

# Cyprus

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## 1. SOURCES OF INFORMATION

Cyprus's national report submitted to the European Commission under the Monitoring Mechanism, Decision 280/2004/EC. Draft report dated March 2007. Updated projections are contained in a revised version of this report dated June 2007. Information from this report is not considered for the Country Profile due to the late submission.

Cyprus National Allocation Plan for 2008-2012.

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

### **Base-year emissions**

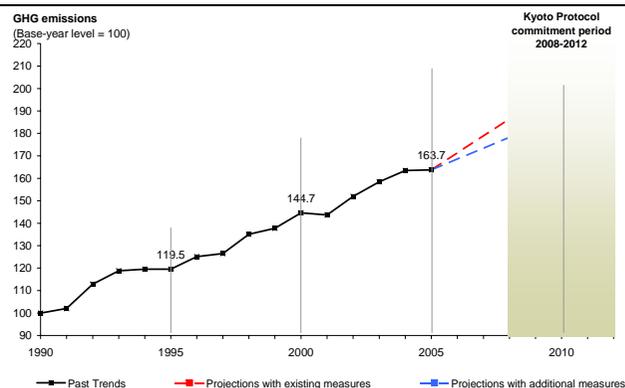
Base-year emissions of greenhouse gases are calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs).

Cyprus is a non-annex I party signatory to the Kyoto Protocol and hence does not have an emission reduction target for 2010.

## 2. SUMMARY

### CYPRUS

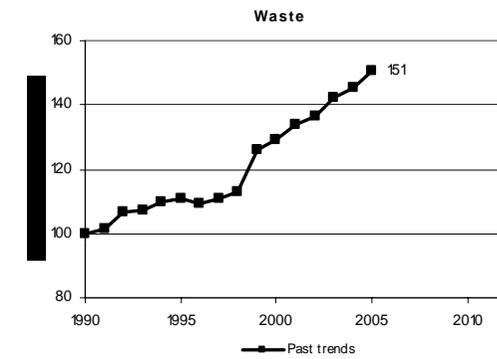
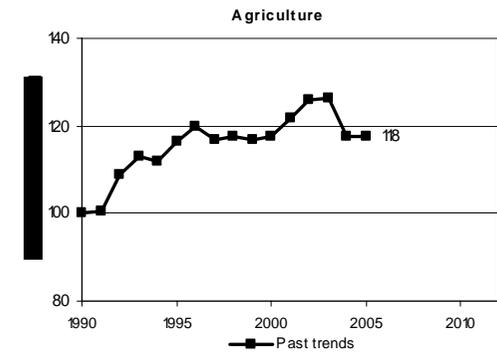
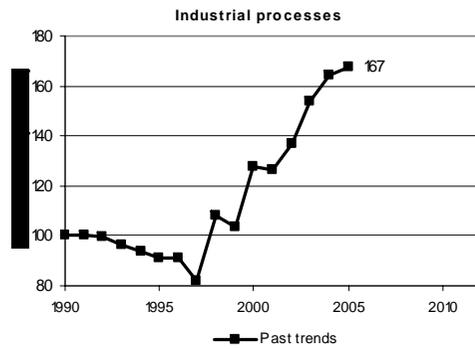
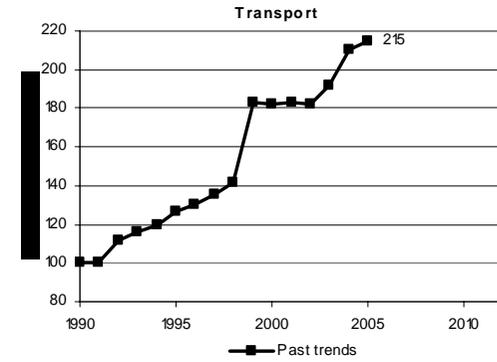
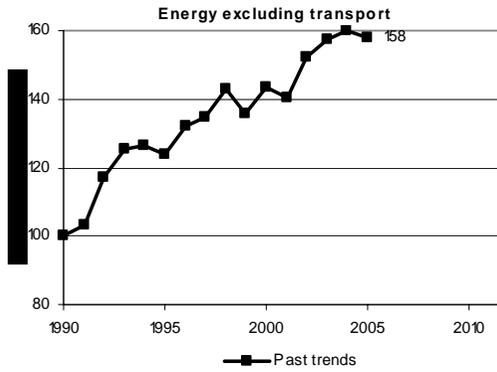
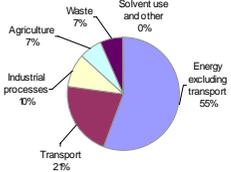
Emissions 1990	6.0 Mt
Emissions 2005	9.9 Mt
Emissions 1990 (for projections)	6.0 Mt
Projections with existing measures	12.2 Mt.
Projections with additional measures	11.3 Mt
No Kyoto target	n.a.
Change 1990 to 2005	+ 63.7 %
Change 2004–05	+ 0.2 %
Change base year to 2010 with existing measures	+101.6 %
Change base year to 2010 additional measures	+87.9 %
Distance to linear target path 2005	n.a.
Use of Kyoto mechanisms	n.a.
Sinks (Articles 3.3 and 3.4)	n.a.
Emissions in 1990 (Article 3.7)	n.a.



**Past emissions:** Cyprus' GHG emissions were 63.7 % above 1990 levels and 0.2 % above those of 2004 in 2005. The main factor for increasing emissions with regard to 1990 was increased fuel consumption in energy industries, transport and process related emissions from mineral products. Between 2004 and 2005 emissions stabilised in all sectors, with a small decrease in emissions from energy industries.

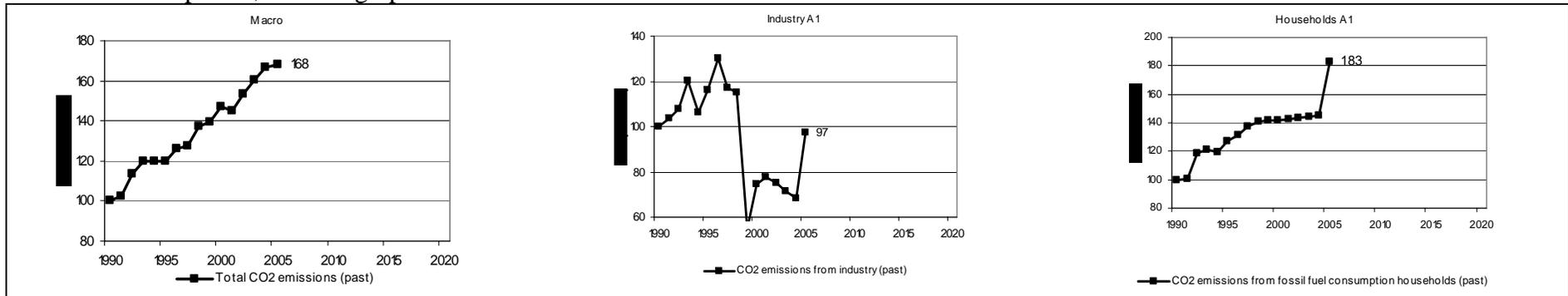
**Emission projections:** Cyprus does not have a Kyoto target. According to the 2010 projection for Cyprus emissions are expected to further increase. If only existing measures are considered emissions are still projected to be double of 1990 emissions, with additional measures the emission increase is projected to be limited to about 90 % above 1990 levels.

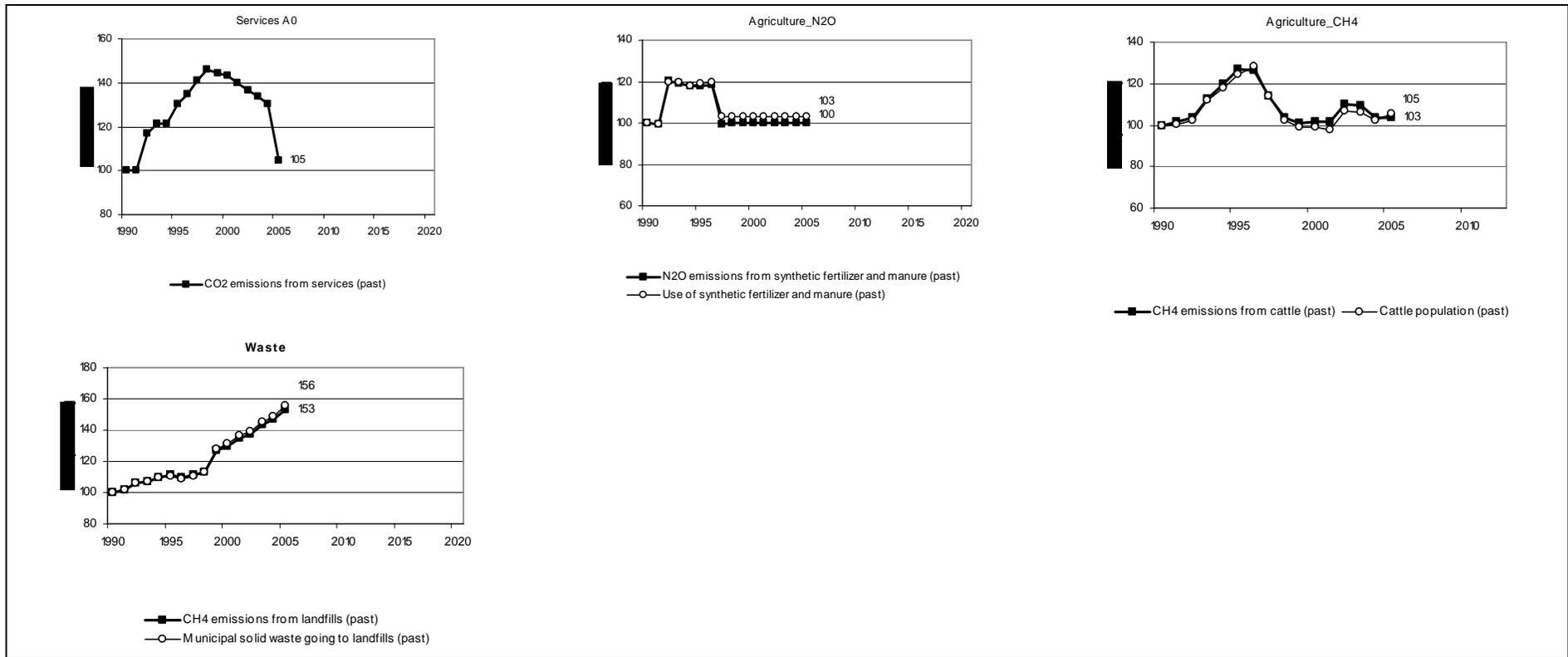
Emissions by sectors (2005)



### 3. REPORTED INDICATORS

No indicators reported; data for graphs below are taken from CRF





#### 4. OVERVIEW OF CCPM IMPLEMENTATION IN CYPRUS

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

Sector	CCPM	Status
Cross-cutting	Emissions trading 2003/87/EC	B
Cross-cutting	Kyoto Protocol project mechanisms 2004/101/EC	B
Cross-cutting	Integrated pollution prevention and control 96/61/EC	B
Energy supply	Promotion of cogeneration 2004/8/EC	
Energy supply	Taxation of energy products 2003/96/EC	
Energy supply	Internal electricity market 2003/54/EC	B
Energy supply	Promotion of electricity from RE sources 2001/77/EC	B
Energy supply	Internal market in natural gas 98/30/EC	
Energy supply	Emissions from large combustion plants 88/609/EEC	B
Energy consumption	Directives on energy labelling of appliances	B
Energy consumption	End-use efficiency and energy services 2006/32/EC	
Energy consumption	Ecodesign requirements for energy-using products 2005/32/EC	N
Energy consumption	Energy performance of buildings 2002/91/EC	B
Energy consumption	Eco-management & audit scheme (EMAS) EC 761/2001	B
Energy consumption	Energy-efficiency labelling for office equipment Regulation No. 2422/2001	
Energy consumption	Efficiency fluorescent lighting 2000/55/EC	
Energy consumption	Efficiency of hot water boilers 92/42/EEC	
Transport	Environmental performance freight transport (Marco Polo Programme)	
Transport	Motor challenge, voluntary EC programme	
Transport	Promotion of biofuels for transport 2003/30/EC	
Transport	Integrated European railway area (2 <sup>nd</sup> + 3rd Railway package) (COM(2002)18 final)	
Transport	Transport modal shift to rail 2001/12/EC etc.	
Transport	Consumer information on cars 1999/94/EC	
Transport	Agreement with car manufacturers ACEA etc.	
Industrial Process	F-gas regulation (Regulation No 842/2006)	B
Industrial Process	HFC emissions from air conditioning in motor vehicles 2006/40/EC	B
Agriculture	Support under CAP (1782/2003)	B
Agriculture	Support under CAP - amendment (1783/2003)	
Agriculture	Nitrates 91/676/EEC	B
Agriculture	Transition to rural development support No 2603/1999	
Agriculture	Agricultural production methods compatible with environment Regulation (EEC) No 2078/92	
Agriculture	Aid scheme for forestry measures in agriculture (Regulation (EEC) No 2080/92)	
Agriculture	Emission by engines to power agricultural or forestry 2000/25/EC	
Agriculture	Pre-accession measures for agriculture and rural development Regulation (EC) No 1268/1999	
Waste	Directive on waste 2006/12/EC	Not applicable
Waste	Landfill directive 1999/31/EC	B
Waste	Packaging and packaging waste (Directive 94/62/EC, 2004/12/EC, 2005/20/EC)	B

*Legend****N** 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*

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

## 5. COMPLETENESS OF REPORTING

**Table 2. Information provided on policies and measures**

Information provided	Level provided	Comments
Policy names	++	Individual policies and measures not well differentiated at a detailed level
Objectives of policies	+	
Which greenhouse gases?	+	Generally not specified which greenhouse gases are affected
Status of Implementation	+	Most policies and measures are either planned or implemented, but the distinction is not always clearly made
Implementation body specified	o	Implementation body not specified
Quantitative assessment of implementation	+	Effects of individual policies and measures implemented are not quantified
Interaction with other P&Ms discussed	o	Interactions not discussed

**Table 3. Information provided on projections**

Category of Information	Level of Information Provided	Comments
Scenarios considered	++	4 scenarios are modelled: Business as usual, 2 “with measures” scenarios and a “with additional measures” scenario.
Expressed relative to base year	+	Relative to 1990. Base year not reported.
Starting year	o	Starting year for the projections is not reported.
Split of projections	+	Only BAU scenario projections are split by sector and by gas.
Presentation of results	+	Unclear. Inconsistent data.
Description of model (level of detail, approach and assumptions)	++	A brief description of the model used is given, together with assumptions.
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	o	No mention of sensitivity analysis

Discussion of uncertainty	o	No discussion of uncertainty
Details of parameters and assumptions	++	BAU scenario

## 6. ASSESSMENT OF POLICIES AND MEASURES

**Table 4. Summary of the effect of policies and measures included in the 2010 projections (Mt CO<sub>2</sub>-eq.)**

	With measures	With additional measures
<b>Energy (total, excluding transport)</b>	<b>1.38</b>	NE
Energy supply (generation from renewables)	0.31	NE
Energy efficiency	0.25	NE
Savings from fuel switching to natural gas	NE	NE
other measures	0.82	NE
<b>Transport (energy)</b>	NE	NE
<b>Industrial processes</b>	NE	NE
<b>Waste</b>	NE	NE
<b>Agriculture</b>	NE	NE
Total (excluding sinks)	1.38	NE

Table 4 contains information on the emissions reductions of those measures for which it was quantified. This information was not provided for all measures, hence the above is not a comprehensive account of emission reductions from Policies and Measures by 2010.

Table 5. Detailed information on policies and measures

## Policies and measures in the “with measures” projection

Sector	Projection		Name	Type	GHG	Status	Absolute Reduction			Costs
	Scenario									[kt CO <sub>2</sub> eq. p.a.]
							2005	2010	2020	
Cross-cutting Energy consumption Energy supply	WM		<a href="#">Campaigns for promoting renewable energy sources (RES) and rational use of energy (RUE)</a>	Economic Information	CO <sub>2</sub>	planned				
Cross-cutting Energy consumption Energy supply	WM		<a href="#">Enhanced application procedures for investment in RES and RUE</a>	Economic	CO <sub>2</sub>	planned				
Cross-cutting Energy consumption Energy supply	WM		<a href="#">Campaigns for promoting renewable energy sources (RES) and rational use of energy (RUE)</a>	Economic Information	CO <sub>2</sub>	planned				
Cross-cutting Energy consumption Energy supply	WM		<a href="#">Enhanced application procedures for investment in RES and RUE</a>	Economic	CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Construction of energy centre</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Combined cycle gas turbine</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Construction of generation plants using natural gas</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Use of natural gas in power plants</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Use of natural gas in Vassilio power station</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Decommissioning of Moni and Dekelia power units</a>		CO <sub>2</sub>	planned				
Energy supply	WM		<a href="#">Support Scheme for the promotion of RES and Energy Conservation</a>	Economic	CO <sub>2</sub>	implemented				
Energy supply	WM		<a href="#">New support scheme for electricity generation from biomass</a>	Economic	CO <sub>2</sub>					
Energy supply			<a href="#">Promotion of Co-generation</a>		CO <sub>2</sub>					

Projection		Absolute Reduction		Costs	
Industrial Processes					
Energy supply		<a href="#">Promotion of natural gas for thermal uses</a>	CO <sub>2</sub>		
Industrial Processes					
Energy supply		<a href="#">Promotion of solar energy</a>	CO <sub>2</sub>		
Industrial Processes					
Energy supply		<a href="#">Various energy conservation measures</a>	CO <sub>2</sub>		
Industrial Processes					
Cross-cutting	WM	<a href="#">Campaigns for promoting renewable energy sources (RES) and rational use of energy (RUE)</a>	Economic	CO <sub>2</sub>	planned
Energy consumption			Information		
Energy supply					
Cross-cutting	WM	<a href="#">Enhanced application procedures for investment in RES and RUE</a>	Economic	CO <sub>2</sub>	planned
Energy consumption					
Energy supply					
Energy consumption	WM	<a href="#">Grant scheme</a>	Economic	CO <sub>2</sub>	implemented
Energy consumption	WM	<a href="#">Reduction of losses from the transfer and distribution system</a>		CH <sub>4</sub>	
				CO <sub>2</sub>	
Energy consumption	WM	<a href="#">Improvement of the thermal behaviour of buildings in the residential sector</a>	Regulatory	CO <sub>2</sub>	planned
Transport		<a href="#">Excise duty for small and middle class vehicles</a>	Fiscal	CO <sub>2</sub>	
Transport		<a href="#">Discount for the purpose of excise duty for cars with low CO<sub>2</sub> emissions</a>	Fiscal	CO <sub>2</sub>	
Transport		<a href="#">Abolishment of excise duty and registration fees on electric cars</a>	Fiscal	CO <sub>2</sub>	
Transport		<a href="#">Incentive for scrapping of old vehicles</a>	Economic	CO <sub>2</sub>	
Transport		<a href="#">Abolishment of discount that benefits older cars</a>	Economic	CO <sub>2</sub>	

Projection		Absolute Reduction		Costs
Transport	<a href="#">Introduction of provision for a small fee, paid for each saloon and light commercial vehicle before being cleared by the Customs</a>	Economic	CO <sub>2</sub>	
Transport	<a href="#">Program promoting energy saving</a>	Economic	CO <sub>2</sub>	implemented
Transport	<a href="#">Maintenance of cars and trucks</a>		CO <sub>2</sub>	
Transport	<a href="#">Promotion of small cars in urban transport</a>		CO <sub>2</sub>	
Transport	<a href="#">Fuel switching from diesel to LPG in taxis</a>		CO <sub>2</sub>	
Transport	<a href="#">Promotion of public transport</a>		CO <sub>2</sub>	
Transport	<a href="#">Development of non-urban public transport</a>		CO <sub>2</sub>	
Transport	<a href="#">Improvements in road signalling</a>	Planning	CO <sub>2</sub>	
Transport	<a href="#">Use of alternative fuels for transport</a>		CO <sub>2</sub>	
Energy supply Industrial Processes	<a href="#">Promotion of Co-generation</a>		CO <sub>2</sub>	
Energy supply Industrial Processes	<a href="#">Promotion of natural gas for thermal uses</a>		CO <sub>2</sub>	
Energy supply Industrial Processes	<a href="#">Promotion of solar energy</a>		CO <sub>2</sub>	
Energy supply Industrial Processes	<a href="#">Various energy conservation measures</a>		CO <sub>2</sub>	
Industrial Processes Waste	<a href="#">Recycling</a>		CO <sub>2</sub>	
Industrial Processes Waste	<a href="#">Recycling</a>		CO <sub>2</sub>	
Waste	<a href="#">Methane recovery</a>		N <sub>2</sub> O	

### Policies and measures in the “with additional measures” projection

<a href="#">Sector</a>	Projection		Type	GHG	Status	Absolute Reduction			<a href="#">Costs</a>
	Scenario	Name				[kt CO <sub>2</sub> eq. p.a.]	2005	<a href="#">2010</a>	2020
Energy consumption	WAM	<a href="#">Improvement of the thermal behaviour of buildings in the tertiary sector</a>	Regulatory	CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Maintenance of central heating boilers</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Replacement of central heating boilers</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Use of high efficiency air conditioning systems</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Use of high efficiency electric appliances</a>		CO <sub>2</sub>					
Energy consumption	WAM	<a href="#">Use of energy-efficient lighting bulbs</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Automations in lighting</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Solar collectors for water heating</a>		CO <sub>2</sub>	planned				
Energy consumption	WAM	<a href="#">Roof-top photovoltaic systems connected to the electricity grid</a>		CO <sub>2</sub>	planned				

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

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



## 7. EVALUATION OF PROJECTIONS

Tables 6-10 show 1990 data as base year data not reported.

**Table 6. Summary of projections by gas in 2010 (Mt CO<sub>2</sub>-eq.)**

	1990*	With measures	With additional measures
Carbon dioxide (excl. LULUCF)	4.6	NE	NE
Methane	0.7	NE	NE
Nitrous oxide	0.7	NE	NE
HFCs	NE	NE	NE
PFCs	NE	NE	NE
SF <sub>6</sub>	NE	NE	NE
<b>Total (excl. LULUCF)</b>	6.0	12.2	11.3
% change relative to base year (excl. LULUCF)		101.6%	87.9%

\* Base-year emissions of greenhouse gases should be calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs). Table uses 1990 data as base year is data not reported.

**Table 7. Summary of projections (6 gas basket) by sector in 2010 (Mt CO<sub>2</sub>-eq.)**

	1990*	with measures	% change relative to base year	with additional measures	% change relative to base year
<b>Energy (including transport)</b>	4.5	NE		NE	
<b>Energy (total, excluding transport)</b>	NE	NE		NE	
Energy supply	NE	NE		NE	
Energy – industry, construction	NE	NE		NE	
Energy – other (commercial, residential, agriculture)	NE	NE		NE	
<b>Transport (energy)</b>	NE	NE		NE	
<b>Industry**</b>	0.6	NE		NE	
<b>Waste</b>	0.4	NE		NE	
<b>Agriculture</b>	0.6	NE		NE	
<b>Total (excl. LULUCF)</b>	6.0	12.2	102%	11.3	88%

\* Base-year emissions of greenhouse gases should be calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs). Table uses 1990 data as base year is data not reported.

\*\* Table 7 reflects the sector breakdown as provided by Cyprus. "Industrial Process" and "Transport" emissions not reported.



**Table 8. Summary of projections by sector and by gas in 2010 (Mt CO<sub>2</sub>-eq.) compared to base-year emissions**

	Carbon dioxide			Methane			Nitrous oxide			F-gases (SF <sub>6</sub> , HFCs and PFCs)		
	1990	With measures	With additional measures	1990	With measures	With additional measures	1990	With measures	With additional measures	1990	With measures	With additional measures
Energy (excl. transport)	4.1	NE	NE	0.0	NE	NE	0.4	NE	NE	NE	NE	NE
Transport (energy)	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Industrial processes	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Waste	0.6	NE	NE	0.0	NE	NE	0.0	NE	NE	NE	NE	NE
Agriculture	0.0	NE	NE	0.4	NE	NE	0.0	NE	NE	NE	NE	NE
<b>Total (excl. LULUCF)</b>	<b>0.0</b>	<b>NE</b>	<b>NE</b>	<b>0.3</b>	<b>NE</b>	<b>NE</b>	<b>0.3</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>

Base-year emissions of greenhouse gases should be calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs). Table uses 1990 data as base year is data not reported.

**Table 9. Summary of projections (6 gas basket) in 2010, 2015 and 2020 (Mt CO<sub>2</sub>-eq.)**

	1990*	2010	2010, % of base year level	2015	2015, % of base year level	2020	2020, % of base year level
Total (excluding LULUCF)	6.0	11.3	187.9%	10.3	170.6%	11.1	183.4%

\* Base-year emissions of greenhouse gases should be calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs). Table uses 1990 data as base year is data not reported.

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

	Emissions in MtCO <sub>2</sub> -equiv., excluding LUCF			
	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*	NE	NE	6.0	100%
Kyoto Commitment/burden sharing	NA	NA	NA	NA
With existing P&Ms projections	NE	NE	12.2	201.6%
Gap (-ve means overachievement of target)	NA	NA	NA	NA
With additional P&Ms projections	NE	NE	11.3	187.9%
Remaining gap	NA	NA	NA	NA
Effect of flexible mechanisms	NE	NE	NE	NA
Remaining gap (with use of flexible mechanisms)	NA	NA	NA	NA

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

There is no information available from Cyprus for previous years.

Since Cyprus is a non-Annex I party signatory to the Kyoto Protocol it has no emission reduction target for 2010.

\*Base-year emissions of greenhouse gases should be calculated using 1990 emissions for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) and 1995 emissions for fluorinated gases (SF<sub>6</sub>, HFCs and PFCs). Table uses 1990 data as base year data is not reported.

Table 11 provides a comparison of projections in the Monitoring Mechanism submission (MMS) and National Allocation Plan (NAP). Cyprus's National Allocation Plan for 2008 to 2012 has been notified to the Commission. A Commission Decision on the NAP has not yet been reached. Neither a breakdown of "with measures" nor "with additional" measures projections was provided in the MMS. "Business as usual" projections reported in the MMS were therefore compared to the NAP projections. Table 11 shows a close relationship between the projections. Total GHG projections in the NAP are also close to those reported in the MMS in the "business as usual" scenario. Total 2010 GHG emissions are predicted to be 12.42 MtCO<sub>2</sub>-eq. (without LULUCF) in the NAP compared with 12.7 MtCO<sub>2</sub>-eq., 12.2 MtCO<sub>2</sub>-eq. or 11.3 MtCO<sub>2</sub>-eq. in the MMS (for the BAU, WM or WAM scenarios respectively).

**Table 11. Comparison of projections for the trading sector (EU ETS) for the year 2010**

	March MMS BAU projections	NAP 2 projections	Difference
Energy sector	10.69 <sup>a</sup>	9.50 <sup>b</sup>	--
Energy sector included in EU ETS	--	4.68 <sup>b</sup>	--
Industry sector	0.65 <sup>c</sup>	1.84 <sup>d</sup>	--
Industry sector included in EU ETS	--	1.84 <sup>d</sup>	--
Total Energy & Industry	11.3	11.34	100.1%

## Notes:

Cyprus's National Allocation Plan for 2008 to 2012 has been notified to the Commission. A Commission Decision on the NAP has not yet been reached.

<sup>a</sup> Included are all GHG emissions from the "Energy sub-sector", excluding those from "transport".

<sup>b</sup> Included are all GHG from the "Energy generation" sector

<sup>c</sup> Included are all GHG emissions from the sector "Industry"

<sup>e</sup> Included are all GHG emissions from the sector "Industrial processes"

## 8. DESCRIPTION OF MODELLING APPROACH

### Overview of modelling approach

Cyprus used the ENPEP model (Energy and Power Evaluation Programme), developed by the Argonne National Laboratory (ANL, USA). This model simulates the energy/electricity system and quantifies the environmental and social impacts of it. There was no mention of model verification.

### Sensitivity analysis

No comments regarding sensitivity analysis or testing the robustness of the model.

### Details of the uncertainty assessment

No mention of an uncertainty assessment being carried out.

## 9. PROJECTION INDICATOR REPORTING

No indicators were reported upon.

## 10. REPORTING OF PARAMETERS ON PROJECTIONS

Some parameters were reported, concerning assumptions for general economic indicators, energy sector indicators, and assumptions in the tertiary and agriculture sectors. Parameters were quantified and presented for the BAU scenario. The parameters are listed in Table 13 below and cover the following areas:

- GDP
- Population
- Annual degree days for space heating
- Operation of air-conditioning units (in months)
- Rate of change of floor space for tertiary buildings and dwellings
- Change in number of persons/household/year
- The area covered by crops
- Amount of nitrogen from synthetic fertilizers
- Amount of material recycled

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

No indicators were provided in the Cyprus monitoring mechanism report.

**Table 13. List of parameters on projections (Annex IV of Implementing Provisions<sup>1</sup>)**

<b>I. Mandatory Parameters on Projections</b>	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Assumptions for general economic parameters</b>						
— GDP (value at given years or annual growth rate and base year)	4.50%	4.50%	4.50%	4%	3.50%	3%
— Population (value at given years or annual growth rate and base year)	1.60%	1.60%	1%	1%	0.60%	0.60%
— International coal prices at given years in euro per tonne or GJ (Gigajoule)	n/a	n/a	n/a	n/a	n/a	n/a
— International oil prices at given years in euro per barrel or GJ	n/a	n/a	n/a	n/a	n/a	n/a
— International gas prices at given years in euro per m3 or GJ	n/a	n/a	n/a	n/a	n/a	n/a
<b>Assumptions for the energy sector</b>						
— Total gross inland consumption (PJ) (split by oil,gas,coal,renewables,nuclear,other)						
— Total electricity production by fuel type (oil, gas, coal, renewables, nuclear, other)						
— Energy demand by sector split by fuel (delivered)						
— Assumptions on weather parameters, especially heating or cooling degree days						
annual degree days for space heating		1050	1050	1050	1050	1050
operation of air-conditioning units (months)	5	5	5	5	5	5
<b>Assumptions for the industry sector</b>						
<b>For Member States using macroeconomic models:</b>						
— The share of the industrial sector in GDP and growth rate						
<b>For Member States using other models:</b>						
— The production index for industrial sector						
<b>Assumptions for the transport sector</b>						
<b>For Member States using macroeconomic models:</b>						
— The growth of transport relative to GDP						
<b>For Member States using other models:</b>						
— The growth of passenger person kilometres						
— The growth of freight tonne kilometres						
<b>Assumptions for buildings (in residential and commercial or tertiary sector)</b>						
<b>For Member States using macroeconomic models:</b>						
— The level of private consumption (excluding private transport)						
— The share of the tertiary sector in GDP and the growth rate						
<b>For Member States using other models:</b>						
— The rate of change of floor space for tertiary buildings and dwellings	0.20%	0.20%	0.20%	0.20%	0.10%	0.10%
— The number of dwellings and number of employees in the tertiary sector						
change in number of persons/household/year	-0.70%	-0.70%	-0.70%	-0.70%	-0.70%	-0.70%
<b>Assumptions in the agriculture sector</b>						
<b>For Member States using macroeconomic models:</b>						
— The share of the agriculture sector in GDP and relative growth						
<b>For Member States using other models:</b>						
— Livestock numbers by animal type (for enteric fermn cows, sheep, for manure, pigs, poultry)						
— The area of crops	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%	-0.30%
-Amount of nitrogen from synthetic fertilizers (Base year 1990)				-5%		-20%
<b>Assumptions in the waste sector</b>						
— Waste generation per head of population or tonnes of municipal solid waste						
— The organic fractions of municipal solid waste						
— Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)						
<b>Solid waste management</b>						
Amount of material recycled			3%	20%		40%
Added value INDUSTRY/year	2.65%	2.65%	2.65%	2.65%	1.45%	1.45%

<sup>1</sup> 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

Added value INDUSTRY/year	5%	5%	5%	5%	5%	5%
Added value AGRICULTURAL SECTOR/year	2.45%	2.45%	2.45%	2.45%	2%	2%
<b>Assumptions in the forestry sector</b>						
— Forest definitions						
Areas of:						
— managed forests						
— unmanaged forests						

<b>2. Recommended parameters on projections</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Assumptions for general economic parameters</b>				
GDP growth rates split by industrial sectors in relation to 2000				
Comparison projected data with official forecasts				
<b>Assumptions for the energy sector</b>				
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				
<b>Assumptions for the industry sector</b>				
Assumptions fluorinated gases:				
Aluminium production and emissions factors				
Magnesium production and emissions factors				
Foam production and emissions factors				
Stock of refrigerant and leakage rates				
<i>For Member States using macroeconomic models:</i>				
Share of GDP for different sectors and growth rates				
Rate of improvement of energy intensity (1990 = 100)				
<i>For Member States using other models:</i>				
Index of production for different sectors				
Rate of improvement or index of energy efficiency				
<b>Assumptions for buildings (in residential and commercial / tertiary sector)</b>				
<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)				
<b>Assumptions for the transport sector</b>				
<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				

<b>2. Recommended parameters on projections</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
<b>Assumptions for the agriculture sector</b>				
<i>For Member States using econometric models:</i>				
Agricultural trade (import/export)				
Domestic consumption (e.g. milk/beef consumption)				
<i>For Member States using other models:</i>				
Development of area of crops, grassland, arable, set-aside, conversion to forests etc				
Macroeconomic assumptions behind projections of agricultural activity				
Description of livestock (e.g. by nutrient balance, output/animal production, milk production)				
Development of farming types (e.g. intensive conventional, organic farming)				
Distribution of housing/grazing systems and housing/grazing period				
Parameters of fertiliser regime:				
Details of fertiliser use (type of fertiliser, timing of application, inorganic/organic ratio)				
Volatilisation rate of ammonia, following spreading of manure on the soil				
Efficiency of manure use				
Parameters of manure management system:				
Distribution of storage facilities (e.g. with or without cover):				
Nitrogen excretion rate of manures				
Methods of application of manure				
Extent of introduction of control measures (storage systems, manure application), use of best available techniques				
Parameters related to nitrous oxide emissions from agricultural soils				
Amount of manure treatment				

## 11. COUNTRY CONCLUSIONS

Cyprus is a non-Annex I party signatory to the Kyoto Protocol and hence does not have emission reduction targets for 2010. However, as an EU member state, it is bound by the various environmental directives. Hence it has submitted a draft Monitoring Mechanism report under Article 3(2) of EU Decision 280/2004 EC, and a National Allocation Plan for 2008-2012 as part of the EU ETS process. This first MMS from Cyprus provides the first available projections data for Cyprus, since no National Communication has been submitted to the UNFCCC as yet.

Cyprus projects that its emissions will rise from 6 MtCO<sub>2</sub> eq in 1990 to 12.2 MtCO<sub>2</sub> eq in 2010 under the “with measures” scenario or 11.3 MtCO<sub>2</sub> eq in 2010 under the “with additional measures” scenario, representing an increase of over 200% from 1990 levels under the “with measures scenario or 188% under the “with additional measures” scenario. Although Cyprus does not have any emission reduction targets, it does wish to reduce its emissions. The impacts of policies and measures to be implemented by 2010 were partially quantified and estimated to provide 1.4 MtCO<sub>2</sub> eq savings in 2010 compared to the “business as usual” scenario.

Although Cyprus intends to make use of the flexible mechanisms under Kyoto Protocol, there was no quantification of the impacts of this on its emission projections for 2010.