors are aggregated which are not included under the energy sector in the two settings. These discrepancies may result in higher emissions in the projections. Further namable reductions are projected to take place as well as supported by PAMs in industrial processes (7.6 Mt = 35%) and waste (4 Mt = 19%) sectors

The comparison of planned measures is not possible, since only one PAM is planned, but not quantified.

Table 5. Summary of the effect of policies and measures included in the 2010 projections (Mt CO₂-eq.)

	Top down calculation		Bottom Up calculation	
	Existing Measures	Planned Measures	Existing Measures	Planned Measures
Energy (total, excluding transport)	8.1	0.0	1.1	NO
Energy supply	7.3	0.0	0.5	NO
Energy – industry, construction	0.3	0.0	NE	NO
Energy – other (commercial, residential, agriculture)	0.5	0.0	0.6	NO
Transport (energy)	1.6	0.0	1.3	NE
Industrial processes	7.5	0.0	7.7	NO
Waste	4.0	0.0	4.0	NO
Agriculture	0.9	0.0	0.9	NO
Cross-sectoral	3.4	NE	1.5	NO
Total (excluding LULUCF)	25.5	0.0	16.5	NE

Note: The effects of measures detailed above are calculated firstly by determining the difference between total projections in each scenario and secondly by summing the reported effect of individual measures.

Source: Based on the Netherlands' Submission 03/2007

Table 6. Detailed information on Existing Policies and measures

Sector	Name	Type	GHG	Status	Absolute Reduction [kt CO ₂ -eq. p.a.]			Costs [EUR/t]
					2005	2010	2020	
Agriculture	Milk quota		CH ₄		100	300		
			N ₂ O					
Agriculture	Manure application & nitrogen norms	Regulatory	CH ₄	implemented	400	600		
			N ₂ O					
Cross-cutting	Energy tax	Fiscal	CO ₂	implemented				
Cross-cutting	CO2 emissions trading	Other	CO ₂	implemented	300	1 100		
Energy consumption	EPA	Information	CO ₂	implemented	details	details		
Energy consumption	CO2 Tender Scheme for Buildings	Economic	CO ₂	implemented	details	details		
Energy consumption	Energy efficiency Appliances	Economic	CO ₂	implemented	300	600		
		Information						
Energy consumption	Energy Performance Norm	Regulatory	CO ₂	implemented	details	details		
Energy consumption	Energy Performance Coefficient	Regulatory	CO ₂	implemented	details	details		
Energy consumption	Energy Tax	Fiscal	CO ₂	implemented	details	details		
Agriculture	Glami Covenant: Improvement of energy use in greenhouses	Voluntary/ negotiated agreement	CO ₂	implemented	Cluster value	Cluster value		
Energy consumption								
Agriculture	Greenhouse Horticulture Orders in Council	Regulatory	CO ₂	implemented	Cluster value	Cluster value		
Energy consumption								

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Agriculture	Inclusion of horticulture into EU ETS	Economic	CO ₂	planned	Cluster value	Cluster value
Energy consumption						
Energy consumption	Environmental Permit	Regulatory	CO ₂	implemented	details	details
Energy consumption	Vamil	Economic	CO ₂	expired	details	details
Energy consumption	LTAs	Voluntary/ negotiated agreement	CO ₂	implemented	details	details
Energy consumption	Compass programme for information and support	Information	CO ₂	implemented		
Energy consumption	EU Directive on Energy Performance of Buildings (EPBD)	Regulatory	CO ₂			
Energy consumption	Coalition agreement of the new government		CO ₂	planned		
Energy supply	Coal Covenant	Voluntary/ negotiated agreement	CO ₂	implemented	details	details
Energy supply	BLOW Covenant (Intergovernmental Wind Energy Agreement)	Voluntary/ negotiated agreement	CO ₂	implemented	details	details
Energy consumption	EIA (Energy Investment Tax Deduction)	Economic	CO ₂	implemented	details	details
Energy supply						
Energy supply	MEP (Environmentally Friendly Electricity Production Program)	Economic	CO ₂	implemented	details	details
Energy supply	Low methane oil and gas production and distribution	Voluntary/ negotiated agreement	CH ₄	implemented	300	300
Energy supply	Lowering MEP subsidy	Economic	CO ₂	planned		
Energy supply	Manure fermentation	Economic	CH ₄ CO ₂	planned		170 170

The Netherlands

Energy supply	Benchmark Covenant	Voluntary/ negotiated agreement	CO ₂	implemented	details	details
Industrial Processes	Low HFC HCFC production	Regulatory	HFC	implemented	1 900	1 900
Industrial Processes	Low PFC aluminium production	Economic Regulatory Voluntary/ negotiated agreement	PFC	implemented	1 100	1 100
Industrial Processes	Low N2O nitric acid production	Economic	N ₂ O	implemented		3 600
Industrial Processes	Reduction Program Non-CO2 Gases	Regulatory	HFC	implemented	500	1 000
Industrial Processes	PFC permit	Voluntary/ negotiated agreement	PFC	planned		100 100
Industrial Processes	F-gas directive	Regulatory	HFC PFC SF ₆	planned		
Forestry	National Ecological Network	Other	CO ₂	implemented		
Forestry	Day recreation facilities in urban areas	Other	CO ₂	implemented		
Transport	Energy labelling cars	Information	CO ₂	implemented	Cluster value	Cluster value
Transport	EU strategy for reduced CO2 emissions from new cars (ACEA agreement)	Voluntary/ negotiated agreement	CO ₂		Cluster value	Cluster value
Transport	CO2 Reduction Program/freight transport	Economic	CO ₂	implemented	Cluster value	Cluster value
Transport	Quieter, Cleaner, More Fuel Efficient Program	Information Economic	CO ₂	implemented	Cluster value	Cluster value

The Netherlands

Transport	KZRZ (Koop Zuinig! Rij Zuinig! = Buy fuel efficient! Drive fuel efficient!), followed by "The New Driving Force"	Education	CO ₂	implemented	Cluster value	Cluster value
Transport	Stepped up enforcement of speed limits	Information Regulatory	CO ₂	implemented	Cluster value	Cluster value
Transport	REV (Rational Energy Use in Traffic and Transport), followed by EBIT (Energy Savings in Transport)	Economic	CO ₂	implemented	Cluster value	Cluster value
Transport	Transactie Modal Shift (TMS)	Education Information Economic	CO ₂	implemented	Cluster value	Cluster value
Transport	Chain Mobility	Education Information Economic	CO ₂	implemented	Cluster value	Cluster value
Transport	Transport prevention	Education Information Economic	CO ₂	implemented	Cluster value	Cluster value
Transport	Kilometer Charge	Economic	CO ₂	planned	Cluster value	Cluster value
Transport	Excise duties on motor fuels	Fiscal	CO ₂	implemented		
Transport	CO2 Reduction Program/Passenger Transport	Economic	CO ₂	implemented		
Transport	EU Biofuels Directive	Economic	CO ₂	implemented		

The Netherlands

Transport	CO2 differentiation in vehicle purchase tax	Fiscal	CO ₂	implemented		
Transport	Taxation of natural gas as an automotive fuel	Fiscal	CO ₂	implemented		
Transport	Mandatory use of biofuels	Regulatory	CO ₂	implemented		
Waste	Decree on Soil Protection from Landfills	Regulatory	CH ₄	implemented	Cluster value	Cluster value
Waste	Decree on Waste landfills and waste landfills bans	Regulatory	CH ₄	implemented	Cluster value	Cluster value
Waste	Landfilling Tax	Fiscal	CH ₄	implemented	Cluster value	Cluster value
Waste	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	3 000	4 000
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	Economic Education Information Regulatory	CO ₂	implemented planned	500	900

The Netherlands

	NL-TRA-11 NL-TRA-12 NL-TRA-13					
Agriculture	Combined emission reduction of	Economic	CO ₂	implemented	200	400
Energy consumption	NL-ENC-100	Regulatory		planned		
	NL-ENC-101	Voluntary/ negotiated agreement				
	NL-ENC-102					

Source: Öko-Institut, (accessed 30/06/2008), ECCP Policies and Measures database, <http://www.oeko.de/service/pam/index.php>

Table 7. Detailed information on Planned Policies and measures

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

Source: Öko-Institut, (accessed 30/06/2008), ECCP Policies and Measures database, <http://www.oeko.de/service/pam/index.php>

Table 8. Status of national policies and measures (PAM) in relation to European common and coordinated policies and measures (CCPM)

Status	CCPM	Sector
National policies and measures already in force before CCPM was adopted	Kyoto Protocol project mechanisms 2004/101/EC	Cross-cutting
	Promotion of cogeneration 2004/8/EC	Energy supply
	Taxation of energy products 2003/96/EC	Energy supply
	Eco-management & audit scheme (EMAS) EC 761/2001	Energy consumption
	Efficiency of hot water boilers 92/42/EEC	Energy consumption
	Transport modal shift to rail 2001/12/EC etc.	Transport
	Landfill directive 1999/31/EC	Waste
	Packaging and packaging waste (94/62/EC, 2004/12/EC, 2005/20/EC)	Waste
Existing national policies and measures reinforced by CCPM	Promotion of electricity from RE sources 2001/77/EC	Energy supply
	Internal electricity market 2003/54/EC	Energy supply
	Energy performance of buildings 2002/91/EC	Energy consumption
	Integrated European railway area (COM(2002)18 final)	Transport
	HFCs in mobile air conditioning 2006/40/EC	Transport
	F-gas regulation (842/2006)	Industrial Process
	Nitrates directive 91/676/EEC	Agriculture
New national policies and measures implemented after CCPM was adopted	Emissions trading 2003/87/EC	Cross-cutting
	Integrated pollution prevention and control 96/61/EC	Cross-cutting
	Internal market in natural gas 98/30/EC	Energy supply
	Directives on energy labelling of appliances	Energy consumption
	Ecodesign requirements for energy-using products 2005/32/EC	Energy consumption
	End-use efficiency and energy services 2006/32/EC	Energy consumption
	Energy labelling for office equipment 2422/2001	Energy consumption
	Efficiency fluorescent lighting 2000/55/EC	Energy consumption
	Promotion of biofuels for transport 2003/30/EC	Transport
	Consumer information on cars 1999/94/EC	Transport
	Agreement with car manufacturers ACEA etc.	Transport
	Motor challenge, voluntary EC programme	Energy consumption
	Support under CAP (1782/2003)	Agriculture
	Support under CAP - amendment (1783/2003)	Agriculture
	Support scheme for energy crops under CAP (795/2004)	Agriculture
	Support for rural development from EAGGF (1257/1999)	Agriculture
	Status of national policy or measure not reported	Marco Polo programme on freight transport
Rural development support and CAP(2603/1999, 1698/2005 and 1290/2005)		Agriculture
Pre-accession measures for agriculture and rural development (1268/1999)		Agriculture
Directive on waste 2006/12/EC		Waste

Source: MS responses to the CCPMs questionnaire, 2005. Personal communications.

The Netherlands have reported on the status of 90% of PAMs. Half of these have been implemented after the adoption of CCPM. The other half either existed before or was re-enforced by CCPM.

4. METADATA

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)
- 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)
- Questionnaire on the use of the Kyoto Protocol mechanisms and of sinks in meeting the Kyoto targets (2008)
- Netherlands' National Inventory Submission to the UNFCCC, 26 May 2008

Base-year emissions from the UNFCCC website,
http://unfccc.int/ghg_data/kp_data_unfccc/base_year_data/items/4354.php

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

Kyoto base-year emissions

Kyoto base-year emissions are presented throughout, except Table 1 which presents projections reference year emissions (see below). Kyoto base year emissions of greenhouse gases were calculated using 1990 emissions for carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) and 1995 emissions for fluorinated gases (SF₆, HFCs and PFCs). These base-year emissions include emissions from LULUCF under Art. 3.7 of the Kyoto Protocol.

Kyoto base-year emissions have now been reviewed and set for all EEA countries, except Croatia.

Projections reference year emissions

Projections reference year emissions are presented in Table 1.

Projections reference year emissions are defined as projections-consistent emissions data for a given historic year, as chosen by the Member State. Inventory recalculations from year to year may mean that latest inventory

data cannot be compared with projections based on older inventory data. Where such an inconsistency has arisen, MS projections have been corrected by applying the following formula, in Table 2:

Corrected projection = reported projections * latest inventory total GHG emissions / Table 1 reported total GHG emissions for the same reference year

Quality of Reporting

Member State reporting in the sources detailed above was assessed semi-qualitatively. Scoring was attributed according to the level of detail and clarity: from 0 (representing not reported) to +++ (representing very detailed and/or clear reporting). Guidance used for this assessment included the reporting requirements laid down in:

- EU legislation: Monitoring Mechanism (280/2004/EC) and Implementing Provisions (2005/166/EC)
- UNFCCC reporting guidelines for national communications available in English, French, Spanish ("Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part II: UNFCCC reporting guidelines on national communications - FCCC/CP/1999/7")

The following tables detail reporting considered to be best practice for the purposes of this assessment.

Information provided	Example of good practice
Policy names	Clear names and description provided with unique identifier.
Objectives of policies	Good description of objectives
Types of policies	Type of policy instrument specified e.g. regulatory, fiscal
Which greenhouse gases?	Specifies which gases each PAM affects
Status of Implementation	Clear for each PAM: planned, adopted, implemented, expired
Implementation body	Clear which authorities are responsible for implementation
Quantitative assessment of emission reduction effect and cost of policies	Almost all PAMs are actually quantified. Total effect of all PAMs specified. WOM projection provided.
Interaction with other national and EU level policies	Detailed discussion and analysis of policy interactions.
Measures implementing community legislation	Report details which national policies are implementing individual pieces of EU legislation.
Arrangements for flexible mechanisms	Details arrangements for use of flexible mechanisms.
Balance between domestic action and flexible mechanisms	Regarding reductions required to meet Kyoto target, details proportion to result from domestic action and flexible mechanisms.

Category of Information	Example of good practice
Projection scenarios	"With existing measures" and "with additional measures" projections required, "without measures projection" optional.
Policies included in each projection	Clear presentation of the policies included in each projections scenario.
Expressed relative to historic reference year data	Projections are presented alongside consistent historic emissions.
Starting year	Starting year and emissions used as basis for for projections is detailed.
Split of projections	Projection split by all 6 gases (or F-gases together), all sectors and years
Presentation of results	Clear, both tables and graphs provided and/or used excel reporting template.
Description of methodologies	Description of approach, model and assumptions
Sensitivity analysis	Was an analysis carried out to determine the sensitivity of projections to variance in the input parameters? Are high medium and low scenarios presented?
Discussion of uncertainty	Is an uncertainty range for the projections provided?
Details of parameters and assumptions	Are parameters as required under Monitoring Mechanism 280/2004/EC reported?
Indicators for projections	Are indicators for projections as required under Monitoring Mechanism 280/2004/EC reported?

Table 9. Information provided on policies and Kyoto flexible mechanisms

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
Types of policies		
Which greenhouse gases?	+++	All
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	+++	
Quantitative assessment of emission reduction effect and cost of policies	+++	Assessment provided for PaM cluster only, not for individual PaM
Interaction with other national and EU level policies	++	Relationship to CCPMs explained
Measures implementing community legislation		
Arrangements for flexible mechanisms	++	Reported
Balance between domestic action and flexible mechanisms	++	

Table 10. Information provided on projections

Category of Information	Level of information provided	Comments
Projection scenarios	+++	Projections without, with and with additional measures are provided for two different socio-economic scenarios, but discrepancies in WAM.
Policies included in each projection	++	
Expressed relative to historic reference year data	+++	
Starting year	++	Starting year for the projections is 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 methodologies	+++	Information on the models used and further references provided
Sensitivity analysis	+++	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
Indicators for projections	++	Most indicators reported

Table 11. Parameters for Projections

1. Mandatory Parameters on Projections	Strong Europe Scenario				Global Economy Scenario				Units
	2005	2010	2015	2020	2005	2010	2015	2020	
Assumptions for general economic parameters									
— GDP (value at given years or annual growth rate and base year)	1.8	1.8	1.8	1.8	2.9	2.9	2.9	2.9	%
— Population (value at given years or annual growth rate and base year)		16.8		17.6		16.8		17.9	Mio
— International coal prices at given years in euro per tonne or GJ (Gigajoule)		1.7		1.7		1.7		1.7	€/GJ
— International oil prices at given years in euro per barrel or GJ		4.41		4.72		4.41		4.72	€/GJ
— International gas prices at given years in euro per m ³ or GJ		2.89		3.39		2.89		3.39	€/GJ
Assumptions for the energy sector									
— Total gross inland consumption (PJ) (split by oil, gas, coal, renewables, nuclear, other)		3428		3579		3542		4007	PJ
Oil		1246		1384		1288		1548	PJ
Coal		369		371		355		546	PJ
Gas		1520		1505		1593		1529	PJ
Renewable		101		149		109		219	PJ
Nuclear		43		43		43		43	PJ
Other (including heat and biomass)		149		127		154		123	PJ
— Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)		111876		134837		118030		156152	MWh
Oil		3333		3167		3361		3028	MWh
Coal		24199		23850		22796		45200	MWh
Gas		67325		80163		72559		72027	MWh
Renewable		9935		20574		12203		28786	MWh

The Netherlands

Nuclear	4028	4028	4028	4028	MWh
Other (including heat and biomass)	3056	3056	3083	3083	MWh
— Energy demand by sector split by fuel (delivered)					
- energy industries	655	690	665	828	PJ
Oil	150	183	151	212	PJ
Coal	263	254	249	428	PJ
Gas	342	363	371	292	PJ
Nuclear	-251	-312	-263	-369	PJ
Other (including heat and biomass)	152	202	157	266	PJ
- industries	1293	1410	1317	1465	PJ
Oil	556	632	564	659	PJ
Coal	106	118	106	118	PJ
Gas	535	567	551	582	PJ
Nuclear	61	62	62	71	PJ
Other (including heat and biomass)	35	32	35	35	PJ
- tertiary sector	533	507	566	599	PJ
Oil	55	56	60	67	PJ
Coal	0	0	0	0	PJ
Gas	326	282	346	344	PJ
Nuclear	128	144	135	163	PJ
Other (including heat and biomass)	23	25	24	25	PJ
- households	432	428	450	470	PJ
Oil	4	4	4		PJ
Coal	0	0	0	0	PJ
Gas	316	293	325	312	PJ
Nuclear	98	114	106	136	PJ
Other (including heat and biomass)	15	16	15	18	PJ
- transport	515	546	544	648	PJ
Oil	481	510	509	607	PJ
Coal	0	0	0	0	PJ
Gas	0	0	0	0	PJ
Nuclear	6	7	6	7	PJ
Other (including heat and biomass)	27	29	29	34	PJ
— Assumptions on weather parameters, especially heating or cooling degree days	2846	2773	2700	2628	heating degree days
	98	112	127	144	cooling degree days
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	2.6	5.6	4.6	4.6	1.5 2.7 2.7 2.7 %
<i>For Member States using other models:</i>					
— The growth of passenger person kilometres	99966	110832	118492	126152	99966 110832 118492 126152 car km
— The growth of freight tonne kilometres	8118	9412	11681	13950	8118 9412 11681 13950 truck km
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					

The Netherlands

— The number of dwellings and number of employees in the tertiary sector										
Assumptions in the agriculture sector										
<i>For Member States using macroeconomic models:</i>										
— The share of the agriculture sector in GDP and relative growth	0.2	1.3	0.2	3	0	1.6	1.2	1.3		% share in GDP
	0	1	-0.2	-0.1	-0.2	1.2	0.9	1		% relative growth
<i>For Member States using other models:</i>										
— Livestock numbers by animal type (for enteric fermentation cows, sheep, for manure, pigs, poultry)										
— The area of crops by crop type										
— Emissions factors by type of livestock for enteric fermentation and manure management (t)										t CH ₄ /average animal
		0.053		0.054		0.053		0.055		beef cattle
		0.119		0.12		0.119		0.123		dairy cows
		0.008		0.008		0.008		0.008		sheep
- manure management, fertilizer use		0.04		0.04		0.04		0.04		t N ₂ O per t N
Assumptions in the waste sector										
— Waste generation per head of population or tonnes of municipal solid waste		n.a.		n.a.		n.a.		n.a.		t in mln
— The organic fractions of municipal solid waste		n.a.		n.a.		n.a.		n.a.		organic fraction %
— Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)		n.a.		n.a.		n.a.		n.a.		disposed in landfills %
		n.a.		n.a.		n.a.		n.a.		incinerated %
		n.a.		n.a.		n.a.		n.a.		composted %
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 height of 5 meters at maturity in situ.			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 height of 5 meters at maturity in situ.					
Areas of:										
— managed forests		347700		353400		347700		353400		hectare
— unmanaged forests		26500		27000		26500		27000		hectare

2. Recommended parameters on projections	2005	2010	2015	2020	Units
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					

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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					
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					

The Netherlands

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					