Flemish Energy Efficiency Action Plan

2008 – 2010

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1. Executive summary

The Flemish Energy Efficiency Action Plan contains the objectives and measures taken under Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC.

This plan specifies the Flemish energy savings target for 2016 and the intermediate objectives for 2010. The energy savings target for 2016 is 9% of the final inland energy consumption within the scope of Directive 2006/32/EC. For the Flanders Region this effectively means that the final energy savings objective for 2016 is 16,958 GWh. To determine the intermediate objective in 2010 we have opted for an even distribution of the efforts requested over the period of the Directive. This effectively means that the intermediate objective is 5,653 GWh final.

The measures to be taken to achieve these targets are also described in detail for each sector.

Finally a summary is also given of the measures taken as part of the exemplary role of the public sector (article 5) and the provision of information and advice to the final customer (article 7).

The following summary table gives a brief overview of the full content of the plan.

Table: General summary of the Flemish Energy Efficiency Action Plan

Flemish indicative annual energy savings objective for 2016 (GWh final)		16,959
Flemish intermediate indicative annual energy savings objective for 2010 (GWh final)		5,653
Energy efficiency improvement programmes, energy services and other measures to promote energy efficiency that are planned to reach the energy savings target	**Annual energy saving expected by the end of 2010 (GWh)**	**Annual energy saving expected by the end of 2016 (GWh)**
Measures in the residential sector: 1) Imposition of energy performance and indoor climate requirements *[energieprestatie- en binnenklimaateisen]* (EPB requirements) on houses and apartments. 2) Imposition of REG public service obligations on electricity distribution network operators for household final customers.	1) 747 2) 1,632	1) 2,018 2) 2,686
Measures in the tertiary sector:		

1) Imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings. 2) Imposition of REG public service obligations on electricity distribution network operators for non-household final customers. 3) Grant of subsidies for energy saving projects in health and welfare facilities. 4) Accelerated investment in (new) school infrastructure through alternative finance. 5) Grant of subsidies for rational energy consumption in existing school buildings.	1) + 2) + 3) = 1,867 4) 53 5) 258	1) + 2) + 3) = 3,576 4) 106 5) 343
Measures in the industrial sector: (scope of Directive) 1) Audit agreement. 2) Imposition of REG public service obligations on electricity distribution network operators for non-household final customers.	1) 446 2)169	1) 670 2) 309
Measures in the agricultural sector: 1) Grant of subsidies for energy saving measures in agriculture and horticulture (cultivation under glass).	1) 1,334	2) 2,330
Measures in the transport sector: 1) Mobility management measures or measures to bring about a shift in the choice of transport. 2) Development of a more eco-friendly fleet by adjusting traffic loads.	1) 1,345 2) 1,125	1) 2,407 2) 2,886
Horizontal and cross-sectoral measures: 1) Promotion of qualitative cogeneration (CHP) through cogeneration certificates.	1) 408	1) 843
Total expected energy saving	**9,184**	**18,174**

Measures implementing Article 5 on the exemplary role of the public sector 1) Exemplary function of the Flemish government via: a) "Energy conservation in Flemish government buildings" [*Energiezorg in de Vlaamse overheidsgebouwen*] action plan b) "Eco-management of the Flemish government's vehicle fleet" [*Milieuzorg in het voertuigenpark van de Vlaamse overheid*] action plan. 2) Exemplary role of local councils through the energy cluster and the mobility cluster in the cooperation agreement with the Flanders Region. 3) Flemish government initiatives in support of local energy policy a) 20% subsidy for the installation of solar boilers b) financial support for energy technology demonstration projects c) Support of the local energy policy through the REG public service obligations on the electricity distribution network operators d) Introduction of an energy performance certificate for public buildings by 1 January 2009 e) Supporting communication initiatives for local councils. 4) Imposition of energy-efficiency as a criterion for government contracts: incorporated into 1) and 2).		
Measures for the implementation of Article 7 on the availability of information for the final customer 1) Private individuals a) Promotion of REG b) Encouragement of eco-friendly driving behaviour c) Promotion of eco-friendly vehicles 2) Energy consultants for businesses 3) Education a) Production of brochures on energy saving subjects b) Eco-Management in Schools [*Milieuzorg op School*] project c) Eco-Management in Higher Education [*Milieuzorg in het hoger onderwijs*] project 4) Guide for youth groups and adult clubs and societies.		

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2, Flemish indicative energy savings target

Calculation of the Flemish energy savings objective

2.1.1 General principles for calculation

The Flemish indicative energy savings target is calculated on the basis of Flemish regional energy balances for the period 2001-2005. This is the most recent five-year period prior to the implementation of the Directive for which official Flemish figures are available.

2.1.2 Overview table of the final inland energy consumption within the scope of the Directive in the years 2001 to 2005

	2001	**2002**	**2003**	**2004**	**2005**
Heat (GWh)	1,252	993	1,492	1,632	1,585
Electricity (GWh)	35,461	35,880	36,936	35,813	35,963
Fuels (GWh)	152,211	147,765	154,957	150,854	149,350
Final inland energy consumption within scope of Directive (GWh)	188,925	184,638	193,385	188,299	186,898

Average over a period of 5 years	188,429 GWh
9% energy savings objective in 2016	16,959 GWh
Energy savings objective adopted in 2016	**16,959 GWh**
Interim objective in 2010	5,653 GWh

The Flemish indicative energy savings target is 9% of the average final inland energy consumption within the scope of the Directive. The objective is 16,959 GWh final in 2016.

Although this is not necessary, the Flanders Region is applying the principle of spreading the efforts required by the Directive over the nine working years of the Directive, in other words 2008 to 2016. This results in an energy saving of 1% to be realised annually.

2.1.3 Detailed overview of the final inland energy consumption within the scope of the Directive in the years 2001-2005

	2001			
	Heat (GWh)	Electricity (GWh)	Fuels (GWh)	Total (GWh)
Final inland energy consumption	6,363	48,349	191,962	246,674
Exemption: Energy consumption in undertakings covered by the Emissions Trading Directive	5,111	12,888	39,751	57,749
Final inland energy consumption within the scope of the Directive	1,252	35,461	152,211	188,925
- residential		10,271	58,163	68,434
- tertiary sector		8,733	15,638	24,371
- agriculture	304	1,070	7,902	9,276
- industry	948	14,583	14,341	29,873
- transport		804	56,167	56,971

	2002			
	Heat (GWh)	Electricity (GWh)	Fuels (GWh)	Total (GWh)
Final inland energy consumption	5,409	49,501	191,367	246,278
Exemption: Energy consumption in undertakings covered by the Emissions Trading Directive	4,416	13,622	43,602	61,640
Final inland energy consumption within the scope of the Directive	993	35,880	147,765	184,638
- residential		10,649	54,585	65,234
- tertiary sector		11,120	15,377	26,498
- agriculture	289	1,068	7,874	9,231
- industry	704	12,293	13,232	26,229
- transport		750	56,696	57,446

	2003			
	Heat (GWh)	Electricity (GWh)	Fuels (GWh)	Total (GWh)
Final inland energy consumption	5,213	50,630	197,022	252,865
Exemption: Energy consumption in undertakings covered by the Emissions Trading Directive	3,722	13,694	42,065	59,480
Final household energy consumption within the scope of the Directive	1,492	36,936	154,957	193,385
- residential		10,879	60,552	71,430
- tertiary sector		10,971	16,184	27,155
- agriculture	499	1,091	7,870	9,460
- industry	992	13,256	13,758	28,006
- transport		741	56,593	57,334

	2004			
	Heat (GWh)	Electricity (GWh)	Fuels (GWh)	Total (GWh)
Final inland energy consumption	5,705	50,789	195,304	251,798
Exemption: Energy consumption in undertakings covered by the Emissions Trading Directive	4,073	14,976	44,450	63,499
Final inland energy consumption within the scope of the Directive	1,632	35,813	150,854	188,299
- residential		11,208	56,630	67,838
- tertiary sector		11,334	16,848	28,182
- agriculture	764	862	8,292	9,917
- industry	868	11,648	11,947	24,464
- transport		761	57,136	57,898

	2005			
	Heat (GWh)	Electricity (GWh)	Fuels (GWh)	Total (GWh)
Final inland energy consumption	6,705	51,174	193,092	250,974
Exemption: Energy consumption in undertakings covered by the Emissions Trading Directive	5,121	15,212	43,760	64,093
Final inland energy consumption within the scope of the Directive	1,585	35,963	149,350	186,898
- residential		10,887	56,092	66,979
- tertiary sector		11,746	16,166	27,912
- agriculture	1,002	892	8,178	10,072
- industry	583	11,663	11,052	23,299
- transport		775	57,319	58,094

The detailed calculations of the average final inland energy consumption over the period 2001-2005 are attached as an appendix. The calculations are expressed in PJ. The calorific values used for each energy commodity are reported in 2.2.3, which also gives an explanation of any calorific values used that differ from those referred to in Annex II to the Directive.

2.2 Specific aspects of the calculation of the Flemish energy savings objective

2.2.1 Peculiarities of data generation on final inland energy consumption

Industry

The energy consumption of large industrial undertakings is well known as they have a duty to report to the Flemish government. The Flemish Institution for Technological Research [*Vlaamse Instelling voor Technologisch Onderzoek*] (VITO), in cooperation with business federations, interviews approximately 2000 smaller companies about their annual energy consumption every year.

Data on natural gas and electricity consumption are provided by the energy suppliers (before the liberalisation of the electricity and gas market on 1 July 2003) and by the distribution system operators (after liberalisation). For some industrial sectors, such as foods, which consist of many small companies, a limited amount of the data for petroleum products such as propane, fuel oil and heavy fuel oil is extrapolated. The extrapolation is based on the ratio of "reported energy consumption" to "total electricity consumption" for the relevant sector, which is approximately 85 to 90%.The total share of extrapolated energy is between 1 and 5 PJ a year, or about 1 to 2% of the total energy consumption in industry.

Tertiary sector

Most companies in the service sector are not obliged to report their energy consumption. A selection of about 3000 companies is interviewed each year by the VITO. As with industry, data on electricity and gas consumption is provided by the suppliers (before liberalisation) and distribution system operators (after liberalisation). The petroleum products are extrapolated in the same way as for the industrial sector. The ratio of "reported electricity consumption" to "total energy consumption" is around 15% for the service sector. The amount of extrapolated energy is in the order of 15PJ or about 15% of the total energy consumption in the service sector.

ISO 9001

Since July 2000 the procedures for the preparation of the Flemish energy balance have been part of a certified ISO9001 system under certificate number 08376-2003-AQ-ROT-BELCERT. This certificate currently applies for the development and implementation of full evaluation methods and management concepts for the sustainable use of materials, energy and the environment, including the electronic dissemination of information about energy and the environment (EMIS).

The quality system contains quality procedures and planning activities. There are 7 procedures specifically for the preparation of the Flemish Energy Balance.

EMIS-PRO 021	Flemish Energy Balance	General procedure with methodology for the preparation of an energy balance for a particular year.
EMIS-PRO 022	Industry survey	The procedure describes the methodology for carrying out a survey in the industrial sectors in a particular year.
EMIS-PRO 023	Extrapolation in industry	The procedure describes the methodology for extrapolating the energy consumption from the industry surveys to produce a global energy consumption for industry in Flanders for a particular year.
EMIS-PRO 024	Service Sector survey	The procedure describes the methodology for carrying out a survey in the service sectors in a particular year.
EMIS-PRO 025	Extrapolation in the service sector	The procedure describes the methodology for

		extrapolating the energy consumption from the service sector surveys to produce a global energy consumption for industry in Flanders in a particular year.
EMIS-PRO 026	Transformation sector	The procedure describes the methodology compiling an energy balance for the transformation sector.
EMIS-PRO 027	Electricity sector survey	The procedure describes the methodology for carrying out a survey for electricity and heat production in cooperation with the Flemish Energy Agency.

The procedure EMIS-PRO 021 describes the general methodology that is used to compile a Flemish energy balance for a particular year. The aim of this procedure is to provide information and instructions for the coherent preparation of an energy balance for a particular year. Where necessary the procedure refers to other procedures for specific sectors.

These EMIS procedures for the preparation of the energy balance form part of a general quality system IMS (Integral Environmental Studies) operated by the expertise centre within VITO. The expertise centre's quality handbook gives a summary of the global quality system with reference to the specific procedures for specific activities. An example of a general procedure is "ALG-PRO 011 Continuous quality improvement, quality renewal and control of deviations." This procedure describes the responsibilities and actions of all members of staff if deviations are identified.

2.2.2 Interface with the sectors covered by the Emissions Trading Directive and military use

Sectors covered by the Emissions Trading Directive

According to Article 2, b, of the Energy Efficiency Directive, the Directive does not apply to undertakings involved in categories of activities referred to in Annex I to Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the community (ETD). In other words, these are activities covered by the emissions trading system.

As the Directive refers to undertakings, the Flanders Region has opted to exclude the total energy consumption of the establishments involved in activities covered by the emission trading scheme. An establishment is defined as any business unit of a legal person involved in an industrial activity; it is characterised in principle by a centralised location, but may include a variety of installations. This effectively means that both the consumption of the installation

covered by the ETD and all the other energy consumption (electricity + fuel) of the relevant establishment is deducted when calculating the final inland energy consumption within the scope of the Directive.

Armed forces

The energy consumption of the defence infrastructure is deducted. The military use of aircraft is deducted because consumption for aviation in general may be excluded. The fuel consumption of other vehicles is not explicitly reported in the Flemish energy balance. This consumption is included under the fuels of the transport sector and will therefore still be included in the calculations to determine the final inland energy consumption within the scope of the Directive.

2.2.3 Conversion factors

The table below gives a summary of the conversion factors for the energy content of the fuels as used in Annex II of the Directive and the conversion factors applied. If different conversion factors are used for the Flemish calculations, reasons are given for these.

The conversion factor for electricity is 1, as both the energy consumption and the energy saving are expressed as final energy. The average return for the generation of electricity need not therefore be taken into account.

Type of fuel and unit	Annex II of the Directive (kJ)	Flemish energy balance (kJ)	Notes
1kg coke	28500	29300	Source: Ministry of Economic Affairs Most businesses that use coke are covered by the emission trading scheme and measure their calorific values. These measured values are transferred to the energy balance.
1kg hard coal	17200-30700	29300	Source: Ministry of Economic Affairs Most businesses that use hard coal are covered by the emission trading scheme and measure their calorific values. These measured values are transferred to the energy balance.
1kg brown coal briquettes 1kg black lignite 1 kg brown coal 1kg oil shale 1kg peat 1kg peat briquettes	20000 10500-21000 5600-10500 8000-9000 7800-13800 16000-16800		These fuels are not currently used in the Flanders Region.
1kg residual fuel oil (heavy oil)	40000	40604	Source: Ministry of Economic Affairs These calorific values have been used by the Ministry of Economic Affairs for over ten years and are around the same as the calorific values used by neighbouring countries.
1kg light fuel oil	42300	42697	
1kg motor spirit (petrol)	44000	43953	
1kg paraffin	40000	30000	
1kg liquefied petroleum gas	46000	45949	
1kg natural gas	47200		These fuels are never given in kg.

1kg liquefied natural gas	45190		The kWh or MJ is normally requested and the calorific value is already included in the calculation. As calculated in m^3: low value natural gas= 0.03292 GJovw/m^3; high value natural gas = 0.03885 GJovw/m^3),
1 kg wood	13800	12000-15800	Wood shavings:15,800 MJ/kg Sawdust: 12,000 MJ/kg Wood chips: 12,324 MJ/kg Wood dust: 14,484 MJ/kg
1kg pellets/wood briquettes	16800	15800	Idem entry for wood
1 kg waste	7400-10700	10000-12000	The calorific value is calculated on the basis of the composition of a household waste bag for household waste incineration. Industrial waste is usually given in GJ.
1 MJ derived heat	1000	1000	
1kWh electricity	3600	3600	

2.2.4 Definition of the boundary between final inland energy consumption and the transformation sector.

When determining the average final inland energy consumption within the scope of the Directive for the years 2001 to 2005, the following energy consumptions are excluded:

- non-energy use, as the directive relates to energy efficiency;
  Non-energy use means the use of fuels in the production process.
- the category “other fuels”, as energy is defined in article 3, a, of the Directive as “all forms of commercially available energy”;
  The other fuels consist of the non-renewable industrial waste segment and of waste fuels from chemical processes, such as crackers, that are burned. These fuels are also mainly used by businesses that are covered by the Emissions Trading Directive.
- the transformation sector (refineries, electricity production, coke production), as the aim of the Directive is to achieve an increase in energy end-use efficiency;
- consumption for inland aviation, as specified in Article 3, a). This is marginal, as in the Flemish energy balance, kerosene is included in the bunkers and bunkers do not form part of inland energy consumption.

3. Sectoral discussion of the energy efficiency improvement programmes, energy services and other measures to promote energy efficiency

3.1 Energy efficiency measures in the residential sector

3.1.1 Overview table

No,	Measure	Duration	Expected energy saving in 2016
1	Imposition of energy performance and indoor climate requirements (EPB requirements) on houses and apartments	From 01/01/2006 - no end date	2,018 GWh
2	Imposition of REG public service obligations on the electricity distribution system operators for household final customers	From 01/01/2003 – no end date	2,686 GWh

3.1.2 Description of the individual measures

Title 1	Imposition of energy performance and indoor climate requirements (EPB requirements) on houses and apartments.
Category	1. Legislation 1,1 Building codes and obligations
Regional application	Flanders Region
Target group	All new residential units and work on existing residential units for which an urban development permit is required from 1 January 2006. The share of the energy consumption of the new residential units and of work on existing residential units for which an urban development permit is required is not known. The total household sector accounts for 35% of the energy consumption within the scope of the Directive.
Possible energy saving actions	- insulation of all parts of the building shell (walls, roofs, floors, windows); - installation of energy-efficient heating installations and installations for the provision of sanitary hot water; - installation of a solar boiler, heat pump and photovoltaic panels.
Effectiveness	From 1 January 2006, minimum requirements for energy performance and the indoor climate (EPB requirements) will be set for new residential units and work on existing residential units for which an urban development permit is required. The package of requirements varies depending on the type of work. For new-builds and conversion or major extension of a residential unit, the package of requirements is as follows: 1) thermal insulation requirements (maximum insulation level of the building K45 and maximum U-values or minimum R-values for windows, walls, floors and roofs); 2) indoor climate requirements (minimum ventilation provisions) and limiting of the risk of overheating; 3) the achievement of a primary energy performance level (E100). The E-level is a measure of the energy performance of a residential unit. The lower the E-level the more energy efficient the residential unit. The E-level takes account both of the insulation of the

	shell of the building and the technical installations for heating and hot water, solar energy, etc. Smaller structural alterations to existing residential units that require consent must fulfil maximum U-values or minimum R-values for the altered and new parts. When replacing windows, minimum ventilation openings must also be provided. To discourage infringements of the EPB requirements, an enforcement policy has been developed which includes administrative fines. The enforcement policy is based on the 'as-built' energy performance declaration (EPB-declaration) that must be drawn up by the reporter. The government monitors administrative compliance with all procedures and also conducts on-site inspections during the various phases of the building process, in order to check that the reporter has reported the correct information in the EPB declaration. If the residential unit does not comply with the requirements the government will impose an administrative fine. If the reporter appears not to have reported correctly, he will receive a penalty. The energy performance level to be achieved will become systematically more stringent. The energy performance level to be achieved in 2016 has yet to be determined.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: - New residential units E100: 1,318 GWh (fuel saving only). - New residential units E80: 700 GWh (fuel saving only). Share in the period 1995-2007: 336 GWh (fuels only). Expected energy saving in 2010: - New residential units E100: 745 GWh (fuels only) For existing residential units no energy savings have been estimated for the present. The measures taken largely overlap with the measures taken under the REG public service obligations of the electricity distribution system operators (see measure 2).
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2006, and still in effect in 2010 and 2016 – adjustments planned as described – "early action" First tightening of the E-level to E80 planned from 2010

	Start date: 1 January 2006 – No end date <u>*Legislation:*</u> - Energy Performance Decree [*Energieprestatiedecreet*] of 7 May 2004 - Decree of the Flemish Government of 11 March 2005 establishing the requirements for the energy performance and the indoor climate of buildings [*Besluit van de Vlaamse Regering van 11 maart 2005 tot vaststelling van de eisen op het vlak van de energieprestaties en het binnenklimaat van gebouwen*], - EPB-decree [*EPB-decreet*] of 22 December 2006 (replaces the Energy Performance Decree of 7 May 2004).

Title 2	Imposition of REG public service obligations on the electricity distribution system operators for household final customers.
Category	6. Energy saving mechanisms and other combinations of the previous (sub) categories 6.1 Public service obligations on energy companies for energy savings
Regional application	Flanders Region
Target group	All household consumers. The total household sector accounts for 35% of the energy consumption within the scope of the Directive.
Possible energy saving actions	The distribution system operators themselves decide which actions they will carry out to achieve their energy savings objective. The Flemish Energy Agency must nevertheless agree to the methods used to implement these actions. The most common actions are: - super-insulated glazing; - condensing boilers and high-efficiency boilers; - roof insulation in existing buildings; - thermostatic valves; - solar boilers, In addition to the actions the distribution system operators are free to choose, they are also obliged to carry out two energy scans for each 100 household connections in 2007-2009. During these energy scans, energy saving light bulbs, water-economy shower heads, pipe insulation and radiator foil will be installed where advisable.
Effectiveness	The electricity distribution system operators are obliged to achieve an amount of primary energy saving each year. The annual primary energy savings objective for 2003 to 2007 was set on the basis of the amount of electricity supplied two years previously to low-voltage customers (voltage lower than 1000 V): 1% in 2003, 2% in 2004, 2.1% in 2005 and 2.2% in 2006 and 2007. From 2008 the energy savings objective for households will be 2% of the amount of electricity supplied to household final customers two years previously. To achieve the objective, the distribution system operators must promote energy saving measures. The actions must always consist of a financial contribution (for example a grant or a cheap loan) and an awareness-raising element. Each distribution system operator can itself decide which actions it carries out. Before 1 June each year, each distribution system

	operator must submit an action plan for the following year to the Flemish Energy Agency (VEA). In addition to a description of the actions the distribution system operator wishes to carry out, it will also present a method for calculating the primary energy saving of the action. The actions cannot be started until the VEA has approved the methods for calculating the primary energy saving, the amount of the financial contribution and the conditions attached to the grant of the financial contribution. The distribution system operators will report the results of the actions carried out in the previous year to the VEA before 1 May each year. If they fail to achieve the objective, they must pay a penalty of 0.10 eurocents per kWh below-target primary energy saving. This penalty will be paid into the Energy Fund. From 2008 distribution system operators may submit a request to a limited number of final customers (less than 2500) to deviate from the results obligation. If they do so, they must implement a compensating action or a compensating financial obligation after approval by the Flemish minister in charge of energy policy.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 2,686GWh, Share of fuels: 429 GWh Share of electricity: 2257 GWh Share in the period 1995-2007: 1,105 GWh, of which 928 GWh is fuels and 177 GWh electricity Total expected energy saving in 2010: 1,632 GWh Share of fuels: 1371 GWh Share of electricity: 261 GWh
Status of implementation and exact timeframe	- Measure implemented as described since 1 January 2003 and still effective in 2010 and 2016 – no adjustments planned, – "early action" - Implemented since 1 January 2003 – no end date <u>*Legislation:*</u> -Decree of the Flemish Government of 29 March 2002 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 29 maart 2002 ter bevordering van het rationeel energieverbruik*] -Decree of the Flemish Government of 2 March 2007 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 2 maart 2007 ter bevordering van*

	het rationeel energieverbruik] (replaces the decree of 29 March 2002).

3.1.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

When selecting the measures included in this plan to achieve the energy savings target, the following principles were applied:

1) a direct energy saving can be assigned to the measures;
2) the measures are measurable and can be monitored;
3) there is no, or little, overlap of measures to avoid double counting of energy savings as far as possible;
4) the measures fall solely within the competence of the Flanders Region.

The expected energy savings are stated in the fiches for the various measures. These are estimated on the basis of studies carried out by the Flemish Institution for Technological Research (VITO) and on the basis of the experience of the Flemish Energy Agency.

Bottom-up evaluation of the measures

As discussed above, the Flanders Region has opted to include in the action plan only those measures that can clearly be measured and monitored. All measures included in the Flemish energy efficiency plan are currently also being monitored in detail.

The Flanders Region has a whole range of methods for calculating energy savings, inter alia as part of the REG public service obligations imposed on the distribution system operators. These calculation methods were submitted to the European Commission under the terms of Article 14.

Article 14 states that, before 1 January 2008, the Commission will further develop and expand points 2 to 6 of Annex IV. The European Commission will be assisted by a committee in this. As soon as the bottom-up calculation methods are available, the Flanders Region will establish whether or not it has all the data required to apply these methods. If it finds that insufficient data are available to apply the calculation methods, the Flanders Region will take measures to produce a summary of the missing data.

Top-down evaluation of the measures

The Flanders Region currently has no top-down indicators for the evaluation of energy saving methods.
The Commission will also develop top-down indicators by analogy with the bottom-up calculations. Once the top-down calculation methods are available, the Flanders Region will establish whether or not it has the necessary data to apply these methods. If it finds that there

are insufficient data available to apply the calculation methods, the Flanders Region will take measures to produce a summary of the missing data.

3.2 Energy efficiency measures in the tertiary sector

3.2.1 Overview table

No.	Measure	Duration	Energy saving expected in 2016
3	Imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings.	from 01/01/2006 - no end date	(3) + (4) +(5) = 3,576 GWh
4	Imposition of REG public service obligations on the electricity distribution system operators for non-household final customers.	from 01/01/2003 - no end date	
5	Grant of subsidies for energy saving projects in health and welfare facilities.	from 01/06/2003 – no end date	
6	Accelerated investment in (new) school infrastructure via alternative financing.	01/01/2008 to 31/12/2011	106 GWh
7	Grant of subsidies for rational energy consumption in existing school buildings.	01/01/2006 to 31/12/2011	343 GWh

3.2.2 Description of the individual measures

Title 3	The imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings
Category	1. Legislation 1.1 Building codes and obligations
Regional application	Flanders Region
Target group	All new tertiary buildings and work on existing tertiary buildings for which an urban planning permit is required from 1 January 2006. The share of the energy consumption in the new tertiary buildings and of work on existing tertiary buildings for which an urban planning permit is required is not known. The total tertiary sector accounts for 15% of the energy consumption within the scope of the Directive.
Possible energy saving actions	- Insulation of all parts of the building shell (walls, roofs, floors, windows); - Installation of energy-efficient heating systems and systems for the supply of sanitary hot water; - Installation of energy-efficient lighting; - Installation of a solar boiler, heat pump and photovoltaic panels.
Effectiveness	For tertiary buildings and work on tertiary buildings for which an urban planning permit is required, minimum obligations for energy performance and indoor climate (EPB requirements) will be set from 1 January 2006. The package of requirements may vary depending on the nature of the work and the purpose of the building. For new-builds, structural alterations or a major extension of offices and schools and thorough renovation of an office or school larger than 3000 m^3,the energy package consists of the following: 1) thermal insulation requirements (maximum building insulation level K45 and maximum U-values or minimum R-values for windows, walls, floors and roofs); 2) indoor climate requirements (minimum ventilation provisions); 3) achievement of a primary energy performance level (E100). The E-level is a measure of the energy performance of a building. The lower the E-level the more energy efficient the school or office building. The E-level takes account both of the insulation of the shell

	of the building and the technical installations for heating and hot water, lighting and solar energy, etc. Requirements for thermal insulation (maximum building insulation level K45 and maximum U-values or minimum R-values for windows, walls, floors and roofs) and minimum ventilation requirements, are imposed on other new buildings (hospitals, hotels, restaurants, sports facilities etc) but they do not need to achieve a primary energy performance level (E-level). Smaller structural alterations requiring a permit on existing tertiary buildings must comply with maximum U-values or minimum R-values for the new and modified parts. When replacing windows, minimum ventilation openings must also be provided. To discourage infringements of the EPB requirements, an enforcement policy has been developed which includes administrative fines. The enforcement policy is based on the 'as-built' energy performance declaration (EPB declaration) that must be drawn up by the reporter. The government monitors administrative compliance with all procedures and also conducts inspections on site during the various phases of the building process, to check that the reporter has reported the correct information in the EPB declaration. If the building does not comply with the requirements, the government will impose an administrative fine. If the reporter appears not to have reported correctly, he will receive a penalty. The energy performance level to be achieved will gradually become more stringent. The energy performance requirement in 2016 has yet to be determined.
If available: **expected annual energy saving in 2016**	The total expected energy saving for the package of the following measures: "imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings", "imposition of REG public service obligations on the electricity distribution system operators for non-household final customers" and "grant of subsidies for energy saving projects in health and welfare facilities" will be 3,576 GWh in 2016. Share of fuels: 892 GWh Share of electricity: 2684 GWh Share in the period 1995-2007: 418 GWh, of which 198

	GWh is fuels and 220 GWh electricity Total expected energy saving in 2010: 1,867 GWh Share of fuels: 1399 GWh Share of electricity: 486 GWh
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2006, and still effective in 2010 and 2016 – no adjustments planned – "early action" Implemented from 1 January 2006 – no end date <u>*Legislation:*</u> - Energy Performance Decree [*Energieprestatiedecreet*] of 7 May 2004. - Decree of the Flemish Government of 11 March 2005 establishing the requirements for the energy performance and indoor climate of buildings [*Besluit van de Vlaamse Regering van 11 maart 2005 tot vaststelling van de eisen op het vlak van de energieprestaties en het binnenklimaat van gebouwen*]. - EPB Decree [*EPB-decreet*] of 22 December 2006 (replaces the Energy Performance Decree of 7 May 2004)

Title 4	Imposition of REG public service obligations on the electricity distribution system operators for non-household final customers
Category	6. Energy saving mechanisms and other combinations of previous (sub) categories 6.1 Public service obligations on energy companies for energy savings.
Regional application	Flanders Region
Target group	All tertiary energy consumers The total tertiary sector accounts for 15% of the energy consumption within the scope of the Directive.
Possible energy saving actions	The network operators themselves decide which actions they will take to achieve their energy savings objective. The Flemish Energy Agency must nevertheless agree to the methods used to implementing these actions. The most common actions are: - condensing technology for heating; - installation of frequency converters; - super-insulated glazing; - roof insulation in existing buildings; - replacement of lighting.
Effectiveness	The electricity distribution system operators are obliged to achieve an amount of primary energy saving each year. From 2003 to 2007 the energy savings objective is 1% of the amount of electricity supplied to high-voltage customers two years previously. From 2008 the objective for non-household consumers, which includes the tertiary sector, will be 1.5% of the amount of electricity supplied to non-household final customers two years previously. To achieve the objective, the network operators must promote energy saving measures. The actions must always consist of a financial contribution (for example a grant or a cheap loan) and an awareness-raising element. Each distribution system operator can itself decide which actions it will carry out. Before 1 June each year, each distribution system operator will submit an action plan for the following year to the Flemish Energy Agency (VEA). In addition to a description of the actions the distribution system operator wishes to carry out, it will also present a calculation method for determining the primary energy saving of the action. They may not start the actions until the VEA has approved the calculation methods for the primary energy saving, the amount of the proposed financial contribution and the conditions attached to the grant of the financial contribution.

	The distribution system operators will report the results of the actions carried out in the previous year to the VEA before 1 May each year. If they fail to achieve the objective, they must pay a penalty of 0.10 eurocents per kWh below-target primary energy saving. This penalty will be paid into the Energy Fund. In addition to the results obligation, the distribution system operators also have a number of action obligations: - offering energy accounting to schools and health and welfare facilities; - supporting local authorities in conducting their energy policy (offering energy accounting, assisting with energy audits, assisting with energy management systems, offering third-party finance formulae). From 2008 network operators can submit a request to a limited number of final customers (less than 2500) to deviate from the results obligation. If they do so, they must implement a compensating action obligation or a compensating finance obligation after approval by the Flemish minister in charge of energy policy.
If available: expected annual energy saving in 2016	The total expected energy saving for the package of the following measures: "imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings", "imposition of REG public service obligations on the electricity distribution system operators for non-household final customers" and "grant of subsidies for energy saving projects in health and welfare facilities" will amount to 3,576 GWh in 2016. Share of fuels: 892 GWh Share of electricity: 2684 GWh Share in the period 1995-2007: 418 GWh, of which 198 GWh is fuels and 220 GWh electricity Total expected energy saving in 2010: 1867 GWh, Share of fuels: 1399 GWh Share of electricity: 486 GWh
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2003, and still in effect in 2010 or 2016 – no adjustments planned – "early action" Implemented from 1 January 2003 – no end date *Legislation:*

	- Decree of the Flemish Government of 29 March 2002 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 29 maart 2002 ter bevordering van het rationeel energiegebruik*] - Decree of the Flemish Government of 2 March 2007 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 2 maart 2007 ter bevordering van het rationeel energiegebruik*] (replaces the decree of 29 March 2002).

Title 5	Grant of subsidies for energy saving projects in health and welfare facilities
Category	3. Financial instruments 3.1 Subsidies
Regional application	Flanders Region
Target group	Health and welfare facilities Health and welfare facilities account for 2% of the energy consumption within the scope of the Directive.
Possible energy saving actions	a) Energy saving methods for the shell of the building and fixed installations such as: - insulation of all parts of the shell (walls, roofs, floors, windows, doors) - installation of energy-efficient heating systems and systems for the provision of sanitary hot water - installation of energy-efficient lighting. b) Implementation of building management systems.
Effectiveness	The Flemish Infrastructure Fund for Personal Matters [*Vlaams Infrastructuurfonds voor Persoonsgebonden Aangelegenheden*] (VIPA) provides investment subsidies and guarantees to initiators from the health and welfare sectors for the construction, purchase, conversion, extension or lease of buildings and the purchase of furnishings, equipment and/or apparatus. Since 1 June 2003, all building work in the medical/social sector covered by the regulations of the Flemish Infrastructure Fund for Personal Matters (VIPA), for which a request for an investment subsidy has been submitted, have had to fulfil requirements for ecological construction. A number of requirements go further than the provisions of the EPB regulations. The buildings must fulfil a global insulation level and the maximum U-values for the individual parts of the building are also stricter. Specific requirements are also set for the technical installations such as low-temperature heating and yield requirements for heat recovery. Active cooling is permitted only in specific applications and the implementation of a building management system for buildings larger than 1000 m^2 is obligatory. In practice, the full package of VIPA requirements for new-build projects corresponds to energy performance level E80. The building managers are requested to formulate concrete objectives for comfort and energy in an “Initial Programme

	of Requirements" that is used for evaluation once the building project has been completed.
If available: expected annual energy saving in 2016	The total expected energy saving for the package of the following measures: "imposition of energy performance and indoor climate requirements (EPB requirements) on tertiary buildings", "imposition of REG public service obligations on the electricity distribution system operators for non-household final customers" and "grant of subsidies for energy saving projects in health and welfare facilities" is 3,576 GWh in 2016. Share of fuels: 892 GWh Share of electricity: 2684 GWh Share in the period 1995-2007: 418 GWh, of which 198 GWh is fuels and 220 GWh electricity. Total expected energy saving in 2010: 1,867 GWh Share of fuels: 1399 GWh Share of electricity: 486 GWh
Status of implementation and exact timeframe	Measure implemented as described from 1 June 2003 and still in effect in 2010 and 2016 – no adjustments planned – "early action" Start date: 1 June 2003 – no end date <u>*Legislation:*</u> Circular of 29 April 2003 on the evaluation of ecological buildings for initiators wishing to receive VIPA subsidies [*Omzendbrief van 29 april 2003 aan de initiatiefnemers die VIPA-subsidies wensen te bekomen over de evaluatiecriteria ecologisch bouwen*]

Title 6	Accelerated investment in (new) school infrastructure through alternative financing
Category	5. Energy services for energy saving 5.1 Third-party finance
Regional application	Flanders Region
Target group	Schools (primary and secondary schools, boarding schools and student support centres). Schools account for 1% o the energy consumption within the scope of the Directive.
Possible energy saving actions	All possible energy saving methods with a short-term pay-back period.
Effectiveness	A private investment company will be selected to take on the construction and maintenance risk of school projects. Each DBFM (Design, Build, Finance and Maintenance) project must be completed within a specified period for a pre-determined price. Larger-scale repair work must also be carried out through the company. The company will invest 1 billion euros and must ensure that all projects are carried out between 2008 and 2011. In exchange for this, they will receive a retainer for a period of 30 years from the schools that are the immediate owner. The payment is subsidised or financed by the Flemish Government in accordance with the rates currently applying for the subsidising or financing of school buildings, i.e. 70% for primary education, 60% for other levels, boarding schools and Student Support Centres for subsidised education and 100% for state education. The Flemish Government has already selected a total of 211 new-build and renovation projects from proposals submitted by the competent authorities, which will be carried out by the private company in the period 2008-2011. The company will pay the maximum attention to REG-investments in all the contracts it enters into. All investments will have to comply with the EPB requirements as a minimum. It is in any case intended that that all REG investments will be implemented effectively within a reasonable payback period.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 106 GWh Share of fuels: 98 GWh Share of electricity: 8 GWh Share in the period 1995-2007: 0 GWh

	Total expected energy saving in 2010: 53 GWh Share of fuels: 49 GWh Share of electricity: 4 GWh
Status of implementation and exact timeframe	New measures, implementation process ongoing. - 211 schools selected by the Flemish Government for the DBFM-programme on 24 November 2006 - tender process for the selection of a private partner for the DBFM company to be set up and award of the contract for the implementation of the DBFM programme to the DBFM company is ongoing. Start date: 1 January 2008 – End date: 31 December 2011 <u>*Legislation:*</u> Decree of 7 July 2006 on the upgrade process for school infrastructure [*Decreet van 7 juli 2006 betreffende de inhaalbeweging voor schoolinfrastructuur*]

Title 7	Grant of subsidies for rational energy consumption in existing school buildings
Category	Subsidies
Regional application	Flanders Region
Target group	Primary and secondary schools, boarding schools and student support centres Schools account for 1% of the energy consumption within the scope of the Directive.
Possible energy-saving actions	The following investments will be considered: - energy-efficient heating; - energy-efficient lighting; - insulation of the building shell; - insulated glazing; - solar boilers and heat pumps.
Effectiveness	To encourage investment in rational energy consumption in school buildings, an investment programme will be implemented in the period 2006-2011 for a total sum of 100 million euros. The REG investment dossiers will be submitted through the appropriate channels for the submission of dossiers for each type of education: AGION for subsidised education and GO for state education. The financial contribution for REG investments is the same as that for other investment dossiers: 70% for primary education, 60% for other levels, boarding schools and Student Support Centres for subsidised education and 100% for state education. REG investment dossiers will be prioritised and fast-tracked.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 343 GWh Share of fuels: 293 GWh Share of electricity: 50 GWh Share in the period 1995-2007: 0 GWh Total expected energy saving in 2010: 258 GWh Share of fuels: 220 GWh Share of electricity: 38 GWh
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2006 and still in effect in 2010 and 2016 – adjustments planned as described – “early action”.

	Start date: 1 January 2006 - End date: 31 December 2011 Implemented from 2006 via the regular budget.

3.2.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

See 3.1.3

3.3 Energy efficiency measures in industry (scope of Directive)

3.3.1 Overview table

No.	Measure	Duration	Energy saving expected in 2016
8	Audit covenant	From 10/06/2005 to 13/12/2013	670 GWh
9	Imposition of REG public service obligations on the electricity distribution system operators for non-household final customers	From 01/01/2003 no end date	309 GWh

3.3.2 Description of the individual measures

Title 8	Audit covenant
Category	4. Voluntary agreements 4.1 Industrial companies
Regional application	Flanders Region
Target group	Medium-sized energy-intensive industrial companies with an annual primary energy consumption between 0.1 and 0.5 PJ, which have not signed up to the benchmark covenant. The energy consumption of the medium-sized energy-intensive industrial companies that have signed up to the audit company accounts for 4% of the energy consumption within the scope of the Directive.
Possible energy-saving actions	All energy measures arising from the energy plan, which have an IRR of less than 15% after tax. The energy saving measures with an IRR of at least 13.5% after tax will be carried out when the energy plan has been updated four years after the audit covenant comes into effect.
Effectiveness	Undertakings that sign up to the audit covenant will voluntarily arrange for an audit to be carried out to evaluate their energy saving potential. They will also undertake to implement effectively all cost-effective measures with an IRR of at least 15% after tax, as included in the covenant, within four years of acceptance of the energy plan submitted. In practice, this means that the measures from the first plan must be carried out by 10 December. An accepted energy plan is valid for four years and must be updated six months before the acceptance expires. An updated energy plan must also contain a summary of the implementation of the measures from the previous energy plan, stating their effects on energy consumption and CO_2-emissions, a list of any amendments to the previous energy plan and a list of all measures with an internal rate of return of at least 13.5% after tax. All measures of the updated energy plan with an internal rate of return of at least 13.5% after tax must have been implemented within four years of the date of the application for acceptance of the updated plan. The Flemish Government will implement a number of measures in return for the companies that sign the audit covenant and fulfil their obligations: - companies that have an approved energy plan as part

	of the audit covenant automatically fulfil the provisions of the energy planning decree for the investments included in the energy plan (see measure imposition of energy efficiency requirements on industry); - the Flanders Region has no specific energy tax and will do all it can to ensure that the companies are granted exemption from a federal energy tax; - the European Directive 2003/96/EG provides for the possibility of full or partial exemption from the minimum Community energy taxation levels for covenant companies if it can be demonstrated that an equivalent energy saving will be realised. Under this arrangement, the companies who have signed up are fully or partially exempted from a number of duties; - companies from the target group that do not sign or implement the covenant, lose the right to degressivity of the federal electricity contribution; - to utilise the energy saving potential to the full, technical sector support is also organised within the audit covenant to provide specific advice and to raise awareness.
If available: **expected or current annual energy saving in 2016**	Total expected energy saving in 2016: 670 GWh Share of fuels: 372 GWh Share of electricity: 298 GWh Share in the period 1995-2007: 111 GWh, of which 62 GWh is fuels and 49 GWh is electricity Total expected energy saving in 2010: 446 GWh Share of fuels: 248 GWh Share of electricity: 198 GWh
Status of implementation and exact timeframe	Measure implemented as described from 10 June 2005, and still in effect in 2010 and 2016 – no adjustments planned – "early action". The audit covenant came into effect on 10 June 2005. The measures with an IRR of at least 15% after tax must be implemented by 10 December 2010. Start date: 10 June 2005 - End date: 10 December 2013

3.3.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

See 3.1.3

Title 9	Imposition of REG public service obligations on the electricity distribution system operators for non-household final customers
Category	6. Energy-saving mechanisms and other combinations of previous (sub) categories 6.1 Public service obligations on energy companies for energy savings.
Regional application	Flanders Region
Target group	All industrial consumers. The energy consumption of industry accounts for 12% of the energy consumption within the scope of the Directive.
Possible energy-saving actions	The distribution system operators decide themselves which actions they will take to achieve their energy savings objective. The Flemish Energy Agency must nevertheless agree to the methods used to implement these actions. The most common actions are: - replacement of lighting; - roof insulation; - frequency converters; - heating measures.
Effectiveness	The electricity distribution system operators are obliged to achieve an annual amount of primary energy saving. From 2003 to 2007 the energy savings objective is 1% of the amount of electricity of delivered to high-voltage customers two years previously. From 2008 the objective for non-household consumers, which includes industry, is 1.5% of the amount of electricity delivered to non-household final customers two years previously. To achieve the objective, the network operators must promote energy-saving measures. The actions must always consist of a financial contribution (for example a grant or cheap loan) and an awareness-raising element. Each distribution system operator can itself decide which actions it will carry out. Before 1 June each year, each distribution system operator will submit an action plan for the following year to the Flemish Energy Agency (VEA). In addition to a description of the actions the distribution system operator wishes to carry out, it will also present a calculation method for determining the primary energy saving of the action. The actions may not be started until the VEA has approved the calculation methods for the primary energy saving, the amount of the proposed financial contribution and the conditions attached to the grant of the financial contribution. The distribution system

	operators will report the results of the actions carried out in the previous year to the VEA before 1 May each year. If they fail to achieve the objective, they must pay a penalty of 0.10 eurocents per kWh below-target primary energy saving. This penalty will be paid into the Energy Fund. From 2008 distribution system operators may submit a request to a limited number of final customers (less than 2500) to deviate from the results obligation. They must implement a compensating action or a compensating financial obligation after approval by the Flemish minister in charge of energy policy.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 309 GWh Share of fuels: 172 GWh Share of electricity: 137 GWh Share in the period 1995-2007: 109 GWh, of which 49 GWh is fuels and 60 GWh electricity Total expected energy saving in 2010: 169 GWh Share of fuels: 94 GWh Share of electricity: 75 GWh When calculating the energy saving, the energy savings realised will be deducted via the audit covenant (see previous measure).
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2003, and still in effect in 2010 and 2016 – adjustments planned as described – "early action". Start date: 1 January 2003, continuous. <u>*Legislation:*</u> - Decree of the Flemish Government of 29 March 2002 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 29 maart 2002 ter bevordering van het rationeel energiegebruik*] - Decree of the Flemish Government of 2 March 2007 promoting rational energy consumption [*Besluit van de Vlaamse Regering van 2 maart 2007 ter bevordering van het rationeel energiegebruik*] (replaces the decree of 29 March 2002).

3.4 Energy efficiency measures in agriculture

3.4.1 Overview table

No.	Measure	Duration	Energy saving expected in 2016
10	Grant of subsidies for energy-saving measures in agriculture and horticulture (cultivation under glass)	From 01/01/2000 - no end date	2,330

3.4.2 Description of the individual measures

Title 10	Grant of subsidies for energy saving measures in agriculture and horticulture (cultivation under glass)
Category	3. Financial instruments 3.1 Subsidies
Regional application	Flanders Region
Target group	All agricultural and horticultural businesses. The energy consumption of agriculture accounts for 5% of the energy consumption within the scope of the Directive
Possible energy-saving methods	Non-restrictive list of possible measures: - installation of energy screen; - energy-saving greenhouse cover; - heat buffer and exhaust gas condenser; - heat pump in combination with cold-heat energy storage; - natural gas and renewable energy heating systems (pure vegetable oil, biogas, wood, etc); - installation or improvement of insulation and ventilation; - solar boilers and photovoltaic cells.
Effectiveness	Agricultural and horticultural businesses can obtain investment grants for energy saving measures through the Flemish Agriculture Investment Fund [*Vlaams Landbouwinvesteringsfonds*] (VLIF). The maximum percentage of grants for investment is: - 40% for investments aimed at agriculture for broader purposes, sustainable agriculture and/or organic agriculture; - 30% for investments aimed at the reconversion of the agricultural or horticultural business; - 20% for investments in property, aimed at a structural improvement; - 10% for other investments, aimed at a structural improvement.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 2,330 GWh (fuel saving only). Share in the period 1995-2007: 418 GWh (fuels only). Total expected energy saving in 2010: 1,134GWh (fuels only).
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2000, and still in effect in 2010 and 2016 – no adjustments planned – “early action”.

	Start date: 1 January 2000 – No end date *<u>Legislation</u>* Decree of the Flemish Government of 24 November 2000 on grants for investments and installations in agriculture [*Besluit van de Vlaamse Regering van 24 november 2000 betreffende steun aan de investeringen en aan de installatie in de landbouw*], amended by the Decree of the Flemish Government of 16 July 2006

3.4.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

See 3.1.3

3.5 Energy efficiency measures in the transport sector

3.5.1 Overview table

No.	Measure	Duration	Energy saving expected in 2016
11.	Mobility management measures or measures that bring about a shift in the choice of transport	From 01/01/2000 - no end date	2,407 GWh
12.	Development of a more eco-friendly fleet by adapting traffic loads	From 17/03/2003 - no end date	520 GWh

3.5.2 Description of the individual measures

Title 11	Mobility management measures and measures that bring about a shift in the choice of transport
Category	6. Energy efficiency measures and other combinations of previous (sub) categories
Regional application	Flanders Region
Target group	Road, rail and inland waterways The energy consumption of the transport sector accounts for 31% of energy consumption within the scope of the Directive.
Possible energy-saving measures	See effectiveness section
Effectiveness	This plan includes a number of measures that seek to manage the mobility or bring about a shift in the choice of transport: - implementation of the Commuting Plan [*Pendelplan*] (2005), which specifies the necessary actions for commuter traffic: - upgrade of public transport: • development of tram and express bus projects in urban areas, as announced in the Pegasus and Spartacus Plan (2004); • improved public transport links to commercial and estates; - promotion of cycle traffic: • further expansion of cycle infrastructure on the supra-local functional cycle route network; • improved maintenance of cycle paths; • safer crossings;

	• elimination of black spots for cyclists; - further support for car pools: • creation of car pool car parks on the approaches to main roads; • targeted promotion and awareness campaigns; - continued development of transport management: cooperation between the provincial mobidesks and De Lijn mobility consultants; - further development of car-sharing projects: • car sharing projects in most urban areas by 2009; • research into existing car-sharing projects in Flemish companies; - co-financing of passenger rail transport: Flemish Government to provide part of the finance for the Regional Express Network [*Gewestelijk Expressnet*] (GEN) and Diabolo link to Zaventem airport; Optimise <u>goods transport</u> by improving transport efficiency: - goods transport by water: • modernisation of the main waterways network (Albertkanaal, Zeekanaal Brussel-Schelde); • investment through Public-Private partnership for the construction of quay walls and the development of commercial and industrial estates linked by water; • appointment of transport experts from 2006 in cooperation with the employers' organisations (VOKA, UNIZO) and the waterways management companies, who will examine the optimisation of goods flows with undertakings; - goods transport by rail: public-private partnership for construction projects for the Liefkenshoek rail tunnel, so that the rail companies have the necessary capacity for significant expansion of their market share in container transport by rail to and from Antwerp; - goods transport by road: a number of avenues need to be explored further: • extension of loading and discharge times; • avoidance or minimisation of empty runs by using telematics, setting up route agreements between hauliers and by grouping loads; • expansion of vehicle capacity; • analysis study to examine the causes of the lower level of loading within private transport;

	• development of a benchmark agreement for the transport sector
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 2,407 GWh (fuel saving only): Share in the period 1995-2007: 962 GWh (fuels only) Total expected energy saving in 2010: 1,345 GWh (fuels only).
Status of implementation and exact timeframe	Measure implemented as described from 17 October 2003, and still in effect in 2010 and 2016 – adjustments planned as described – "early action". Draft approved in principle by the Flemish Government – Flanders Mobility Plan – policy proposal on 17 October 2003. Further development and concrete planning via policy statements from the minister in charge of mobility and public works. Start date: 17 October 2003 – Proposed end date: 2012.

Title 12	Development of a more eco-friendly fleet by adapting traffic loads
Category	3. Financial instruments 3.2 Loads
Regional application	Flanders Region
Target group	All motorists
Possible energy-saving methods	Energy-efficient vehicles The energy consumption of the transport sector accounts for 31% of the energy consumption within the scope of the Directive.
Effectiveness	To improve the energy efficiency of the fleet, the purchasing behaviour of individuals and undertakings will be influenced by taking the energy efficiency of the vehicle in to consideration for the taxation basis for Initial Road Tax (BIV) and Annual Road Tax: The Initial Road Tax and Annual Road Tax for private passenger vehicles will be adjusted. The Ecoscore of the vehicle will be used as a measure of its eco-friendliness, and also to calculate the Initial Road Tax and the Annual Road Tax. It takes account of the CO_2 emissions of the vehicle (50%), fuel consumption, controlled emissions and the emissions released during production of the fuel.
If available: **expected annual energy saving in 2016**	Total expected energy saving in 2016: 2,886 GWh (fuel saving only) Share in the period 1995-2007: 0 GWh Total expected energy saving in 2010: 1,125 GWh (fuels only).
Status of implementation and exact timeframe	New measure, implementation process started. A proposal for Initial Road Tax is being drawn up. The proposal for the Annual Road Tax is expected by June 2007. Start date: 1/1/2009 at the earliest – no end date

3.5.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

See 3.1.3

4 Horizontal and cross-sectoral measures

Overview table

No,	Measure	Duration	Energy saving expected in 2016
13	Promotion of qualitative cogeneration (CHP) via cogeneration certificates	From 01/01/2005 - no end date	843 GWh

4.2 Description of the individual measures

Title 13	Promotion of qualitative cogeneration (CHP) through cogeneration certificates
Category	1. Legislation 1.1 Building codes and obligations
Regional application	Flanders Region
Target group	All sectors
Possible energy-saving initiatives	Establishment of CHP plants
Effectiveness	A certificate will be granted to the producer for each MWh primary energy saving realised by qualitative CHP. A few certificates granted to installations commissioned or fundamentally modified after 1 January 2002, will be accepted in fulfilment of the certificate obligation. For the first four years after the commissioning of the CHP plant the certificates will be accepted in full. Thereafter acceptability will decline in line with the yield of the CHP plant. This generally means that after 10 years of operation the certificates will no longer be acceptable and will thus no longer have any value. In 2006, the electricity suppliers were obliged to present CHP certificates for 1.19% of the electricity supplied in the previous year. This share will increase annually to 5.23% from 2013.
If available: **expected or actual annual energy saving in 2016**	Total expected energy saving in 2016: 843 GWh (fuels only) Share in the period 1995-2007: 237 GWh (fuels only) Total expected energy saving in 2010: 420 GWh (fuels only)
Status of implementation and exact timeframe	Measure implemented as described from 1 January 2005 and still in effect in 2010 and 2016 – no adjustments planned – "early action". Start date: 1 January 2005 – no end date <u>*Legislation:*</u> - Decree of 10 July 2003 amending the Electricity Decree of 17 July 2000 on the introduction of a system of cogeneration certificates [*Decreet van 10 juli 2003 houdende wijziging van het electriciteitsdecreet van 17 juli 2000, wat de invoering van een systeem van warmtekrachtcertificaten betreft*] - Decree of the Flemish Government of 5 March 2004

	containing the public service obligation for the promotion of electricity generation in qualitative cogeneration plants [*Besluit van de Vlaamse Regering van 5 maart 2004 houdende de openbaredienstverplichting ter bevordering van de elektriciteitsopwekking in kwalitatieve warmtekrachtinstallaties*] - Decree of the Flemish Government of 7 July 2006 promoting the generation of electricity in qualitative cogeneration [*Besluit van de Vlaamse Regering van 7 juli 2006 ter bevordering van de elektriciteitsopwekking in kwalitatieve warmtekrachtkoppeling*] (replaces the decree of 5 March 2004)

4.3 Assessment of the total energy saving for the period 2008-2016 and for the interim period 2008-2010

See 3.1.3

5 Specific measures for the exemplary role of the public sector and the provision of information and advice to the final customer

5.1 Exemplary role of the public sector

The Flemish Government and local councils will make strenuous efforts to limit their final energy consumption so that they perform at least as well as the target groups for this policy. They will focus their attention on rational energy consumption, sustainable energy production, sustainable mobility and raising awareness amongst households and other target groups.

5.1.1. Exemplary function of the Flemish Government

The Flemish Government is performing its exemplary role for energy conservation, sending an important signal to local authorities, businesses and household consumers.

To fulfil its exemplary role, the Flemish Government has set up two action plans: "Energy Conservation in Flemish Government Buildings" [*Energiezorg in Vlaamse overheidsgebouwen*] for the period 2006-2010 and "Eco-Management in the Flemish Government's Vehicle Fleet" [*Milieuzorg in het voertuigenpark van de Vlaamse overheid*] for the period 2007-2010. These action plans include a summary of existing initiatives in eco- and energy management and a concrete step-by-step plan comprising measures and targets for the period 2006 to 2010.

Action plan "Energy Management in Flemish Government Buildings"
The action plan "Energy Management in Flemish Government Buildings" aims to achieve rational energy consumption and sustainable energy production within Flemish government buildings. It is targeted at civil servants employed by the Flemish Government, with specific emphasis on those responsible for energy and buildings, maintenance firms, building managers, environmental conservation focal points, contractors and purchasers. The action plan contains four steps which will be developed further with separate objectives and actions.
The four steps within the plan are:

1. Creation of a basis for energy management with structural anchoring supported by senior civil servants

   - To anchor energy conservation structurally into the Flemish Government it is essential to have the support of the senior civil servants. To ensure this, energy management will be included in the management agreements with internal and external agencies. For departments this will be done through management contracts.
   - When introducing energy management it is also important to ensure that everyone knows what he has to do to make his contribution. Guidelines must therefore be established to explain what the Flemish Government expects from its employees with regard to energy conservation. The circular O.A.-MIN-91/1- O.A.-ION-91/1 on energy management, aimed at users of buildings that accommodate Flemish Government bodies, will be reviewed, amended where necessary and re-distributed.

The following subjects will be included: energy-efficient use of heating, installation of energy management computers and the switching off of appliances when not in use.

2. Recording of energy consumption through energy accounting and energy audits
   - By 1 January 2009, every building in Flanders with a surface area over 1000 m^2 which accommodates public sector bodies must have an energy performance certificate. This certificate must be drawn up on the basis of the energy consumption of the building. In view of the Flemish Government's exemplary function, it should produce an energy performance certificate not only for its buildings over 1000 m^2 in the Flanders Region but also for those in the Brussels City Region. A circular will be drafted giving instructions on how to use energy accounting to monitor energy consumption.
   - An energy audit must be carried out for every existing building with a surface area greater than 1000 m^2 accommodating Flemish Government bodies which has not yet been audited. A circular will be drafted giving instructions on how to arrange or carry out an energy audit in these buildings.

3. Reduction of energy consumption by producing, implementing and adapting a plan of approach for energy management, employee awareness, amendment of purchasing procedures, etc.
   - Depending on the available budgets, a plan of approach for energy conservation will be drawn up, implemented and adapted for every existing building that accommodates Flemish Government bodies in which an energy audit was carried out before the current rules came into effect. A circular will also be produced which will include guidelines for this and which will address the following subjects: responsibilities, timing, resources, methodology, points for attention.
   - All REG investments with a payback period of 7 years or less should be carried out within 3 years. The first phase will be assessed to decide whether, and if so how, a second phase of REG investments with a payback period of 10 years or less can be carried out within 5 years.
   - A coordinating campaign will be set up to inform all employees of the Flemish Government about energy management. This will make it possible to distribute general information to all employees and maintain current awareness of the subject.
   - Energy conservation will be embedded in the purchasing procedures of Flemish Government bodies. The energy consumption of appliances to be purchased will be examined. Criteria will be established for testing the purchased appliances and energy-friendly alternatives will be sought. During 2007 a circular will be drawn up on energy-efficient purchasing within the Flemish Government, which will address the following subjects:
     - Guidelines for the introduction of energy criteria in specifications (e.g. method of calculating the cost price including consumption costs, etc.);
     - Target percentage of energy-efficient purchasing.
   - To improve integration of energy conservation into the leasing, construction and renovation of buildings that accommodate the Flemish Government, a guide will be produced in 2007 which will include guidelines on this subject.

4. Introduction of eco-friendly energy,
   - The feasibility of cogeneration (CHP) for major new-build projects will be examined.

It is important to monitor and regularly adjust the action plan. The following actions are therefore planned to feed back the (interim) results recorded to the Flemish Government.
- A report will be produced every two years on the implementation status of the action plan. This report will be presented to the Flemish Government.
- A report will be made to the Flemish Government and the Flemish Parliament annually on the Government's energy consumption over the past year.

Action plan "Environmental management in the Flemish Government's vehicle fleet"

Through this action plan, the Flemish Government intends to increase its focus on environmental management of its vehicle fleet. The plan is targeted principally at all Flemish Government civil servants and more specifically at drivers, audit and inspection staff, staff of the Waterwegen en Zeekanaal nv [*Waterways and Canals plc*] and nv De Scheepvaart, bos- en natuurwachters [*Shipping, Forest and Countryside Wardens plc*] and bus drivers from De Lijn, district nurses and carers from Kind en Gezin [*Child and Family*], … It is also aimed at civil servants who use official bicycles and who operate large machinery.
There are five important elements to the action plan:

1. Introduction of the STOP-principle (Stappen, Trappen, Openbaar vervoer en Privé-vervoer [*walking, cycling, public transport, private transport*]) for official traffic. Public transport will be given priority over car use and there will be greater use of official bicycles. When choosing the venue for meetings, the travel implications for the participants will be taken into account;
2. Every civil servant will try to drive in a more eco-friendly manner by using the ROB (Rustig Op de Baan [*careful driving*]) principles;
3. A full inventory of the Flemish Government's car fleet will result in targeted phase-out measures;
4. When purchasing official vehicles and machinery the policy for producing specifications will take account of environmental criteria. Since 2005, the Flemish Government has been using the Ecoscore as a selection criterion for new vehicles. By 2010 80% of new vehicles will have an Ecoscore of more than 65;
5. The choice of vehicle will depend on its use. For transport of internal mail in the city, for example, the most suitable means of transport will be chosen.

In more concrete terms, the action plan will contain the following objectives and actions:

1. The Flemish Government will minimise the amount of official travel, by promoting home working via the Alternative Working [*Anders Werken*] project (cf. Circular on Alternative Working) and will centralise administrative buildings in the vicinity of (railway) stations.

2. Officials will apply the STOP principle for official travel. This objective will be divided into three subsidiary objectives:

- All useful mobility information will be readily available to civil servants and visitors;
- The use of means of transport will be recorded and regularly monitored for the long-term adaptation of internal mobility policy;
- Where possible, (official) travel over short distances will be accomplished on foot or by bicycle. The following actions will be taken for this:
  - Preparation for indexing of the cycle allowance for both official and commuter travel;
  - Official bicycles to be placed in the entrance hall in all government buildings (where applicable) and communication and awareness campaigns to be launched for this;
  - All necessary bicycle accessories, reliable infrastructure for the storage of bicycles and showering and locker facilities to be provided in every Flemish Government building;
  - Cycle card (Brussels City Region) to be provided at the reception desks of government buildings in Brussels for those borrowing official bicycles;
  - Participation in the campaign 'Cycle to Kyoto' [*Fiets naar Kyoto*]' (awareness campaign of the Foundation for a Better Living Environment [*Bond Beter Leefmilieu*] under which employees can participate in a campaign to promote cycling during a specific period);
  - Evaluation of the removal of the fixed km allowance for car journeys of less than 5 km.
- For longer (official) journeys, public transport will be used where possible. A number of actions have already been taken for this. For commuter journeys, all civil servants will be given a free travel card for public transport. Administrative buildings will also be located close to railway stations.
- The transport company De Lijn is also expanding its eco-friendly public transport fleet by using Ecoscore in its specifications. It is also providing training on energy-efficient driving for instructors and new drivers and offering refresher courses to existing drivers. Fuel consumption is also being monitored. The aim of this is to achieve a fuel saving of 5%.

3. Official journeys by car will be made in the most eco-friendly manner. To achieve this, the principles of energy efficiency and defensive driving will be applied when buying a company car.

5.1.2 Exemplary role of the local councils

The cooperation agreement "Environment as a step towards sustainable development" [*Milieu als opstap naar duurzame ontwikkeling*] is a voluntary agreement that a municipal or provincial authority can enter into with the Flemish Government for environmental policy. Through the agreement, the municipal or provincial authority undertakes to work actively on a package of environmental subjects (clusters) including energy and mobility. In exchange for this, it receives financial support from the Flemish Government. There are three target levels to this agreement. The current cooperation agreement runs until the end of 2007.

A proposal is currently being prepared for a new cooperation agreement for a period of six years beginning on 1 January 2008. The proposal sets out a basic environmental policy for various subjects including energy and mobility, and also gives municipal and provincial authorities the opportunity to submit their own projects. The basic environmental policy is based on a combination of statutory and generally accepted obligations.

To give an idea of the possible content of the cooperation agreement, the provisions of the current agreement will be explained.

Energy Cluster

Local councils are encouraged to develop an energy policy both internally (own services) and externally (target groups, such as population, schools, etc.). The local authorities must:

- play a significant guiding and encouraging role in the sustainable use of energy;
- start an energy conservation system for a certain proportion of their own buildings or sites that produces a reduction in their own energy consumption;
- introduce energy saving measures that produce measurable results.

To qualify for a subsidy the local councils must take the following actions:

In level 1:

1. Within their own operations
   - appoint an energy coordinator;
   - produce an inventory of all bodies with high energy consumption;
   - keep energy accounts;
   - optimise the energy consumption of all bodies;
   - conduct an awareness campaign within their own departments or operations.

2. Externally: raise awareness of rational energy consumption and/or renewable energy amongst citizens and other target groups.

In level 2:

1. Within their own operations
   - expand energy accounting;
   - screen the specifications for new building and renovation;
   - use renewable energy within their own departments and operations.

2. Externally: raise awareness of rational energy consumption and/or renewable energy amongst citizens and other target groups.

The following conditions apply to provinces:

In level 1:

1. Within their own operations

- appoint an energy coordinator;
- produce an inventory of all bodies with high energy consumption;
- keep energy accounts;
- optimise all the energy consumption of all bodies;
- conduct an awareness campaign within their own departments or operations.

2. Externally:
   - Support municipal authorities in conducting their sustainable energy policy;
   - Raise awareness of rational energy consumption amongst municipal authorities and other target groups.

In level 2:

1. Within their own operations
   - expand energy accounting;
   - screen the specifications for new-builds and renovation;
   - use renewable energy within their own departments and operations.

2. Externally: raise awareness of rational energy consumption and/or renewable energy amongst citizens and other target groups.

At the end of 2006 a total of 182 Flemish municipalities received a subsidy for the implementation of the energy cluster for 2005. That is nearly 60% of all Flemish municipal authorities. 113 of these authorities achieved level 1 and 69 succeeded in correctly completing the more stringent objectives of level 2. All five of the provinces now keep more extensive energy accounts and have a policy that takes account of renewable energy and energy-efficient construction and renovation. In 2005, 1500 energy accounts were kept by the participants.

Mobility Cluster

The general objectives of the mobility cluster are to promote cooperation between environment and mobility departments and to provide an approach from the environment department for the development of environmental aspects of mobility policy. The following is expected of local authorities:

- to carry out an environmental review of mobility policy;
- to develop concrete actions to reduce pressure on the environment.

To qualify for a subsidy, municipal authorities must take the following actions:

In level 1:

1. Conduct an environment review of the mobility policy/plan and organise cooperation between the environment and mobility departments;
2. Develop and implement at least two actions during the period of the contract on the following subjects:
   - eco-friendly vehicles;
   - eco-friendly transport of own personnel;

- targeted awareness campaigns (active and/or passive).

In level 2:
The condition for entry into level 2 is that the municipality has a mobility plan that has been declared correct.

1. Five-yearly environmental review of the mobility plan
   This results in a review document summarising the method used, listing problems highlighted by the review and giving recommendations for dealing with these.
2. Development and implementation of at least one eco-friendly mobility project.

The following is expected of provincial authorities:

In level 1:
1. Within their own operations
   Conduct an environmental review of mobility policy, resulting in a review document summarising the method used, listing problems highlighted by the review and giving recommendations for dealing with these.
2. Externally: support municipal authorities in their environmental reviews of their mobility policy/plan.

In level 2:

1. Within their own operations
   - Map out access to and parking and traffic pressure on provincial parks, draw up an action plan containing concrete actions, a timeframe and a budget, communicate measures to own personnel and the population;
   - Produce an inventory of the vehicle fleet and an analysis of the use of vehicles, draw up an action plan containing concrete actions, a timeframe and a budget, communicate measures to own personnel and the population;
   - Record commuting and official travel within provincial operations, draw up an action plan containing concrete actions, a timeframe and a budget, communicate measures to own personnel and the population.
2. Externally: support municipal authorities in implementing actions and projects and where applicable organising cross-municipality actions.

At the end of 2006, 141 municipal authorities were approved for the implementation of the mobility cluster in the previous year. 115 authorities achieved level 1 and the remaining 27 correctly implemented the provisions of level 2.

5.1.3 Flemish Government actions in support of local energy policy

The Flemish Government also undertakes a number of legislative and promotional initiatives to support local authorities:

- 20% subsidy or the installation of solar boiler systems by local councils. This allowance is additional to the distribution system operators' allowance (see measure 4, imposition of REG public service obligations on the electricity distribution system operators).

- Financial support for projects demonstrating energy technologies. The selection criteria include the amount of energy saving, the innovative nature, the reduction in CO_2-emissions, the economic return and reproducibility of the project.

- Through the REG public service obligations (see also measure 4, imposition of REG public service obligations on the electricity distribution system operators) the electricity distribution system operators are obliged to assist municipal and provincial authorities with their local energy policy. They must provide the following for this:
  - Monitoring of the progress of energy accounting by the local council;
  - Assistance in carrying out energy audits, including:
    - financial support;
    - assistance with drawing up specifications;
    - assistance with interpreting audit results.
  - Assistance with the local authority's energy management systems, including:
    - continuous monitoring of the energy accounting;
    - assistance in carrying out energy audits;

    - financial and organisational support for the implementation of energy saving investments arising from the energy conservation system.
  - Offer of third-party finance formulae or other financing mechanisms for energy saving investments.

- Energy performance certificate for public buildings

  Under the decree of the Flemish Government of 20 April 2007 on the introduction of an energy performance certificate for public buildings, [*besluit van de Vlaamse Regering van 20 april 2007 betreffende de invoering van een energieprestatiecertificaat voor publieke gebouwen*], public organisations were obliged to have an energy performance certificate by 1 January 2009. Public buildings are defined as buildings of the federal, Flemish, provincial or municipal authorities, and buildings in which public services such as education or health care are provided.

  This decree implements the European Directive 2002/91/EC on the energy performance of buildings, which stipulates that public buildings that are often visited by the public and that are larger than 1000 m², must display an energy performance certificate in a position that is visible to the public.

  The energy performance certificate does not establish requirements for the building but assigns a reference number to it, which gives the owner and user information about the energy quality of the building. The energy performance certificate also lists the energy saving measures with a short payback period. The energy performance certificate must be displayed in a position that is clearly visible to the general public to help raise public awareness.

  The public organisation must itself take the initiative to produce the energy performance certificate. An energy expert for public buildings approved by the Flemish Energy Agency can be called in to assist with this. The public organisation can also opt to appoint an internal energy expert to produce the energy performance certificate. This will be an employee of the public organisation who has two years' experience of energy management within the organisation. Internal energy experts may only produce an energy performance certificate for the public organisation for which they work.

- Supporting communication initiatives for local councils

  The Flemish Government also offers municipal authorities a number of supporting communication resources:
  - The website www.energiesparen.be includes a grant module containing all the financial support measures for energy saving investments for each authority. The module contains a search function for private individuals and for authorities.
  - Municipal authorities can request all brochures from the Flemish Government free of charge to distribute to their residents. The Flemish Government also offers new brochures to all authorities as a matter of course;
  - The Flemish Government also provides off-the-peg articles on energy saving for inclusion in municipal information sheets.

5.1.4 Inclusion of energy efficiency as a criterion in government contracts

Various initiatives have been launched for the inclusion of energy efficiency as a criterion in government contracts.

A number of measures have been included in the action plans “Energy Conservation in Flemish Government Buildings” and “Environmental Conservation in the Flemish Government’s Vehicle Fleet” that aim to ensure that energy efficiency is included as a criterion in government contracts.

As already described in point 5.1.1 “Exemplary Function of the Flemish Government” the aim is to embed energy conservation structurally into the purchasing procedures of Flemish government bodies. When purchasing appliances, the energy consumption must be checked. Criteria must be established for the evaluation of the appliances purchased. A circular on energy-efficient purchasing in the Flemish Government will be produced in 2007.

The intention is also to incorporate environmental aspects, including energy, into specifications for the purchase of vehicles.

The local authorities will be encouraged via the new cooperation agreements to include energy efficiency as a criterion in government contracts. The manner in which this will be done is currently still being examined.

5.2 Provision of information and advice to the final customer

Communication campaigns are being carried out within the Flanders Region for the various target groups.

5.2.1 Private individuals

Promotion of REG

Surveys have shown that Flemish people have quite a high level of energy awareness. According to the last measurement of energy awareness per household, 93% of households found energy saving important or very important. This awareness has remained fairly constant over the past few years, partly as a result of the communication campaigns carried out.

The Flemish Government distributes information leaflets on rational energy consumption and sustainable energy on a large scale. 80% of the brochures are distributed in response to individual requests from citizens and 20% are distributed as part of major campaigns.
The most frequently requested brochures are:

-Make your house energy efficient and reduce your tax;
-Energy performance legislation leaflet: One day your house will be energy efficient too;
-Energy saving in your home, allowances from your distribution system operator;
-Practical guide for building and renovation work in the near future;
-Ideas for energy-efficient living;
-Ideas for energy-efficient building and renovation.

The website www.energiesparen.be plays an important part in communication on REG. According the Flemish Energy Agency survey, 1 in 4 Flemish people have already heard of this website. The site currently has 50,000 visits a month.

The majority of the visitors search for the numerous energy grants given in Flanders. The website has a handy search tool which immediately brings up all the allowances applying in a particular municipality when the postcode is entered.

The website www.energiesparen.be gives the motivated individual further help with an investment calculator for various REG investments. The individual can quickly find the energy saving and the payback period for his planned investment, taking account of the various energy grants.

Media campaigns, free publicity, the website www.energiesparen.be and digital newsletters will continue to address the subject and create a growing support base for REG.

The Flemish Government also wants to encourage individuals to call in external advice by recognising energy experts. The experts must take a training course with Syntra Vlaanderen and pass an examination. The recognised energy experts will also use compulsory audit software provided by the Flemish Energy Agency when giving advice. This guarantees that they give good quality advice.

In addition to this, every dwelling bought from 2008 or rented from 2009 must also have an energy performance certificate. This certificate will allow comparison of the energy performance of dwellings.

Promotion of more eco-friendly driving behaviour

The government, training centres, examination centres and the environment movement have drawn up a cooperation agreement in which the centres undertake to integrate more eco-friendly driving behaviour into their operations. A charter "smart driving" [*wijs op weg*] has been drawn up for this and instructors are being trained.

A growing number of training centres have signed the charter and are integrating the principles of eco-friendly driving behaviour (BEM driving) into their basic training. The driving instructors who have completed the training and are putting the theory into practice are listed on a site run by the Belgian Federation of Professional Driving Schools [*Federatie van Beroepsautorijscholen van België vzw*] (FAB), the Flanders Foundation for a Better Living Environment and the Flemish Government. In addition to the driving instructors, the examiners are also trained and by the middle of 2008, eco-friendly driving will form part of both the theory and the practical examination.

Awareness campaigns and the promotion of training for everyone by the Flemish Foundation for Traffic [*Flemish Stichting voor Verkeerskunde*], Global Drivers Concept and DrivOlution must ensure that experienced drivers also have these skills under their belt. Various awareness campaigns for businesses, clubs and societies and motorists in general have been started by the Foundation for a Better Living Environment under the European project ECODRIVING.

The Careful Driving campaign (ROB) will also be continued. Additional target groups will be involved and larger-scale campaigns will be run.

Promoting eco-friendly vehicles

The Flemish Government has ordered that the Ecoscore of a vehicle should be developed to ensure that all vehicles are allocated a score that is representative of their impact on the environment. The Ecoscore of a vehicle, which is based on emissions and energy consumption, can be found on the website www.milieuvriendelijkvoertuig.be.

Brochures, leaflets, car journals and car websites will give the general public and fleet owners information about the Ecoscore evaluation.

5.2.2 Undertakings

The Flemish Government is distributing a notice about REG via energy consultants.

Various sectors receive financial support from the government to recruit energy consultants, in particular hotel and catering, agricultural and horticultural businesses, small businesses, the building sector and architects.

The energy consultant's package of tasks is largely parallel and is adapted via steering group meetings convened and chaired by the Flemish Energy Agency.

These energy consultants have the following basic tasks:
- to make the target group aware of the project;
- to give front-line advice on rational energy consumption;
- to publish a brief list on a website of sources of information, publications, regulations, support measures and addresses of authorities that are relevant to the target group in the context of energy saving;
- to develop rational energy consumption case studies for publication in the journals of the relevant target group;
- to organise feedback to policy on the basis of the results of the project.

5.2.3 Education

A number of technical brochures on energy saving are currently being developed for head teachers and teaching staff. These are:
- energy conservation in schools;
- heating;
- lighting;
- insulation and ventilation;
- passive building.

The project Environmental Conservation at School [*Milieuzorg op School*] (MOS) is also currently running. MOS aims to set up an environmental management system at school, in conjunction with students, teaching staff, head teachers and parents, on one of the following subjects: waste prevention, water, **energy, transport** and nature. MOS gives the schools the necessary tips and assistance to tackle one of the environmental subjects at school and to make this a permanent value in the school.

Environmental conservation in higher education comprises three important action areas:
- colleges and universities receive the necessary support in terms of content and methodology for the integration of environmental conservation into their institution, The emphasis here is both on the measurable environmental benefit and compliance with environment legislation and on added educational value;
- students receive tips during their education on eco-friendly behaviour and on continuing this in their future professional lives;
- students also receive support on integrating environmental protection in their student accommodation and in student life.

5.2.4 Clubs and societies

The project JeROM (Jeugd, Ruimte, Omgeving en Milieu [*Youth, Space, Surroundings and Environment*]) supports youth groups in integrating environmental conservation into their operations. The plan period 2006-2009 provides for a guide to environmental conservation to

be developed for youth organisations and a project to assist youth groups with eco-friendly building, renovation and insulation of their meeting places.

Adult clubs and societies are also given support by the government to integrate eco-management into their operations. During the 2006-2009 the government intends inter alia to produce a guide for the national secretariats of clubs and societies to develop educational activities on the subject of energy.

Annex

Detailed calculation of the average final energy consumption within the scope of the Directive for the period 2001-2005.