



## Cyprus

### Highlights in 2008

In response to a prolonged period of drought for the third consecutive year, the government of Cyprus in 2008 designed a drastic Drought Mitigation

and Response Plan including a series of emergency measures, making the need for water management a priority.

On waste, Cyprus has made progress in implementing its Strategic Plan for Management of Solid Waste, which includes the establishment of four regional centres for integrated management of solid waste, as well as the restoration of existing landfills. The regional centres are expected to become fully operational in 2010. Finally, in response to health threats caused by air pollutants, the government has launched a National Action Plan for Air Quality Improvement, with measures to support public transport and stricter standards and procedures for used vehicles.

### Climate change and energy

	Cyprus				EU-27 total	rank in EU-27
	2000	2005	2006	target		
Total Kyoto GHG emissions						
– million tonnes (Mt) CO <sub>2</sub> eq.	8.7	9.9	10.0	No Kyoto target	5142.8	
– from energy supply and use, including transport (Mt CO <sub>2</sub> eq.)	6.8	7.8	8.0		4098.7	
– from transport (Mt CO <sub>2</sub> eq.)	1.8	2.1	2.1		992.3	
					EU-27 average	rank in EU-27
– per capita (tonnes CO <sub>2</sub> eq.)	12.2	13.1	13.1		10.4	22
– per GDP (tonnes CO <sub>2</sub> eq. per 1000€ GDP)	856.6	834.1	814.0		495.7	18
– trend (% change compared to 1990*)	+43%	+67.3%	+66%	No Kyoto target	-10.8%	27
– Projected 2010 emissions trend compared to 1990*						
– with existing measures, Kyoto mechanisms and carbon sinks		+44.2%		No Kyoto target	-13.4%	
– with existing and additional measures, Kyoto mechanisms and carbon sinks		+41.4%			-16.3%	

\* No base year under the Kyoto protocol; change refers to 1990.

	Cyprus					
	2000	2005	2006	target	EU-27 average	rank in EU-27
Average CO <sub>2</sub> emissions from new passenger cars sold (grams CO <sub>2</sub> /km)	172.2 (2004)	168.9 (2006)	169.1 (2007)	130 by 2012-15 for EU-27	157.5	21
Electricity produced from renewable energy sources (% gross electricity consumption)	0	0	0	6.0% (by 2010)	15.6%	26
Combined heat and power generation (% gross electricity generation)	0	0.3%	0.3%	18% by 2010 for EU-15	10.9%	26
Energy consumption per capita (kg oil eq.)	3 444	3 254	3 377		3 694	12
Energy intensity - Energy consumption per 1000€ GDP (kg oil eq.)	280	247	251		202	16

Cyprus has no quantitative emission reduction commitments under the Kyoto Protocol, but as an EU Member State, it is bound by the obligations set out in the Emissions Trading Directive. Nevertheless, Cyprus greenhouse gas emissions have risen by 66% compared to 1990 levels, with energy generation and transport being the major contributors. According to the latest data, with the existing policies and measures, emissions will by 2010 decrease to 44 % above 1990 emissions. The implementation of additional measures could further reduce emissions to 41 % above 1990 emissions. In December 2008, Cyprus agreed by 2020 to reduce greenhouse gas emissions in non-ETS sectors (e.g. buildings, road transport and farming) by 5% compared to 2005 levels. Furthermore, Cyprus has committed to achieving by 2020 a share of energy from renewable sources in gross final energy consumption of 13% (up from 3% in 2005).

Cyprus lacks national energy sources and relies heavily on imported oil. Energy intensity remains at a relatively high level, almost 25% above the EU average. To address the issue, the government put forward an Energy Savings Programme

in 2006, which has been extended to 2010. This programme promotes energy savings in the public and private sectors, including measures such as the provision of incentives for the purchase of hybrid vehicles, flexible fuel vehicles, and electric vehicles; financial support for the thermal insulation of houses; financial support for energy conservation investment in public buildings and services; promotion of biofuels; expansion of the use of school buses; improvement of lighting; and information campaigns.

The use of renewable energy sources for electricity generation is still very low, despite considerable potential, especially of wind energy. This is partly due to public opposition to the installation of wind farms.

The Vasilikos Energy Centre, which aims to promote the diversification of energy sources and the introduction of natural gas on the island, is scheduled to begin operation in 2013. The future use of natural gas as an energy source should improve efficiency in electricity generation and decrease greenhouse gas emissions.

In 2008 the Institute of Agricultural Research finished a project on prospects for cultivating a number of energy crops in Cyprus (sweet sorghum, rape, sugar beet, sunflower, maize, barley, potato and wheat). The results were not very

optimistic due to the severe water shortage, the lack of good agricultural land and competition with animal feed crops.

## Nature and biodiversity

	2000	2006	Cyprus		target	EU-27 average	rank in EU-27
			2007	2008			
Natura 2000 area (sites designated under Habitats and Birds Directives) as % of terrestrial area*		11.3%	17.5%	17.5%		17.0%	
Sufficiency of site designation under the Habitats Directive**		45.9%	25.0%	25.0%	100%		
Area occupied by organic farming (% of Utilised Agricultural Area)	n.a.	1.3%	1.3%			4.2%	23
Freight transport (billion tkm)	1.2	1.2	1.2			EU total 2502.0	
– % road	100%	100%	100%			76.9%	26 of 26
– % rail ***	—	—	—			17.4%	26 of 26

\* The figure concerns only the Republic of Cyprus. \*\* 2006 data for CY are not fully comparable with 2007 and 2008. \*\*\* The railway system is missing due to the geography of the country.

The management plans for 12 Natura 2000 sites have been completed, while management plans for another 13 sites are underway. These 25 management plans cover a significant percentage of the current Cypriot Natura 2000 network, which comprises 36 sites. However site designation gaps still exist (e.g. the Akamas peninsula) and there is further work to be done on tackling illegal hunting.

The Coastal Area Management Programme for Cyprus was finalised in June 2008. The Programme was oriented towards sustainable management of the whole coastal area of Cyprus, introducing and applying the principles, methodologies and practices of sustainable development and Integrated Coastal Area Management.

Preparations for the National Action Plan for Combating Desertification were completed in 2008 and the Plan was sent for Ministerial approval. It involves a number of government departments and includes policies and measures relating to the management of water resources; promotion of sustainable (and traditional) agricultural practices; measures to prevent overgrazing and promote afforestation; institutional and fiscal measures to encourage the population to remain in rural areas; integration of management and conservation measures for the protection of biodiversity; and training and raising public awareness.

## Environment and health

	Cyprus				EU-27 average	rank in EU-27
	2000	2005	2006	Ceiling		
Urban population exposure to air pollution by particles (annual mean concentration, $\mu\text{g}/\text{m}^3$ )	n.a.	n.a.	n.a.	30.0	30.0	
Urban population exposure to air pollution by ozone (SOMO35 level, $\mu\text{g}/\text{m}^3 \cdot \text{day}$ )	n.a.	n.a.	n.a.		4 417	
Air pollutant emissions (thousand tonnes)				(by 2010)	EU27 total	
– sulphur dioxides ( $\text{SO}_2$ )	52	42	36	39	7946	
– nitrogen oxides ( $\text{NO}_x$ )	22	17	18	23	11198	
– non-methane volatile organic compounds (NMVOCs)	16	11	11	14	9391	
– ammonia ( $\text{NH}_3$ )	5	5	5	9	4006	
	1990	Latest available year (2005)				
Water exploitation index	n.a.		45.4%		n.a.	27

In Cyprus, environment-related health risks are mainly linked to the increasing levels of atmospheric pollutants in urban areas with heavy traffic. To address the problem, the government introduced the National Plan for Air Quality Improvement in 2008. There are eight target areas under this plan, aimed at the transport, energy, industry, and agricultural sectors, energy efficiency, fuel improvement, and raising public awareness. Measures for the transport sector are particularly important as transport is one of the main causes of atmospheric pollution. Under the Plan, measures supporting public transport and setting stricter standards and procedures for used vehicles were implemented gradually from 2008. Further measures include setting up a Steering Committee for implementation, launching studies for public transport improvement,

building a new bus depot and introducing 300 additional bus stops, priority for buses at traffic lights and special bus lanes on major roads.

Strategic Noise Mapping was completed in December 2007, resulting in two action plans to alleviate the problems identified. The first action plan included traffic management measures, such as banning heavy vehicles on city and intercity roads at night time and reducing speed limits inside urban areas. The second action plan was for the construction of noise barriers in sensitive areas, such as new schools, hospitals, parks, churches, etc. The action plans are pending approval by the Ministry of Finance.

## Natural resources and waste

	Cyprus			Target	EU-27 average	rank in EU-27
	2000	2006	2007			
Municipal waste generated (kg per capita)	680	745	754		522	25
– % landfilled	90.1%	87.5%	87.3%		41.0%	25
– % incinerated	0%	0%	0%		19.9%	
	2004	2005	2006			
Recycling of packaging waste (as % total packaging waste)	22%	11.1%	25.2%	55%-80% (by 2012)	56.5 %	26

During 2008, technical, economic and environmental impact assessment studies regarding the restoration of uncontrolled landfill sites were completed for 10 sites in an effort to comply with the provisions of the Directive on the landfill of waste.

The generation of municipal solid waste is on the rise, and waste handling primarily takes the form of landfilling, as recycling rates are still low. The Strategic Plan for the Management of Solid and Hazardous Waste is under implementation and includes the establishment of four regional centres (one per administrative district) for integrated management of solid waste, as well as the restoration of existing landfills. The regional centres, which are expected to become operational in late 2009 or in 2010, will incorporate the following facilities: a landfill site, a sorting plant, a biogas collection and energy recovery unit, biodegradable waste treatment, a transfer station and a demolition waste disposal unit.

The Cypriot Research Promotion Foundation is participating in several European environmental sustainability projects to strengthen the cooperation and coordination of research activities across Member States, for the next five

years. For example, URBAN-NET is looking at urban sustainability in Europe by identifying and addressing trans-national requirements for research and sharing good practices and MARIFISH is seeking to provide evidence to fisheries managers for the sustainable management of fisheries, including aquaculture, using the ecosystem-based approach.

## Better regulation and implementation

	Cyprus			EU-27 total
	31/12/2006	31/12/2007	31/12/2008	
Infringements of EU environmental legislation	7	9	9	481

Out of a total of 481 environment-related infringement cases in the EU at the end of 2008, 8 concerned Cyprus. Most open infringement cases in 2008 relate to air and nature.

## Use of market-based instruments

	Cyprus			EU-27 average
	2000	2005	2006	
Share of environmental taxes in total tax revenue	8.9%	9.9%	9%	6.4%

## Environmental Technologies

The most important of the actions on environmental technologies is the Sustainable Development Programme (which is part of the Framework Programme for Research, Technological Development and Innovation 2008) launched in February 2008. The programme covers all three sustainability dimensions - environmental, social and economic - and includes four specific actions targeting the introduction of environmental technologies in various sectors. These are: Specific Action: "Natural Environment" (€650 000); Specific Action: "Urban and Built Environment" (€800 000); Specific Action: "Agriculture, Animal Farming, Fisheries and Aquaculture" (€500 000); Specific Action: "Social and Economic Sustainability" (€500 000).

## Outlook for 2009

The National Biomass Action Plan of Cyprus is expected to be agreed in 2009. The Action Plan will cover the three main axes of the European Biomass Action Plan: biomass for electricity production, biomass for heating and cooling, and biofuels for transport. It will establish indicative national targets for biomass electricity, heating and cooling, and seek to find ways to meet the EU target for 10% biofuels use in transport by 2020.

Regarding waste management, more work will be done to prepare the four regional centres (Larnaca/Famagusta, Paphos, Nicosia and Limassol): they are expected to be fully operational by 2010. According to the National Energy Efficiency Plan, which came into effect in 2008, several measures will be introduced in the residential sector in 2009, including regular maintenance and inspection of boilers, heating installations and air-conditioning systems.

