



# MITIGATION OF CLIMATE CHANGE

KEY COMPONENTS OF GREENHOUSE GAS REDUCTION POLICIES		TECHNOLOGY OPTIONS FOR REDUCING GREEN HOUSE GAS EMISSIONS		
		SECTORS	MAIN ISSUES	TECHNOLOGY
ENERGY	Economically efficient supply and use of energy	Energy Supply and Infrastructure	Renewable energy and fuels	wind energy
				solar buildings
				concentrating solar power
				biochemical conversion of biomass
				thermochemical conversion of biomass
				biomass residues
				energy crops
				photoconversion
				advanced hydropower
				geothermal energy
Energy Supply and Infrastructure	Economically efficient supply and use of energy	Energy Supply and Infrastructure	Energy infrastructure	high-temperature superconductivity
				transmission and distribution technologies
				distributed generation and CHP
				energy storage
				sensors, controls and communications
				power electronics
				zero-emission power, hydrogen and other value-added products
				high-efficiency coal/solid feed stock
				high-efficiency gas fuel cell/hybrid power systems
				hydrogen production from nuclear fission and fusion
Hydrogen	Economically efficient supply and use of energy	Energy Supply and Infrastructure	Hydrogen	integrated hydrogen energy systems
				hydrogen production
				hydrogen storage and distribution
				hydrogen use
				hydrogen infrastructure safety
Nuclear	Economically efficient supply and use of energy	Energy Supply and Infrastructure	Nuclear	existing plant research and development
				next-generation fission energy systems
				near-term nuclear power plant systems
				advanced nuclear fuel cycle processes
				nuclear fusion
Use of Energy	Economically efficient supply and use of energy	Use of Energy	Buildings	building equipment, appliances and lighting
				building envelope (insulation, walls, roof)
				intelligent building systems
				urban heat island technologies
Non-CO2 GHGs	Economically efficient supply and use of energy	Non-CO2 GHGs	Methane emissions from energy and waste	advances in coal mine ventilation air systems
				advances in coal mine methane recovery systems
TRANSPORT	Sustainable development in the sector Air quality management Congestion management Energy security	TRANSPORT	Transportation	light vehicles-hybrids, electric and fuel cell vehicles
				intelligent transportation systems infrastructure
				aviation
				encouragement of public transportation
INDUSTRIAL PROCESSES	Reduction of gases emitted as by-products	Non-CO2 GHGs	Emissions of high global warming potential gases	semiconductor industry: abatement technologies
				semiconductor industry: substitutes for industrial GHGs
				aluminium industry: HFC emissions
				electric power systems and magnesium: substitutes for SF <sub>6</sub>
				supermarket refrigeration: HFC emissions
AGRICULTURE	Greater sustainability through, among other things, improved food quality, rural development, organic farming and land-use planning	Non-CO2 GHGs	Methane and nitrous oxide emissions	advanced agricultural systems
				options for manure management
				enteric emissions reduction
LAND-USE CHANGE AND FORESTRY	Protection and sustainable management of forests Conservation of biodiversity, wildlife, soil and water Afforestation and deforestation to increase sink capacity			
WASTES	Recycling of wastes	Non-CO2 GHGs	Methane emissions from energy and waste	conversion of methane gas in wastewater treatment plants
	Minimizing wastes			electricity generation technologies for landfill gas

Source: The First Ten Years, UNFCCC, 2004

## MITIGATION OF CLIMATE CHANGE IN THE EU

Selected Measures (ECCP-I 2000/2005)	Reduction Potential (Million ton CO <sub>2</sub> -eq/yr) EU-15, 2010
EU emission trading scheme (2008-2012 allocation compared to 2005/2006 average emissions)	146
Link JI/CDM to emission trading (off-sets)	(max. 227)
F-Gases Regulation and Directive on Mobile Air Conditioning	23
Directive on the promotion of electricity from renewable energy sources	100-125
Directive on the promotion of CHP	65
Directive on energy performance of buildings	35-45
Directive on the promotion of transport bio-fuels	35-40
Directive on the promotion of energy efficiency and energy services	40-55
ACEA voluntary agreement	75-80
Energy labeling directives	20
<b>ECCP-II (2005) Additional Measures</b>	
<i>Aviation, Fuel Quality, CO<sub>2</sub> and Cars, Carbon Capture and Geological Storage, Review of EU ETS</i>	

## EU-27 GHG REDUCTION SCENARIOS for 2020

