



Finland

Highlights in 2008

In November the government has approved a new, ambitious climate

and energy strategy for Finland, with detailed insights into climate and energy policy measures up to 2020, and suggestions up to 2050. In March, the Forest Biodiversity Action Programme for Southern Finland 2008-2016 (METSO Programme) was approved by the government with the aim of halting the ongoing decline in the biodiversity of forest habitats. The Finnish authorities in 2008 launched a new national Public Procurement Action Plan that aims to increase green public procurement.

Climate change and energy

	Finland				EU-27 total	rank in EU-27
	2000	2005	2006	target		
Total Kyoto GHG emissions						
– million tonnes (Mt) CO ₂ eq.	69.8	69.0	80.3	71.1 (by 2008-2012)	5142.8	
– from energy supply and use, including transport (Mt CO ₂ eq.)	54.9	54.7	66.0		4098.7	
– from transport (Mt CO ₂ eq.)	13.1	14.1	14.4		992.3	
					EU-27 average	rank in EU-27
– per capita (tonnes CO ₂ eq.)	13.5	13.2	15.3		10.4	25
– per GDP (tonnes CO ₂ eq. per 1000€ GDP)	527.5	460.8	511.1		495.7	12
– trend (% change compared to base year*)	-1.7%	-2.8%	+13.1%	0% (by 2008-12)	-10.8%	20
– Projected 2010 emissions trend compared to base year *						
– with existing measures, Kyoto mechanisms and carbon sinks		+16.9%		0%	-13.4%	
– with existing and additional measures, Kyoto mechanisms and carbon sinks		-0.6%		(by 2008-12)	-16.3%	

* Base year for CO₂, N₂O and CH₄ is 1990 and for F-gases is 1995.

	Finland				EU-27 average	rank in EU-27
	2000	2005	2006	target		
Average CO ₂ emissions from new passenger cars sold (grams CO ₂ /km)	179.7	177.9 (2006)	176.1 (2007)	130 by 2012-15 for EU-27	157.5	23
Electricity produced from renewable energy sources (% gross electricity consumption)	28.5%	(2006) 24.0%	(2007) 26.0%	31.5% (by 2010)	(2007) 15.6%	7
– from hydropower	17.9%	12.3%	15.1%		9.2%	
– from wind	0.1%	0.2%	0.2%		3.1%	
– from biomass	10.5%	11.6%	10.7%		3.0%	
Combined heat and power generation (% gross electricity generation)	36.4%	38.9%	34.9%	18% by 2010 for EU-15	10.9%	3
Energy consumption per capita (kg oil eq.)	6 287	6 608	7 182		3 694	26
Energy intensity - Energy consumption per 1000€ GDP (kg oil eq.)	258	243	253		202	17

In 2006, Finland's greenhouse gas emissions were 13% higher than the base-year level, well above its Kyoto target to stabilise emissions by the period 2008-2012. However, according to the latest data, Finland is projected to achieve its target once additional measures are also applied.

Following the adoption of the climate and energy package in December 2008, Finland is required to reduce greenhouse gas emissions by 16% by 2020 compared to 2005 levels in non-ETS sectors (e.g. buildings, road transport, and farming). Furthermore, it has committed to achieving by 2020 a share of energy from renewable sources in gross final energy consumption of 38% (up from 28% in 2005).

The cornerstones of the long-term Climate and Energy Strategy are energy-saving and promoting the use of renewable energy, as well as the cost-effectiveness and market-orientation of the proposed measures. It also outlines

the main elements of energy and climate policy until 2050 and proposes measures for action. The Strategy covers both mitigation of climate change and adaptation to its effects. In addition to energy production, the report examines the use of energy and transport, the role of forests in curbing greenhouse gases, and other key areas related to emissions.

An energy-saving agreement has been signed with the freight transport and logistics sector. The aim is to reduce emissions by 9% between 2008 and 2016. Following this example, an energy-saving agreement was also reached concerning public transport, with the same 9% emission reduction target.

In June 2008 the public Finnish Innovation Fund, Sitra, launched a new Energy Programme for 2008-2012. The Programme focuses on improving the energy efficiency of services and buildings and on mobilising consumers.

In October 2008 it was announced that a new suburb of more than a thousand energy-efficient homes is to be built in Skaftkärr, Porvoo. The initiative will provide energy-efficient homes for more than 4000 inhabitants, and the area will be designed and developed as a pilot project of nationwide importance.

In September, the Prime Minister's Office published a report on the use of climate labels on products. The report serves as an input to the government report on climate and energy policy. The report assesses the strengths and weaknesses of various labels and proposes a climate label prototype.

Nature and biodiversity

	2000	2006	Finland		target	EU-27 average	rank in EU-27
			2007	2008			
Natura 2000 area (sites designated under Habitats and Birds Directives) as % of terrestrial area		16.2%	14.5%	14.4%		17.0%	
Sufficiency of site designation under the Habitats Directive	68.5%		68.5%	99.3%	100%		
Area occupied by organic farming (% of Utilised Agricultural Area)	6.6%	6.4%	6.5%			4.2%	9
Freight transport (billion tkm)	42.2	40.8	40.3			EU total 2505.0	
– % road	75.8%	72.7%	73.9%			76.9%	12 of 26
– % rail	24%	27.1%	25.9%			17.4%	6 of 26

The METSO Programme approved in 2008 aims at establishing favourable trends in Southern Finland's forest ecosystems by 2016, in line with internationally defined biodiversity targets. One of the key measures to improve Finland's network of protected forests and to enhance good forestry practices is "natural values trading": forest-owners can voluntarily conclude conservation agreements with the authorities in return for compensation paid under the Nature Conservation Act or the Act on the Financing of Sustainable

Forestry. Funding decisions have so far guaranteed €182 million of financing for the programme until 2012.

The METSO Programme was launched at the same time as Finland's new National Forest Programme for 2008-2015. The co-ordinated preparation and launch of the two programmes intends to illustrate that the commercial use of Finland's forests can be harmonised with the conservation of their biodiversity.

Environment and health

	Finland				EU-27 average	rank in EU-27
	2000	2005	2006	Ceiling		
Urban population exposure to air pollution by particles (annual mean concentration, $\mu\text{g}/\text{m}^3$)	14.7	15.3	16.6	30.0	30.0	2 out of 23
Urban population exposure to air pollution by ozone (SOMO35 level, $\mu\text{g}/\text{m}^3 \cdot \text{day}$)	1 340	1 686	2 606	1 818	4 417	5 out of 23
Air pollutant emissions (thousand tonnes)				(by 2010)	EU27 total	
– sulphur dioxides (SO_2)	89	69	85	110	7946	
– nitrogen oxides (NO_x)	210	177	193	170	11198	
– non-methane volatile organic compounds (NMVOCs)	160	131	133	130	9391	
– ammonia (NH_3)	33	36	36	31	4006	
	1990	Latest available year (1999)				
Water exploitation index	2.1%			2.1%	n.a.	6

The Council of State has issued a regulation limiting the use of perfluorinated alkylated substances (PFAS). Certain PFAS are ubiquitous contaminants, which are found in the environment and organisms throughout the world. The PFAS compound of biggest concern, perfluorooctanesulphonate (PFOS), is persistent, bioaccumulative and toxic. The PFOS related substances are not produced in Finland, but are imported either as chemicals or as part of final products.

Natural resources and waste

	Finland			Target	EU-27 average	rank in EU-27
	2000	2006	2007			
Municipal waste generated (kg per capita)	503	495	507		522	13
- % landfilled	60.8%	57.8%	52.7%		41.0%	10
- % incinerated	10.3%	8.5%	11.6%		19.9%	
	2000	2005	2006			
Recycling of packaging waste (as % total packaging waste)	50%	43.2%	49.1%	55%-80% (by 2008)	56.5 %	15

Sitra has launched the preparation of the Natural Resources Strategy. The aims of the strategy are to look at the future use of natural resources and their management, and to set goals and timetables for the bodies responsible for the measures. The results of the work will be presented in 2009.

In 2008, a new national Public Procurement Action Plan was launched in order to reduce greenhouse gas emissions, the use of chemicals, and waste in the public sector. Public sector purchases will also promote sustainable use of natural resources, and favour environmentally friendly innovations. Public procurement in Finland amounts to approximately € 22 billion a year, equivalent to 15% of the country's gross national product.

Better regulation and implementation

	Finland			EU-27 total
	31/12/2006	31/12/2007	31/12/2008	
Infringements of EU environmental legislation	8	9	12	481

Use of market-based instruments

	Finland			EU-27 average
	2000	2005	2006	
Share of environmental taxes in total tax revenue	6.6%	7%	6.8%	6.4%

As of January 2008, the government introduced a new registration tax on passenger cars. The tax is based on the performance of the car in terms of emissions of grams CO₂/km. The law for a similar (CO₂ based) annual vehicle tax has also been signed, but is not expected to enter into force until 2010. The tax changes are intended to stimulate consumers to purchase more fuel-efficient cars, while also speeding up the renewal of cars in order to have a national car fleet with the latest and most efficient technology.

As of January 2008 energy tax rates in Finland were raised by 9.8% on average. The increase in carbon surtax was 13%. However, biofuels are exempt from the tax increases.



Outlook for 2009

The Climate and Energy Strategy, adopted by the government in November 2008, will be discussed in Parliament in 2009. A working group led by the Ministry of Finance is preparing proposals to revise waste taxation by the end of 2009. Currently waste taxes are paid on waste left at public landfill sites, but are not applied to private or industrial landfills when they do not routinely receive waste produced elsewhere.

The 2006 National Strategy for Sustainable Development "*Towards sustainable choices. A nationally and globally sustainable Finland*" will be assessed in 2009. The Finnish National Commission on Sustainable Development will report to the government on the results of the assessment.

A new centre of expertise to combat oil pollution will be set up in 2009 in Porvoo under the auspices of the Finnish Environment Institute. Its tasks will be to service and store the government-owned equipment used to tackle oil pollution, to develop new equipment, and to organise training and exercises.