

## Chapter 3 – Policies and Measures

### 3.1 - Introduction

In 2001, the Portuguese Government adopted a "Climate Change National Strategy" defining guidelines for action based on commitments agreed within the scope of the UNFCCC and the Kyoto Protocol, as well as the EU burden sharing agreement. This last agreement limits Portugal to a 27% growth in GHG emissions (relative to 1990 emissions) until the end of the first commitment period set out in the Kyoto Protocol, while above average economic growth is necessary to approach economic convergence with the EU.

This apparently "generous" limit in emissions growth is proving difficult to comply with in practice: total GHG emissions have been growing quickly and by 2000 were 30.4% above 1990 levels.

Portugal is committed to comply with international and EU commitments and, as such, it is in the final stages of the preparation of the "Climate Change National Programme" (PNAC). This technical and political instrument will embody the adopted strategy through a set of policies and measures, and associated instruments, capable of reducing emissions within the specified time frame. These aim at an integrated intervention in the economy taking into account environmental efficacy, economic efficiency, preservation of enterprise competitiveness, generation of employment, and political and administrative feasibility. PNAC is built upon a mitigation strategy composed of two blocs of policies, measures and instruments (sectoral and/or cross-sectoral), and their impacts relative to the reference scenario may be subject to assessments. These blocs are:

- "Immediate bloc" – to be developed in the short term (until 2005) and integrating policies, measures and instruments in the planning and implementation stages, approved in late 2001;
- "Additional bloc" – to be mostly implemented in the medium-term (2005-2008) and integrating new policies, measures and instruments.

Assuming that the trends remain unchanged, the estimates for the reference socio-economic scenarios point at a reduction effort between 12.6 and 17.2 Mt CO<sub>2</sub>eq. The impact of use the Kyoto's market instruments is still under assessment.

The following sections will refer to some of the policies, measures and instruments (PAM) being considered under PNAC for intervention in the main sectors of the Portuguese economy.

### 3.2 – Sector: Energy

#### National Energy Policy

Portugal is in the process of adapting to the dynamics of the energy markets, taking into account the European context and the trends in market liberalization and globalisation. Such process is being carried out through the on-going privatisation of large national energy producers and distributors, and through the diversification of energy sources, especially with regard to natural gas for consumption (in industry and buildings) and electricity generation.

The introduction of natural gas in 1997 has contributed to the diversification of energy supply, the reduction of external dependency on oil and a reduction in the growth of emissions of CO<sub>2</sub> and other pollutants.

The environmental effects of natural gas consumption are highly relevant in terms of CO<sub>2</sub> emissions reduction, not just because of the partial substitution of oil and coal in the industrial and domestic sectors, but predominantly because of its use as a fuel in power generation.

National energy policy also takes into consideration the European Commission's draft Directive on electricity generation from renewable sources (including large hydro, but excluding non-industrial and municipal waste of non-biomass origin). This proposal sets an indicative target of 22.1% of EU's energy consumption<sup>6</sup> being met by renewable energy by 2010 (relative to 1995). For Portugal, the reference target is 39% of energy consumption by 2010 .

The Operational Programme for the Economy (POE) contributes to the upgrade of energy infrastructures, the intensification of endogenous energy use (especially renewable sources), and the promotion of energy efficiency through incentives for the rational use of energy.

<sup>6</sup> Gross electricity consumption: domestic electricity production plus imports minus exports.

The "E4" Programme (Energy Efficiency and Endogenous Energy) proposes a set of measures promoting an integrated and coherent vision, from supply to demand of energy, with the objectives of improving the economy's competitiveness and modernizing society. One of the key measures is the change in the price structure, with a positive bias towards energy generated from renewable sources. The main vectors of intervention are:

1. Diversification of access to energy sources available in the market, and improved consistency of the services provided by energy suppliers;
2. Promotion of energy efficiency, paying particular attention to opportunities and means of optimising efficiency on the demand side;
3. Promotion of renewable energy, taking into account economic and technical viability as well as environmental constraints.

Name	Objective	GEE Affected	Type of Instrument	State of Implementation	Implementing Entity	Reduction Potential (MtCO <sub>2</sub> )
Electricity produced from renewable energy sources	Power generation from renewable energy sources (39% of total electricity consumption by 2010)	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Economic Regulator	In Implementation	Ministry of Economy – DGE	2.4–2.5
Energy Efficiency in the Power generation sector	Introduction of higher efficiency combined cycle natural gas units (60% instead of 55%)	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Technical	In Implementation	Ministry of Economy – DGE	0.5
Energy Efficiency in the Power generation sector	Reduction of losses from distribution. Reduction of losses from 9.3% to 8.6% of energy provided by the grid by 2010.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O		Planning	Ministry of Economy – DGE	0.3
Co-generation	Application of the proposed Directive on co-generated electricity. Target of 18% throughout EU by 2010.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O		Planning	Ministry of Economy – DGE	0.5
Application of a demand-side management programme	Annual average growth rate of electricity consumption from 3.6% to 3% forseen between 2000 and 2010	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O		Planning	Ministry of Economy – DGE	1.0

Table 3.2.1: National Policies and Measures for the Energy Sector

Name	Reduction Potential	Deadline for Implementation	Cost
<b>Co-generation</b>			
New EU co-generation initiative	Up to 65 Mt/year (including low power units)	Launch in 2002	<20 Euros/t: 1-12 Mt/CO <sub>2</sub> eq. 20-50 Euros/t: 20-50Mt CO <sub>2</sub> eq.
New Directive on power production from cogeneration		Doubling of power produced by co-generation at EU level from 9% to 18% by 2010.	
<b>Electricity produced from fossil fuels</b>			
Directive on liberalisation of electricity and natural gas markets until 2005	80-120 MtCO <sub>2</sub> eq/ano (includes 63 Mt CO <sub>2</sub> avoided through the substitution of coal-fired power stations by combined cycle natural gas)		<20 Euros/t: 88 Mt CO <sub>2</sub> eq 20-50 Euros/t: 25 Mt CO <sub>2</sub> eq
<b>Use of more efficient energy systems</b>			
Acceleration of liberalisation process for internal electricity and gas markets - Voluntary agreements with industry based on the IPPC and LCP Directives	100 Mt/year		20-50 Euros/t: 100 MtCO <sub>2</sub> eq. (including improved efficiency in power generating systems)
<b>Renewable Energy Sources (RES)</b>			

Table 3.2.2: European Policies and Measures for the Energy Sector

### 3.3 – Sub-Sector: Domestic and Services

GHG emissions from the domestic and services sub-sector are associated with the thermal behaviour of buildings (namely their heating and cooling needs), energy efficiency of equipment and patterns of behaviour and consumption. They have experienced a significant rise (especially services) with CO<sub>2</sub> being the main gas emitted.

Increased electricity consumption is the main factor of the significant increase in national GHG emissions from the domestic and services sectors. There are three complementary approaches for tackling this problem:

1. Intervening on the supply side by promoting a higher share of low carbon energy in the structure of electricity production (eg. renewable sources), and/or resorting to more energy-efficient technologies (eg. co-generation).
2. Changing the demand profile by promoting energy-efficiency, both in buildings and equipment;
3. Changing the patterns of consumption and behaviour by creating incentives to the rational use of energy.

Name	Objective	GHG Affected	Type of Instrument	Stage of Implementation	Implementation Body	Reduction Potential (MtCO <sub>2</sub> e)
Regulation on the Thermal Characteristics and Behaviour of Buildings	Establishes an equilibrium between the needs of thermal comfort and the rational use of energy.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Regulator	In implementation	DGE	
Regulation of Energy Systems for Buildings' Climatization	Establishes rules and guidelines for the dimensioning of energy consuming systems for climatization of buildings.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Regulator	In implementation	DGE	
Regulation on Management of Energy Consumption	Determines the reduction plans for energy consumption by businesses and energy intensive consumers.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Regulator	In implementation	DGE	
Labelling	Promoting behavioural change, towards production and consumption of electrical equipment with higher efficiency levels.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Information	In implementation	DGE	
Energy Efficiency and Endogenous Energies Programme: Solar Hot Water for Portugal Programme	1.000.000 m <sup>2</sup> in 2010	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O		In implementation	DGE INETI	0.1 – 0.2
National Programme for Energy Efficiency in Buildings	Revision of existing instruments (ROCTE and RSECE), making energy efficiency requirements more stringent, certification of buildings, more intensive labelling of equipment and adding information to the consumer.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O		Planning	DGE INETI	0.6
Dissemination of information to the business sector on the fiscal benefits associated with thermal solar applications.			Information	Planning		
Training to policy makers and the public at both national and local levels on good practice in the rational use and conservation of energy in buildings, on technological specifications of labelling, and on demand-side management of energy as well as monitoring and benchmarking processes.			Information	Planning		
Revision of tax incentives to promote use of new equipment	Substitution of 50% of lighting equipment, 20% of total u.a. in 2010 (substitution of incandescent bulbs by low consumption compact fluorescent bulbs)		Fiscal	Planning		0.01
Procurement of energy efficient equipment in the service sector.				Planning		

Table 3.3.1: National Policies and Measures for the Domestic and Services Sub-Sectors

Thus, the policies and measures planned or under implementation for this sector (both at EU and national levels) are mainly focused on the thermal characteristic of buildings, energy efficiency (of buildings and machinery) and the management of energy supply and demand.

Currently, Portugal has access to a set of instruments with variable response capabilities in terms of energy and carbon intensity reduction for this sector. The effectiveness of a GHG reduction instrument can be limited by many factors, among them information<sup>14</sup> and the level of participation where the instruments are predominantly voluntary; and compliance where they are compulsory.

Of the instruments currently available, the following set is of particular importance : Regulation on the Thermal Behaviour of Buildings (RCCTE); Regulation of the Energy Systems for Acclimatization of Buildings (RSECE); Regulation on the Management of Energy Consumption (RGCE); and the labelling of equipments as an information instrument.

Name	Objectives	Deadline for Implementation	Reduction Potential MTCO <sub>2</sub> /year
Directive on Energy Efficiency of Buildings	Minimum standards for energy efficiency of new and some renovated buildings; energy certification; inspection and evaluation of heating and cooling systems	Up to 2010	34 - 45
Revision of SAVE 93/76/CEE Directive	Quantification of consumption, audits, financing, and potential energy management systems		15 - 20
Public Initiatives for Energy Efficiency	Coordinate demand and acquisition of energy efficient technology with a view to increasing volume of production and reduction of cost .		25 - 40
Directive on Energy Services	Completing the internal energy market, promoting demand-side energy efficiency. Establishment of targets and support especially to families and small and medium enterprises.	Up to 2010	40 - 55
Technology Procurement Initiative	Introduction of technology with specific energy efficiency characteristics, promoting the convergence between potential consumers and producers of the technology		15 - 25
Audits System: Initiatives of Good Practice; and Voluntary Agreements		Up to 2010	20 - 35
European Sustainable Energy Agency (ESEA)	Support to and promotion of the role of advisory networks relating to energy, at local, regional and national levels. Progress monitorization, information dissemination campaigns and activities. Education and training. Labelling, minimum criteria and certification. Institutional, financial and other		

Table 3.3.2: European Policies and Measures for the Domestic and Services Sub-Sectors

### 3.4 – Sector: Transport

The Transport sector is the second largest GHG source, responsible for about 30% of national emissions. These emissions are directly dependent on the structure of the energy consumption of the sector. In 1990, motor vehicles alone were responsible for 70% of the energy consumption of the sector, and it is estimated that this share will increase to 77% in 2010. The maritime and air transport sub-sectors are responsible for 15% and 13% of energy consumption, respectively. The rail sub-sector is relatively insignificant, representing just 2% of energy consumption. However, this sub-sector is faced with the largest growth forecasts, at an annual increase of 7% until 2010.

Potential reductions in this sector could result from the following measures:

- Reformulation of the current Vehicle Tax (IA) within the Special Tax on Vehicles (IEV), and the creation of a Single Tax on Circulation (IC);
- Elaboration and implementation of the National Plan of Logistical Platforms;
- Voluntary agreement with the European Commission and ACEA to promote the increase of fuel efficiency of light passenger vehicles, supported by a tax revision favourable to the renovation of the national vehicle stock.
- Changes in the means of intercity merchandise transport, and reduction in the frequency of empty haul journeys in short distance distribution.
- Changes in the means of urban transport from private vehicles to public transport.

Name	Objective	GHG Affected	Type of Instrument	Stage of Implementation	Implementing Body	Reduction Potential (MtCO <sub>2</sub> e)
Modernization and construction of light rail transport.	Establishment of a hierarchy of appropriate public transport in the principal metropolitan areas, with a view to integrating collective transport systems.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Voluntary commitments/ Information/ education	Planning and Implementation	Porto Underground/ Mondego/ Sul do Tejo and Lisbon Underground	
Modernizing infrastructure and the service of conventional rail transport.	Infrastructure appropriate to the needs of different types of transport, expansion, improvement in services rendered and enhancing the attraction of rail transport, thus inverting the negative trend in the use of rail transport.	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Economic/ Unilateral commitments	In Implementation	REFER e CP	
Management of Energy Consumption by the Transport sector.	Reduction of specific energy consumption	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Direct Regulation	In Implementation	Direcção Geral da Energia.	
System of incentives to public road transport of goods.	Minimise the environmental impact of public road transport of goods (ex. improving efficiency through minimising number of empty-haul journeys, removal from service of older vehicles)	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Economic	Implemented and in Implementation	Direcção Geral dos Transportes Terrestres	
In the city without your car	Reduction in use of private cars in urban areas	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O	Information / Education	MCOTA, Local Authorities		
National Network of Logistical Platforms	Promote efficiency and intermodality of transport	CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O				
Reduction to the specific emissions of CO <sub>2</sub> from automobiles		CO <sub>2</sub>	Voluntary Agreements	In Implementation		0.4

Table 3.4.1: National Policies and Measures for the Transport Sector

Although still not quantified, there is both technical and economic potential for GHG emissions reduction in the transport sector.

The implementation of an effective and consistent reduction strategy requires designing a long-term policy integrating all means of transport. Such policy (under development) implies an improvement in the intrinsic coherence of the transport sector, especially in terms of the relationship between the intervening agents i.e. the managing, financing and monitoring entities.

Name and Objective	Reduction Potential MT CO <sub>2</sub> /year
Implementation of voluntary agreements with car manufacturers in order to reduce CO <sub>2</sub> emissions through the production of lighter vehicles	5 - 10
Improved technology in passenger vehicles, such as in engines and air conditioning units, as well as with regard to fuels	40
Improvements in the use of transport infrastructure, as well as tolls, including Intelligent Transport Systems	40 - 60
Fiscal measures	17
Intermodal / Multimodal transport, as well as enhanced logistical efficiency	Up to 50% in some sectors
Awareness-raising and behaviour modification. Includes awareness-raising on benefits of fuel efficiency.	> 50
Improved quality of information in order to evaluate and monitor all transport modes, in particular land and air transport.	N/A

Table 3.4.2: European Policies and Measures for the Transport Sector

### 3.5 – Sector: Waste

The Waste sector (including municipal, industrial, and hospital wastes, wastewater and sludge, and livestock wastes has been responsible for about 15% of national GHG emissions, with livestock wastes accounting for 80% of the total sectoral emissions.

Despite the relatively insignificant contribution of municipal solid wastes to the national GHG emissions (2 Mt CO<sub>2</sub> eq. of 60 Mt CO<sub>2</sub> eq. in 1990), this is still a strategic sector due to its cost-effective reduction potential. The pattern of emissions is directly proportional to the quantity of solid waste produced and their final destination. In 1990, Portugal had the lowest per capita waste production among the EU countries (roughly 350 Kg/capita/year). Methane emissions, the most important GHG of the waste sector, grew by 13% between 1990 and 1999.

The waste sector policy has been drawn up with a concern for GHG emissions reduction, and presents a significant direct and indirect reduction potential through avoided emissions from recycling and energy production. The future of this sector (municipal solid, industrial and hospital wastes) is set against a backdrop of plans defining targets for waste management until 2006, but in some cases until 2015. Waste management practices take into account many aspects such as production prevention (both in terms of quantities and hazard levels), reuse, recycling, energy recovery and disposal. Economic recovery of waste and dissemination of information are decisive factors for the achievement of the established targets. With regard to livestock waste, these have a high technical and economic potential for biogas recovery, thus reducing methane emissions. It is therefore particularly important to set up incentives for the development of enterprises providing this type of services.

Name	Objective	GHG affected	Type of Instrument	Stage of Implementation	Implementing Body	Reduction Potential (MCO <sub>2</sub> )
Plan of Action for Urban Solid Waste; Strategic Sectoral Plan for Management of Urban Solid Waste; National Plan for Prevention of Industrial Waste; Strategic Plan for Hospital Waste; Strategic Plan for Industrial Waste; Strategic Plan for Reduction of Industrial Waste; Application of Landfill Directive	Promote reduction, reutilisation and recycling of the various types of waste, thus promoting direct and indirect GHG emissions reduction	CO <sub>2</sub> CH <sub>4</sub>		Under Implementation / Planning / Adopted	Ministries of Environment / Economy / Health	Reflected in other economic sectors
Effective application of Integrated Pollution Prevention and Control (IPPC) resulting from the transposing of the respective Directive, as relevant for intensive livestock and waste management sectors				Planning		
Use of Biogas from collectors of livestock waste subject to processing and treatment, to produce heat and electricity				Proposal		1.2

Table 3.5.1: National Policies and Measures for the Waste Sector

### 3.6 – Sector: Industry

The industry sector is responsible for GHG emissions from combustion and production processes. In Portugal, emissions from combustion account for over 60% of the sector's total, and have grown by 15% between 1990 and 1999. A further 18% increase until 2010 is forecasted. The share of emissions linked to electricity consumption in this sector is about 35% of the total. Among the energy-intensive industrial sub-sectors are the following (in decreasing order of significance):

- "glass and ceramics",
- "cement and associated products",
- "basic metallurgy",
- "paste, paper and graphic arts" and
- "chemicals, plastics and rubber".

These represent around 65% of total industrial energy consumption. As for carbon-intensive sub-sectors, these are mainly "cement and products", "glass and ceramics" and "paste, paper and graphic arts".

Some of the instruments currently available were designed in the context of specific sectoral policies and can be of special significance in reducing GHG emissions. The most important are the policy on energy pricing, the Regulation on the Management of Energy Consumption (RGCE), the Operational Plan for the Economy and the legal arrangements in the context of the EU Directive on Integrated Prevention and Pollution Control.

An analysis of the policies and measures currently in force shows that some of the instruments need to be strengthened in order to increase their GHG reduction potential.

Name	Objective	GHG affected	Type of Instrument	Stage of implementation	Implementing Body	Reduction Potential (MtCO <sub>2</sub> )
RGCE	Reduction of energy consumption by large power consumers; establish specific consumption reduction targets for businesses through Plans for Rational Use of Energy	CO <sub>2</sub>	Voluntary Agreements	In implementation		
Use of Energy Potential and Rationalisation of Consumption	Increase installed capacity, by 250 MW, of power production facilities based on renewable energy sources; 90MW of new installed capacity in co-generation; savings of 30,000 toe resulting from energy efficiency and rational use of energy.	CO <sub>2</sub>	Financial Support	In implementation	DGE, DREs, Private Sector, other Public Institutions: INETI, AGEN, etc.	
Contract for the continuous improvement in environmental performance by the cement sector.	Development of a series of activities to improve environmental performance with a view to registration under EMAS of all the industrial units of the sector, including monitoring activities and gas emissions reductions.	CO <sub>2</sub>	Voluntary Agreements	In implementation	Ministries of Environment and Economy and Private Sector	
Contract for the continuous improvement in environmental performance by the packaging glass sector.	Reduction in pollution and in the use of natural resources and development of environmental management activities within the scope of EMAS. Reduction of CO <sub>2</sub> by 31.5% by 2003 (relative to 1994).	CO <sub>2</sub>	Voluntary Agreements	In implementation	Ministries of Environment and Economy and Private Sector	
Emissions control at source	Application of legislation on Integrated Pollution Prevention and Control (IPPC) resulting from the transposing of the IPPC Directive			Planning		0.6
Use of Energy Potential and Rationalisation of Consumption	The reformulation of this measure, to take effect from 2003, will increase the reduction potential by about 0.11 Mt CO <sub>2</sub> e/eq.	CO <sub>2</sub>		Planning		0.1
Emissions reduction by carbon-intensive industrial sectors		CO <sub>2</sub>	Voluntary Agreements and Fiscal Instruments	Planning		
Emissions reduction by SME	Rational Use of Energy by SME	CO <sub>2</sub>	Financial Support	Planning		
Energy Services	Rational Use of Energy and introduction of clean technologies to SME	CO <sub>2</sub>		Planning		0.3 - 0.7

Table 3.6.1: National Policies and Measures for the Industrial Sector

### 3.7 - Sector: Forestry

Forestry policy objectives include climate change concerns by considering the increase in the carbon sink capacity of forests as a means or reducing atmospheric CO<sub>2</sub>. This is referred specifically in the following documents:

- **Framework Law on Forestry Policy (Law number 33/96 of August 17)** – Article 3 – Guiding Principles – refers to the contribution of forests to the stabilization of CO<sub>2</sub> sequestration.
- **Plan for the Sustainable Development of Portuguese Forests (Council of Ministers Resolution number 27/99 of April 8)**

Within the framework of the strategic orientation document "Conserving Nature and Raising the Value of the Environment in Forest Spaces", one of the identified objectives is the increase in carbon sequestration. The means to make this objective operational include:

- Carbon sequestration through increasing forest cover land (expansion of forest cover by 2% in the next 10 years);
- Promoting the use of timber (long life products);
- Expanding the life-cycle of timber derivate products (recycling and reusing);
- Promoting assessments of the contribution of forests to the carbon cycle.

The following measures aim at achieving the aforementioned objectives and have either been implemented or have been adopted and are presently in the early stages of implementation:

#### a) Specific Regulation:

- Regional Plans for Forestry Planning – aim at setting up, for each region, general guidelines for sustainable forestry management, options for improvement of existing forests and specific regional strategies;
- Protection of oak stands (helm and cork);
- Prevention of early felling of trees;
- Forest fire prevention;
- Soil protection.

#### b) Economic Incentives:

##### - **AGRO Programme / Measure – Sustainable Development of Forests**

- Action – Forestry support
- Action – Restoration of the forestry production potential – Support to tree planting of forest spaces, to enhancing and promotion of multi-use of forest spaces, and the productivity rehabilitation of forests damaged by fire and other natural causes.
- Action – Support to Seed and Plant Production – Support to the production of reproductive forest materials and adding value to base material in order to assure compliance with norms and standards for security and quality, thus supporting the forestry sector's sustainable development and improving productivity generally.

- Action – Promotion of new markets and upgrading of forestry products – Support to marketing of forest products as renewable and environmentally sound, promotion of new uses of forest products, establishment of sustainable forest management systems, awareness-raising of producers and the public on the need for management for sustainability.

##### - **RURIS Programme / Afforestation of agricultural land**

- Promotion of quality forest extension to agricultural lands with species adapted to the environment. Rehabilitation of impoverished soils and mitigation of desertification effects, by recovering soil fertility and regulating water resources

##### - **AGRIS Programme / Measure – Sustainable Management and Ecological Stability of Forests**

- Sub-action – prevention of risks caused by biotic and abiotic agents

##### - **Reg. (CEE) nr. 2158/92 / Forest fire protection -**

- Support to projects in: preventive forestry, installation of defensive and support infrastructure, vigilance and first intervention, awareness-raising, studies on fire risk and cause

##### - **Reg. (CEE) nr. 3528/86 – Protection of Forests against air pollution –**

- Support to studies and projects on forest ecosystems and monitoring initiatives

#### c) Other types of measures:

- Elimination of pests and disease;
- Public awareness-raising activities about forest protection;
- Studies, Investigation and Demonstration in the areas of: role of forests in the carbon cycle; Improvement in the methods for forest inventories, adding new parameters as required by UNFCCC and CBD; genetic improvement; improvements in productivity and soil protection; monitoring of forest areas damaged by fire and subsequent changes in soil, using GIS and satellite images;
- Forest fire prevention

It should also be noted that, from 1992/1993 onwards, all the national legislation on forests, namely with regard to issues of afforestation and improvement of forest areas, are based on EU legislation, which expressly refers to mitigating the greenhouse effect, sequestration of CO<sub>2</sub> and the problems of climate change as issues to take into consideration (Reg. EEC 2080/92 of June, 30 and Reg. EEC 1257/99 of May, 17).

The following table provides a summary of these policies and measures.

Name	Objective	GHG affected	Type of Instrument	Stage of Implementation	Implementing Body	Reduction Potential (MtCO <sub>2</sub> )
Regional Strategies for Forest Planning	Establishment of appropriate sustainable forest management strategies for each region. Protection of oak stands, prevention of premature felling of trees, forest fire prevention, soil protection.	CO <sub>2</sub>	Regulatory	In implementation	DGF	
AGRO Programme / Measure. Sustainable Development of Forests - Support to Forestry Project - Support to Forestry Project - Re-establishment of Forest Productivity Potential	Support to tree planting of forest spaces, to enhancing and promotion of multi-use of forest spaces, and the productivity rehabilitation of forests damaged by fire and other natural causes.	CO <sub>2</sub>	Financial Support	In implementation	DGF	
Project - Support to the production of seeds and plants	Support to the production of reproductive forest materials and adding value to base material in order to assure compliance with norms and standards for security and quality, thus supporting the forestry sector's sustainable development and improving productivity generally.		Financial Support	In implementation	DGF	
Project - Promotion of new markets and value-adding processing of forest products.	Support to marketing of forest products as renewable and environmentally sound, promotion of new uses of forest products, establishment of sustainable forest management systems, awareness-raising of producers and the public on the need for management for sustainability.		Financial Support	In implementation	MADRP	
RURIS Programme Afforestation of agricultural land	Promotion of quality forest extension to agricultural lands with species adapted to the environment. Rehabilitation of impoverished soils and mitigation of desertification effects, by recovering soil fertility and regulating water resources		Financial Support	In implementation	IFADAP	
AGRI Programme / Measure- Sustainable Management and ecological stability of forests: Sub-project - minimising of risks from biotic and abiotic agents.			Financial Support	In implementation	Regional Directorates for Agriculture	
Reg. (CEE) N.º 2158/92 / Protection against forest fires	Support to projects in: preventive forestry, installation of defensive and support infrastructure, vigilance and first intervention, awareness-raising, studies on fire risk and cause		Financial Support	In implementation		
Reg. (CEE) No. 3528/86 - Forest protection from atmospheric pollution	Support to studies and projects on forest ecosystems and monitoring initiatives		Financial Support	In implementation	DGF	
Other measures:						
Elimination of pests and disease:						
Public awareness-raising activities about forest protection:						
Studies, Investigation and Demonstration in the areas of: role of forests in the carbon cycle; Improvement in the methods for forest inventories, adding new parameters as required by UNFCCC and CBD; genetic improvement; improvements in productivity and soil protection; monitoring of forest areas damaged by fire and subsequent changes in soil, using GIS and satellite images:						
Forest fire prevention						

Table 3.7.1: National Policies and Measures for the Forestry Sector

