

# Malta

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## **1. SOURCES OF INFORMATION**

Malta's national report submitted to the European Commission under the Monitoring Mechanism, Decision 280/2004/EC. May 2007.

1<sup>st</sup> National Communication of Malta to the United Nations Framework Convention on Climate Change, Ministry for Rural Affairs and the Environment, University of Malta, April 2004.

National Allocation Plan for Malta for 2008-2012, Malta Environment and Planning Authority, 27.09.2006.

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

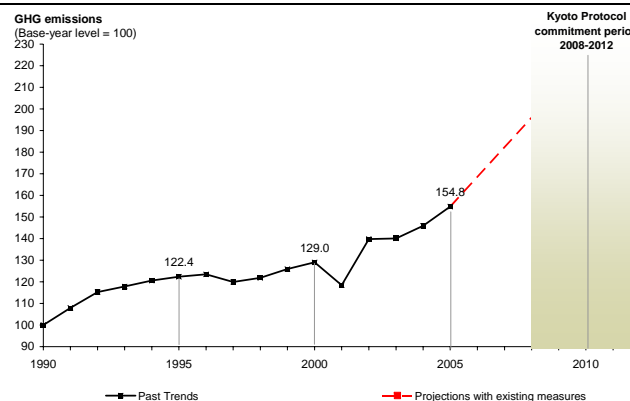
**Base-year emissions**

Malta is a non-Annex 1 Party to the Kyoto Protocol and does not therefore have a target for GHG emission reductions. Malta is also not required to submit an Initial Report to facilitate the calculation of the assigned amount pursuant to Article 3, paragraphs 7 and 8 of the Kyoto Protocol.

## 2. SUMMARY

### MALTA

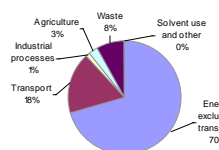
Emissions 1990 (latest inventory)	2.2 Mt
Emissions 2005	3.4 Mt
Emissions 1990 (for projections)	1.0 Mt
Projections 2010 with existing measures	2.2 Mt
No projections with additional measures	n.a.
No Kyoto target	n.a.
Change 1990 to 2005	+ 54.8 %
Change 2004-05	+ 6.1 %
Change base year to 2010 with existing measures	123.5 %
No projections with additional measures	n.a.
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.



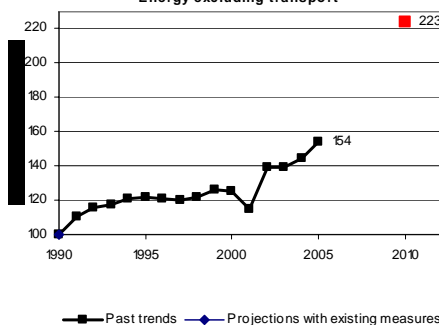
**Past emissions:** Malta's GHG emissions were 54.8 % above 1990 levels and 6.1 % above those of 2004 in 2005. The main factor for increasing emissions with regard to 1990 and 2005 was increased fuel consumption in energy industries and transport. However, it has to be noted that emissions for the last five years were estimated by EEA/ETC, because Malta did not provide estimates for these years before the data deadline of this report (see Chapter A 6)

**Emission projections:** Malta does not have a Kyoto target but projects an increase with existing measures of 123 % compared to 1990 levels.

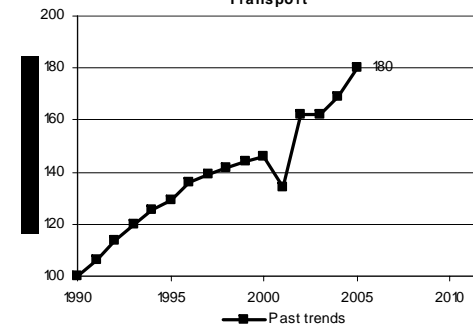
Emissions by sectors (2005)



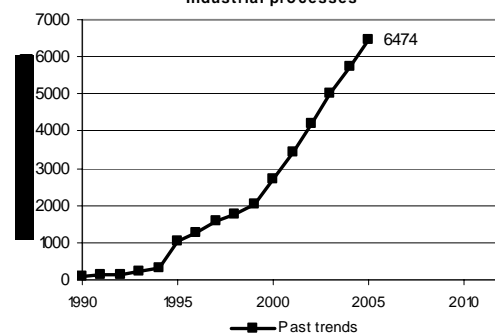
Energy excluding transport



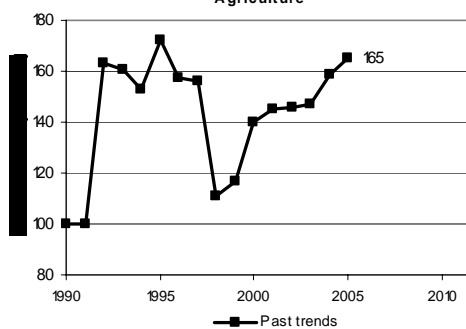
Transport



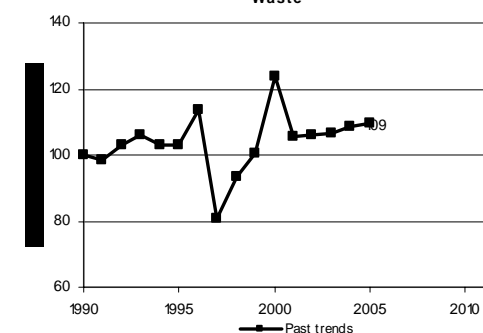
Industrial processes



Agriculture



Waste



### 3. REPORTED INDICATORS

No indicators reported

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

No information was provided by Malta.

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

Sector	CCPM	Status
Cross-cutting	Emissions trading 2003/87/EC	
Cross-cutting	Kyoto Protocol project mechanisms 2004/101/EC	
Cross-cutting	Integrated pollution prevention and control 96/61/EC	
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	
Energy supply	Promotion of electricity from RE sources 2001/77/EC	
Energy supply	Internal market in natural gas 98/30/EC	
Energy supply	Emissions from large combustion plants 88/609/EEC	
Energy consumption	Directives on energy labelling of appliances	
Energy consumption	End-use efficiency and energy services 2006/32/EC	
Energy consumption	Ecodesign requirements for energy-using products 2005/32/EC	
Energy consumption	Energy performance of buildings 2002/91/EC	
Energy consumption	Eco-management & audit scheme (EMAS) EC 761/2001	
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)	
Industrial Process	HFC emissions from air conditioning in motor vehicles 2006/40/EC	
Agriculture	Support under CAP (1782/2003)	
Agriculture	Support under CAP - amendment (1783/2003)	
Agriculture	Nitrates 91/676/EEC	
Agriculture	Transition to rural development support No 2603/1999	
Agriculture	Agricultural production methods compatible with environment Regulation (EEC) No 2078/92	
Agriculture	Aid scheme for forestry measures in agriculture (Regulation (EEC) No 2080/92)	
Agriculture	Emission by engines to power agricultural or forestry 2000/25/EC	
Agriculture	Pre-accession measures for agriculture and rural development Regulation (EC) No 1268/1999	
Waste	Directive on waste 2006/12/EC	
Waste	Landfill directive 1999/31/EC	
Waste	Packaging and packaging waste (Directive 94/62/EC, 2004/12/EC, 2005/20/EC)	

*Legend****New** national PAM implemented after CCPM was adopted**Existing national PAM **re-enforced** by CCPM**National PAM already in force **before** CCPM was adopted**Not reported*

## 5. COMPLETENESS OF REPORTING

Malta ratified the UNFCCC as a non-Annex I Party on 17<sup>th</sup> March 1994, and the Kyoto Protocol in the same capacity on 11<sup>th</sup> November 2001. Hence it has no targets for emission reduction over the 2008-2012 period.

Malta's Monitoring Mechanism submission under Decision 280/2004/EC to the EC provides reasonably detailed information on policies and measures, however it does not include any emission projections, with the exception of projected CO<sub>2</sub> savings to 2010 in the Water Resource sector (desalination and groundwater polishing sector).

Neither has Malta submitted 2<sup>nd</sup>, 3<sup>rd</sup> or 4<sup>th</sup> National Communications to the UNFCCC. Hence the information on emission projections for this Country Profile (in Table 3 and others) is based on information contained in Malta's National Allocation Plan (NAP) 2008-2012 report. This only provides projections for CO<sub>2</sub> emissions from Malta's two power plants (the only point emission sources in Malta to fall within the remit of the EU ETS), and only under one scenario, the *with measures* scenario.

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

Information provided	Level of information provided	Comments
Policy names	+++	All policies clearly named
Objectives of policies	+++	Description of all policies provided
Which greenhouse gases?	+++	Specifies which gases each PAM deals with
Status of Implementation	++	Policies classed as proposed, implemented or ongoing.
Implementation body specified	+++	The organisations responsible for implementing each PAM are specified.
Quantitative assessment of implementation	+	The impacts of implementation are quantified for less than half of the PAMs. Those that are quantified give a range of values depending on various implementation scenarios.
Interaction with other policies and measures discussed	o	No mention of interactions with other policies and measures.

**Table 3. Information provided on projections**

Category of Information	Level of information provided	Comments
Scenarios considered		"With measures" scenario
Expressed relative to base year	o	Not clear what base year is
Starting year	++	NAP states that emissions projections start in 2006.
Split of projections	+	No split of projections by sector. Projection provided only for CO <sub>2</sub> under the EU ETS.
Presentation of results	+	Sparsely presented results

Description of model (level of detail, approach and assumptions)	++	Description of the model in the NAP 2008-2012 report
Sensitivity analysis (key inputs to model / high, central and low projections scenarios / robustness of model)	+	Brief mention of GDP and other input parameters
Discussion of uncertainty	o	No discussion of uncertainty
Details of parameters and assumptions	+	Information provided on assumptions and modelling future electricity demand.

## 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.)**

Malta's Monitoring Mechanism submission only includes quantification of the effects of a few of the listed Policies and Measures. Additionally there are no With measures, With additional measures or Without additional measures projections available to calculate overall emissions savings from, hence the information below is only partial and may not be representative of the overall impacts of PAMs.

	With measures	With additional measures
<b>Energy generation and use</b>	0.175-0.461	NE
Improving the efficiency of power generation	0.159-0.445*	NE
EU ETS	0.02	NE
<b>Transport (energy)</b>	0.02	NE
<b>Water resources</b>	0.02**	NE
<b>Agriculture</b>	NE	NE
<b>Waste management</b>	NE	NE
<b>Cross-cutting</b>	NE	NE
Total	0.179-0.485	NE

\*Range of values according to different scenarios based on installation of CCGT plants

\*\* Figure for anticipated savings over 2001 emissions



**Table 5. Detailed information on policies and measures**

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

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

<a href="#">Sector</a>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO <sub>2</sub> eq. p.a.]			<a href="#">Costs</a>
						2005	<a href="#">2010</a>	2020	[EUR/t]
Cross-cutting		<a href="#">Emission trading scheme (LN 140 of 2005 European Community greenhouse gas emission trading scheme regulation)</a>	Economic Regulatory	CO <sub>2</sub>	implemented				
Cross-cutting		<a href="#">Ambient air quality assessment and management</a>	Regulatory		implemented				
Cross-cutting		<a href="#">National emission ceilings</a>	Regulatory		implemented				
Cross-cutting		<a href="#">Integrated pollution prevention control</a>	Regulatory	CH <sub>4</sub> CO <sub>2</sub> HFC N <sub>2</sub> O PFC SF <sub>6</sub>	implemented				
Energy consumption		<a href="#">Improve efficiency of power generation</a>	Other	CO <sub>2</sub>	implemented		302		
Energy supply							<a href="#">more</a>		
Energy supply		<a href="#">Increase in price of electricity</a>	Fiscal	CO <sub>2</sub>					
Energy		<a href="#">Use of natural gas as main fuel</a>	Other	CO <sub>2</sub>	planned		489		

<a href="#">Sector</a>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO <sub>2</sub> eq. p.a.]			<a href="#">Costs</a>
						2005	<a href="#">2010</a> <a href="#">more</a>	2020	<a href="#">[EUR/t]</a>
supply									
Energy supply		<a href="#">Connection to European electricity grid</a>	Other	CO <sub>2</sub>	planned				
Energy supply		<a href="#">Use of combined heat and power</a>	Other	CO <sub>2</sub>	planned				
Energy supply		<a href="#">Integration of renewables (LN 186 of 2004 Promotion of electricity produced from renewable sources regulation)</a>	Fiscal	CO <sub>2</sub>	implemented				
Energy supply		<a href="#">Use of low sulphur fuel (LN 159 of 2002 Reductions in the sulphur content of certian liquid fuels regulations)</a>	Other		implemented				
Energy supply		<a href="#">Emission limit values for large combustion plants (LN 329 of 2002 Limitations of emissions of certain pollutants into the air from large combustion plants regulations)</a>	Regulatory	CO <sub>2</sub>	implemented				
Energy consumption		<a href="#">Improve efficiency of power generation</a>	Other	CO <sub>2</sub>	implemented		302		
Energy supply							<a href="#">more</a>		
Energy consumption		<a href="#">Product standards for energy efficiency</a>	Other Regulatory	CO <sub>2</sub>	implemented				
Energy		<a href="#">Energy performance of buildings</a>	Other	CO <sub>2</sub>	implemented				

<u>Sector</u>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO <sub>2</sub> eq. p.a.]			<u>Costs</u>
						2005	<u>2010</u>	2020	<u>[EUR/t]</u>
consumption			Regulatory						
Energy consumption		<a href="#">Energy saving and leakage control in water production</a>	Other	CO <sub>2</sub>	implemented		20		
Transport		<a href="#">Increase in fuel prices</a>	Fiscal	CO <sub>2</sub>			Cluster value		
Transport		<a href="#">Improvement of public transport, management of parking practices, better traffic management</a>	Regulatory	CO <sub>2</sub>	implemented		Cluster value		
Transport		<a href="#">Promotion of more efficient vehicles</a>	Information	CO <sub>2</sub>	implemented				
Transport		<a href="#">Use of alternative fuels</a>	Fiscal	CO <sub>2</sub>	implemented				
Transport		<a href="#">Use of hybrid and electric traction</a>	Fiscal Other	CO <sub>2</sub>	implemented				
Transport		<a href="#">Reduction of sulphur content of fuels used in road transport</a>	Regulatory		implemented				
Transport		Combined emission reduction of MT-TRA-01 MT-TRA-02 MT-TRA-03	Fiscal Regulatory	CO <sub>2</sub>	implemented planned		20		
Agriculture		<a href="#">Code of good agricultural practice</a>	Information Regulatory	CH <sub>4</sub> CO <sub>2</sub>	implemented				
Waste		<a href="#">Waste water treatment</a>	Other	CO <sub>2</sub>	implemented				
Waste		<a href="#">Reducing landfilling of biodegradable waste and</a>	Other	CH <sub>4</sub>	implemented				

<a href="#">Sector</a>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO <sub>2</sub> eq. p.a.]			<a href="#">Costs</a>
						2005	<a href="#">2010</a>	2020	<a href="#">[EUR/t]</a>
		<a href="#">prevention of release of gases into the atmosphere from landfilled waste</a>	Regulatory						

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

<a href="#">Sector</a>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction [kt CO <sub>2</sub> eq. p.a.]			<a href="#">Costs</a>
						2005	<a href="#">2010</a>	2020	<a href="#">[EUR/t]</a>
Cross-cutting		<a href="#">Consideration of climate change issues in policy making and in environmental impact assessments</a>	Regulatory	CH <sub>4</sub> CO <sub>2</sub> HFC N <sub>2</sub> O PFC SF <sub>6</sub>	planned				
Energy supply Waste		<a href="#">Use of agricultural waste for energy generation</a>	Other	CH <sub>4</sub>	planned				
Energy supply Waste		<a href="#">Treatment of sewage sludge for energy generation</a>	Other	CH <sub>4</sub>	planned				
Transport		<a href="#">Introduction of taxes based on vehicle specifications</a>	Fiscal	CO <sub>2</sub>	planned			Cluster value	
Waste		<a href="#">Mechanical biological treatment plants for solid waste</a>	Other	CH <sub>4</sub>	planned				
Energy supply Waste		<a href="#">Use of agricultural waste for energy generation</a>	Other	CH <sub>4</sub>	planned				

<a href="#">Sector</a>	Projection Scenario	Name	Type	GHG	Status	Absolute Reduction			<a href="#">Costs</a>
						[kt CO <sub>2</sub> eq. p.a.]			<a href="#">[EUR/t]</a>
						2005	<a href="#">2010</a>	2020	
Energy supply Waste		<a href="#">Treatment of sewage sludge for energy generation</a>	Other	CH <sub>4</sub>	planned				

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

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

	Base year*	With measures	With additional measures
Carbon dioxide	0.98	2.19	NE
Methane	NE	NE	NE
Nitrous oxide	NE	NE	NE
HFCs	NE	NE	NE
PFCs	NE	NE	NE
SF <sub>6</sub>	NE	NE	NE
<b>Total</b>	0.98	2.2	NE
% change relative to base year		123.5%	

Information for this table taken from Malta's National Allocation Plan 2008-2012. Emission scenarios are only available for CO<sub>2</sub> in the with measures scenario, and then only for point emission sources which fall under the EU ETS. In Malta's case this is limited to the two power plants on the island. Also, no information on emissions is available between 1990 and 1992, hence the base year emissions are taken from historical emissions data for 1993, provided by EneMalta (the Maltese electricity operator).

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

	Base-year	with measures	% change relative to base-year	with additional measures	% change relative to base-year
Energy (total, excluding transport)	0.98	2.19	123%	NE	
Energy supply	0.98	2.19	123%	NE	
Energy – industry, construction	NE	NE		NE	
Energy – other (commercial, residential, agriculture)	NE	NE		NE	
Transport (energy)	NE	NE		NE	
Industrial processes	NE	NE		NE	
Waste	NE	NE		NE	
Agriculture	NE	NE		NE	
<b>Total</b>	0.98	2.19	123%	NE	

As for table 6, table 7 shows only CO<sub>2</sub> emissions from plants under the EU ETS, which for Malta only includes two power generation plants.

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)		
	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)	NE	NE										
Transport (energy)	NE	NE										
Industrial processes	NE	NE										
Waste	NE	NE										
Agriculture	NE	NE										
<b>Total</b>	0.98	2.19	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>

The CO<sub>2</sub> values above only account for emission from plants under the EU ETS, which for Malta only includes two power generation plants.

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

	Base-year	2010	2010 % of base- year level	2015	2015 % of base- year level	2020	2020 % of base- year level
<b>Total</b>	1.0	2.2	223.5%				

Table 9 shows only CO<sub>2</sub> emissions from plants under the EU ETS, which for Malta only includes two power generation plants.

**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.			
	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	1.0	100%
Kyoto Commitment/burden sharing	NA	NA	NA	
With existing P&Ms projections	NE	NE	2.2	223.5%
Gap (-ve means overachievement of target)	NA	NA	NA	
With additional P&Ms projections	NE	NE	2.2	223.5%
Remaining gap	NA	NA	NA	
Effect of flexible mechanisms	0	0	0	
Remaining gap (with use of flexible mechanisms)	NA	NA	NA	

\* CO<sub>2</sub> emissions only.

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

Data was not provided in the MMS 2007 or 1NC, so no comparisons could be made.

	MMS 2007 / 1NC	NAP 2 projections	Difference
Energy sector			
Energy sector included in EU ETS			
Industry sector			
Industry sector included in EU ETS			
Total Energy & Industry			



## **DESCRIPTION OF MODELLING APPROACH**

### **Overview of modelling approach**

There is limited information available on the model used in the NAP 2008-2012 report, and in any case this only regarding CO<sub>2</sub> emission from EU ETS affected emission sources. The report describes how future electricity demand has been modelled based on the relationship between electricity demand and GDP.

### **Sensitivity analysis**

There is no mention of sensitivity analysis.

### **Details of the uncertainty assessment**

There is no mention of uncertainty assessment.

## **8. PROJECTION INDICATOR REPORTING**

In the Monitoring Mechanism report information is provided on basic indicators and their numerators/denominators (for macroeconomic, industrial, household, services, waste and agriculture services), with some exceptions (transport indicators). Only one set of values is given, and it is not clear which year this is for. Also, no emission projections are included in the Monitoring Mechanism report, hence it is not clear why indicators are included.

## **9. REPORTING OF PARAMETERS ON PROJECTIONS**

No information on parameters is included in the Monitoring Mechanism report or the NAP 2008-2012 report.

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

No	Eurostat Sectors	Indicator	Year*	Numerator/denominator	Year*
1	Macro	CO <sub>2</sub> intensity of GDP, t/Euro million	1856.3	Total CO <sub>2</sub> emissions, kt	2636**
				GDP, bio Euro (EC95)	1.42***
2	Transport C0	CO <sub>2</sub> emissions from passenger cars, kt			NE
		Number of kilometres by passenger cars, Mkm			NE
3	Transport D0	CO <sub>2</sub> emissions from freight transport (all modes), kt			NE
		Freight transport (all modes), Mtkm			NE
4	Industry A1	Energy related CO <sub>2</sub> intensity of industry, t/Euro million	115.4	CO <sub>2</sub> emissions from fuel consumption industry, kt	48**
				Gross value-added total industry, Bio Euro (EC95)	0.416
5	Households A1	Specific CO <sub>2</sub> emissions of households, t/dwelling	0.3	CO <sub>2</sub> emissions from fossil fuel consumption households, kt	41**
				Stock of permanently occupied dwellings, 1000	134
6	Services A0	CO <sub>2</sub> intensity of the services sector, t/Euro million	41.4	CO <sub>2</sub> emissions from fossil fuel consumption services, kt	48**
				gross value-added services, bio Euro (EC95)	1.16
7	Transformation B0	Specific CO <sub>2</sub> emissions of public and autoproducer power plants, t/TJ	245.1	CO <sub>2</sub> emissions from public and autoproducer thermal power stations, kt	1973**
				all products-output by public and autoproducer thermal power stations, PJ	8.05
8	Agriculture	Specific N <sub>2</sub> O emissions of fertilizer and manure use, kg/kg		N <sub>2</sub> O emissions from synthetic fertilizer and manure use, kt	NE

				use of synthetic fertiliser and manure, kt nitrogen	NE
9	Agriculture	Specific CH <sub>4</sub> emissions of cattle production, kg/head	144.9	CH <sub>4</sub> emissions from cattle, kt	2.6**
				cattle populations, 1000 head	17.94
10	Waste	Specific CH <sub>4</sub> emissions from landfills, kt/kt	0.06	CH <sub>4</sub> emissions from landfills, kt	16**
				Municipal solid waste going to landfills, kt	269

\*Year not clearly indicated in country submission

\*\*Data for emissions from Malta's greenhouse gas inventory report, 1990-2003

\*\*\*Data from National Statistics Office

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

<b>1. Mandatory parameters on projections</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)				
Population (value at given years or annual growth rate and base year)				
International coal prices at given years in euro per tonne or GJ (Gigajoule)				
International oil prices at given years in euro per barrel or GJ				
International gas prices at given years in euro per m3 or GJ				
<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				
<b>Assumptions for the industry sector</b>				
<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				
<b>Assumptions for the transport sector</b>				
<i>For Member States using macroeconomic models:</i>				
The growth of transport relative to GDP				
<i>For Member States using other models:</i>				
The growth of passenger person kilometres				
The growth of freight tonne kilometres				
<b>Assumptions for buildings (in residential and commercial or tertiary sector)</b>				
<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 number of dwellings and number of employees in the tertiary sector				
<b>Assumptions in the agriculture sector</b>				
<i>For Member States using macroeconomic models:</i>				
The share of the agriculture sector in GDP and relative growth				
<i>For Member States using other models:</i>				
Livestock numbers by animal type (for enteric fermentation beef, cows, sheep, for manure management pigs and poultry)				
The area of crops by crop type				
Emissions factors by type of livestock for enteric fermentation and manure management (t)				
<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				

<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

<b>1. Mandatory parameters on projections</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>
Municipal solid waste disposed to landfills, incinerated or composted (in tonnes or %)				
<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				

## 10. COUNTRY CONCLUSIONS

Malta 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 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.

Malta has quantified the effect of some of its policies and measures individually in the Monitoring Mechanism report, and the sum of these provides an estimate of emission reductions under the *with measures* scenario by 2010 of 0.179-0.485 MtCO<sub>2</sub> eq.

Malta has not provided any information regarding emission projections for 2010 or beyond within its Monitoring Mechanism report, so the only value we have is from the NAP report. Under the *with measures* scenario in this report, Malta's CO<sub>2</sub> emissions from the two power generation plants on the island are set to rise from 0.98 MtCO<sub>2</sub> eq in 1993 to 2.19 MtCO<sub>2</sub> eq in 2010.

There are no emission projections scenarios to compare with from previous years.