Belgian National Allocation Plan

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GENERAL CONTENTS

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I. INTRODUCTION

1. Division of powers

Belgium is a federal State, where both the federal and regional authorities have a number of environmental responsibilities.

Article 6 of the Special Act of 8 August 1980 on institutional reform states that, in the field of environmental and water policies, the Regions are responsible for:

1° protecting the environment - including the soil, the subsoil, the water and the air – against pollution and damage, as well as combating noise;

2° waste policy;

3° monitoring dangerous, unhealthy and nuisance-causing enterprises, with the exception of internal control measures relating to the protection of labour;

4° the production and supply of water, including the technical regulations governing the quality of the drinking water, waste water treatment and the sewerage system.

The federal government is responsible for:

1° establishing product standards;

2° the protection from ionising radiation, including radioactive waste;

3° the transit of wastes.

Therefore, with regard to the transposition of 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 and amending Council Directive 96/61/EC, the Regions are in charge of issuing greenhouse gas emission permits and the drafting of an allocation plan for installations on their territories, excluding the support and safety installations of nuclear power plants, which are the responsibility of the federal government.

2. Belgium's reduction target

Under the Burden Sharing Agreement concluded among the Member States of the European Union in accordance with Article 4 of the Kyoto Protocol, Belgium was assigned a reduction target for the 2008-2012 period of 7.5 % over 1990.

This reduction target is an environmental target. However, the policy instruments for reaching this target are, in the strict sense, not the responsibility of the Regions only. There has been discussion among the Regions as to the capacity for attaining this reduction target. Therefore, the Regions and the federal government had to reach agreement on who would be responsible for what reduction target in Belgium.

On 8 March, the Regions and the federal authorities reached agreement within the Consultative Committee. This agreement makes the Regions responsible for submitting the emission allowances under the Kyoto Protocol (Assigned Amount Units, Certified Emission Reductions, Emission Reduction Units, Removal Units) in a quantity equalling the greenhouse gas emissions on their territory during the period 2008 - 2012 so as to allow Belgium to meet its obligations under the Kyoto protocol.

The Regions are free to make use of natural carbon sinks on their territory. This implies that they are responsible for submitting the emission allowances under the Kyoto Protocol when these natural carbon sinks prove to be net emission sources.

The Regions are assigned a quantity of emission allowances under the Kyoto protocol according to the following rules:

- Walloon Region: the 1990 emissions reduced by 7.5 %
- Flemish Region: the 1990 emissions reduced by 5.2 %
- Brussels Capital Region: the 1990 emissions increased by 3.475 %

However, using these distribution keys, more emission allowances are allocated to the Regions than there are in Belgium's Assigned Amount[(1)]. This shortfall is set off by the federal authorities' acquisition of emission certificates through the flexible mechanisms under the Kyoto Protocol. These acquired emission allowances are subsequently allocated to the Regions by way of support so that they have the same amount of emission allowances as was provided for according to the above distribution keys.

In a special meeting of the Council of Ministers of 20 March 2004, 10 million € was earmarked for buying an initial amount of emission certificates. The Environment Division of the federal Environment Department is currently drafting a procedure for a call for tender to allow the federal government to invest in JI and CDM projects for the acquisition of emission certificates under the Kyoto Protocol.

The final calculation of the quantity of emission allowances to be assigned under the Kyoto Protocol according to the above allocation keys will be based on the emission reporting to be

(1) See draft decision -/CMP.1 of the Conference of the Parties of the United Nations Framework Convention on Climate Change on 'Modalities for the accounting of Assigned Amounts under Article 7, paragraph 4, of the Kyoto Protocol'.

used in the report, which Belgium has to submit before 1 January 2007 for calculating the Belgian Assigned Amount. The Table below shows an estimate of the impact of the burden sharing according to the agreement of 8 March 2004 based on the most recent inventory figures at that time. As the Regions adjusted their data after 8 March 2004, using still more recent figures for 1990, the targets in the allocation plans of the Regions differ slightly from those in the Table below.

Impact of burden sharing agreement between regions and federal government

based on data from the latest emission inventory available on 8 March 2004

Millions Million tons $CO_{2\ eq.}$	**Emissions 1990**	**Emission allowances allocated to each Region for the period 2008-2012**	**Assigned Amount Belgium**
Flanders	87.95	416.86	676.36
Wallonia	54.3	251.14	
Brussels	3.99	20.64	
Total amount of emission allowances allotted to the Regions:		688.64	
Emission allowances under the Kyoto Protocol still to be acquired by the federal government for subsequent allocation to the Regions:			12.28

Consequently, when developing their National Allocation Plan, particularly in the top-down analysis for spreading the efforts among the various sectors in any given Region, the Regions have to take account of the above reduction targets during 2008-2012 compared to the 1990 emissions on their territory, i.e. –5.2% for Flanders, -7.5% for Wallonia and +3.475% for the Brussels Capital Region.

The agreement concluded in the Consultative Committee on 8 March 2004 between the Regions and the federal government does not pronounce on the use of flexible mechanisms by the Regions.

Pursuant to this agreement, the federal Government will take internal federal policy measures to support the reduction efforts of the Regions. The reductions achieved through these federal measures benefit the Regions.

The National Climate Commission will each year assess the measures developed by the federal authorities.

II. ALLOCATION PLAN OF THE FEDERAL GOVERNMENT

ALLOCATION PLAN OF THE FEDERAL AUTHORITY

Allocation of emission allowances to nuclear sector installations covered by Directive 2003/87/EC

1 Preface

1.1 Burden sharing between the Federal authorities and the Regions

Under the Kyoto Protocol, Belgium committed itself to reduce its greenhouse gas emissions between 2008 and 2010 by 7.5 % in comparison with the situation in 1990. Since Belgium is a federal State, the national reduction effort was divided among the Federal Government and the three Regions. The main features of this burden sharing are outlined below.

The Regions are responsible for submitting the emission allowances under the Kyoto Protocol to a quantity equalling the greenhouse gas emission on their territory during 2008-2012 so as to allow Belgium to fulfil its commitments under the Kyoto Protocol.

The Federal Government is scheduled to take a number of additional measures to cut greenhouse gas emissions. These federal measures will be included in the National Allocation Plan as the federal contribution to this plan. The annual emission-reducing impact of these measures by 2008-2012 is estimated to be at least 4,800,000 tonnes $CO_{2\ equivalent}$. These measures will be evaluated each year and, if need be, reviewed when the economic growth exceeds the annual growth rate during 2003-2008 as estimated by the Federal Planning Office.

The Regions are responsible for submitting the emission allowances under the Kyoto Protocol. They are allocated emission allowances according to the following keys:

- Walloon Region: the 1990 emissions reduced by 7,5 %; today, this quantity is estimated at 50.23 million tonnes of CO_2 equivalent
- Flemish Region: the 1990 emissions reduced by 5.2 %; today, this quantity is estimated at 83.37 million tonnes of CO_2 equivalent
- Brussels Capital Region: the 1990 emissions increased by 3.475 %; today, this quantity is estimated at 4.13 million tonnes of CO_2 equivalent.

The above allocation means that more emission allowances are allocated to the Regions than Belgium has received under the Kyoto Protocol. To make up for this

shortfall, the Federal Government is set to acquire additional allowances. According to the most recent inventory figures for 1990, this federal acquisition effort would amount to 2.46 emission certificates each year during the five-year period between 2008 and 2012.

1.2 The Federal Government's contribution to the National Allocation Plan

In view of Belgium's federal structure and the attendant distribution of powers, Belgium's National Allocation Plan for 2005-2207 has been split up into three regional contributions and one federal contribution.

The present document deals with the federal government's part of the National Allocation Plan 2005-2007 and deals exclusively with nuclear sector installations falling within the scope of Directive 2003/87/EC (hereinafter referred to as the "Directive"). The other installations covered by the Directive will be discussed in the regional parts of the National Allocation Plan 2005-2007.

Since a temporary exclusion in accordance with Article 27 of the Directive is applicable to the above installations, a large number of items of the "common format for the National Allocation Plan 2005-2007"[1] are irrelevant.

2 Key data on support and safety installations of the nuclear sector

In view of the threshold capacity (a net rated thermal input of > 20MW), the combustion installations of the support and safety devices of the nuclear plants of Doel and Tihange are covered by the Directive.

The installations coming under the Directive are the standby and safety devices for the production of steam or electricity designed to take over the basic security functions of power stations in case they are no longer able to get power from outside or to produce their own steam. The installations are listed in Annex 1.

Under normal operation, these devices are in standby mode and are started up regularly solely for the purpose of checking their proper operation. Therefore, their utilization levels are very low and consequently the corresponding CO_2 emissions, too, are fairly low.

The support and safety installations referred to here are located on the sites of the power plants of Doel (KCD) and Tihange (CNT). In 2003, these combined installations emitted 3 262 tonnes. This is negligible in comparison with Belgium's overall CO_2 emissions of 125 million tonnes. During 1991- 2003[2], the following minimum, maximum and median values were recorded:

[1] Communication from the Commission of 7 January 2004 on guidance to assist Member States in the implementation of the criteria listed in Annex III to Dirtective 2003/87/EC.

[2] The following reference periods were used for calculating the maximum, minimum and median values: 1991-2003 in respect of Tihange, 1996-2003 in respect of Doel.

Recorded values	**CNT (Tihange)**	**KCD (Doel)**
Emissions 2003	2 194	1 068
Lowest emissions	1 209	754
Highest emissions	4 020	1 634
Median emissions	2 256	1 107

In view of the function of the installations, similar figures are expected for 2005-2007, provided there is no power or steam failure.

3 Exclusion of the support and safety installations of power plants

By a decision of the Council of Ministers of 2 April 2004, the Federal Government wishes to temporarily (from 1 January 2005 up to and including 31 December 2007) exclude the support and safety devices of nuclear power plants from the provisions of the Directive. Such temporary exclusion is provided for in Article 27 of the Directive.

The emergency standby and safety installations are designed basically to protect the public from ionising radiation. The decision to deploy the support and safety installations should, in principle, be based solely on security grounds. Other grounds – such as market considerations in the context of an emission allowance trading scheme – must not get the upper hand. Because of the very low emission level under normal operating conditions (only during periodical testing), any additional reduction efforts would probably have adverse effects on the safe operation of these installations.

These support and safety installations are covered by the Directive because the latter, in defining its scope, uses the capacity of a combustion installation as a reference. As already mentioned above, these support and safety installations have low emission levels in spite of their capacity; in other words, this is not so much an environmental problem as a safety issue.

In accordance with Article 27 of the Directive, it will be necessary to indicate in the (federal part) of the National Allocation Plan how the excluded installations will be subjected to emission reduction requirements as well as monitoring, reporting and verification requirements and penalties in case of non-compliance that are at least equivalent to those of the installations coming under the emission trading scheme.

Such equivalent treatment should ensure that excluded installations do not have a competitive advantage over installations that are covered by the Directive.

In doing so, the following elements were taken into account:

a) Equivalent reduction requirements – It is not a good idea to impose a reduction effort on installations that are used exclusively to guarantee the safety and security of nuclear power plants since such emissions are purely safety-related and may rise or fall depending on the safety requirements.

In order to limit the support and safety installations as much as possible, these installations will be excluded only from the regulations governing greenhouse gas emission allowance trading on condition that operators of nuclear plants show that they use the support ands safety installations exclusively for the safe operation of the nuclear power station.

A list will be compiled of all the support and safety installations temporarily excluded from the greenhouse gas emission allowance trading scheme. All installations on this list will be closely monitored to ascertain that they are actually used only for safely operating the nuclear power station. Such monitoring will be carried out by the Federal Nuclear Control Agency in light of the data it already possesses in the context of its legal remit.

b) Equivalent monitoring, reporting and verification requirements – Operators of support and safety installations are required to supply the necessary data for establishing if these installations are actually used for the safe operation of nuclear power plants.

In view of the division of competence in environmental matters, the Regions may, where required, issue additional provisions on the monitoring, reporting and verification of these emissions.

c) Equivalent penalties – Should an operator of a nuclear plant use the support and safety installations, wholly or partly, for other purposes than for the safe running of the plant, theses installations will no longer be excluded from the Directive. In that case, regional regulations governing greenhouse gas emission allowance trading will be applicable to these installations, including the regional penalties provided for in accordance with the Directive.

For that purpose, a Royal Decree[3] has been drafted that has been submitted to the statutory advisory bodies.

4 Public consultation

4.1 General: public consultation in two rounds

Directive, Annex III, item 9: "The plan shall include provisions for comments to be expressed by the public, and contain information on the arrangements by which due account will be taken of these comments before a decision on the allocation of allowances is taken."

The Directive provides for consultation of the public on the National Allocation Plan. In fact, public consultation took place in two stages so as to make it possible for any

[3] Draft Royal Decree transposing 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 and amending Council Directive 96/61/EC

comments to be fully taken into account prior to the final decision about the National Allocation Plan:

- A first public consultation was held between 10 April and 21 April 2004. Its aim was to invite comments and preferences from the public on the basic options to be taken in the federal part of the Allocation Plan. The first public consultation paper was published on the website http://www.klimaat.be. This site contained a number of links to the websites where the regional parts of the National Allocation Plan were published (if available).

  Comments could be sent before 21 April 2004 to:

  Federal Public Service of Health, Food Chain Safety and Environment
  DG for Environment – Climate Change Division
  Oratoriënberg/Rue Montagne de l'Oratoire 20, box 3
  1010 Brussels
  E-mail : climate@health.fgov.be
  Fax: 02/210 46 99

  It should be noted that, in addition to the public consultation referred to above, we also consulted the sector involved (*inter alia* through the Federal Nuclear Control Agency).

- A second round of public consultation will take place as soon as the Commission's comments on the present document have been incorporated.

4.2 Outcome of the public consultation

Finally, one response was received - from the "Bond Beter Leefmilieu Vlaanderen vzw", a non-governmental organisation. This NGO held the view that it should be found out whether support and safety installations, which consist mainly of diesel generators, could be replaced by more energy-efficient generators fuelled by biodiesel or natural gas without compromising the safety of the installation.

Since these installations are not scheduled for replacement during 2005-2007 and as there is as yet no obligation in other sector to use biodiesel, its was thought inappropriate to take account of this comment in the Allocation Plan 2005-2007.

ANNEX – LIST OF INSTALLATIONS

The support and safety installations of the nuclear power plants of Doel (KCD) and Tihange (CNT) are run by ELECTRABEL NV, Regentlaan 8 at 1000 Brussels.

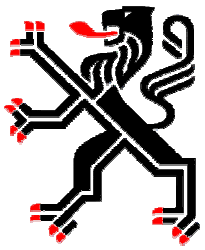
The following figures and data are provided here in aggregate form for safety and confidentiality reasons.

Power Plant	**Installations**		**MWth**
	Number	Kind	(*)
CNT (Tihange) 1, Avenue de l'Industrie 4500 Tihange	5	Steam-producing installations	110
	16	Diesel generators (**)	150
	21	**Total CNT**	**260**
KCD (Doel) Scheldemolenstraat-Haven, 1800 9130 Beveren	2	Steam-producing installations	90
	25	Diesel generators (**)	180
	27	**Total KCD**	**270**

(*) aggregate capacity of all the installations on the site

(**) thermal capacity calculated on the basis of a 40 per cent engine efficiency

III. ALLOCATION PLAN FOR THE FLEMISH REGION



DRAFT
FLEMISH ALLOCATION PLAN FOR CO_2-EMISSION ALLOWANCES 2005-2007

as approved by the Government of Flanders on 28 May 2004
(= second approval in principle)

to be submitted to the European Commission

Date of publication: 9 June 2004

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Introduction

The European Directive 2003/87/EC establishing an emissions trading scheme in Europe[1] aims to introduce a CO_2-emissions trading system on 1 January 2005. Each of the participating companies is allocated a quantity of CO_2-emission allowances. Every emission allowance gives the right to emit 1 tonne of CO_2 At the end of each year in a trading period (the first period runs from 1 January 2005 to 31 December 2007) a company must be able to present exactly as many CO_2-emission allowances as the amount of CO_2 it has emitted during that year. By purchasing allowances a company can acquire a larger CO_2-emission allowance. If a company thinks it will have too many CO_2-emission allowances, it can sell those excess CO_2-emission allowances.

To implement this directive, every Member State must draw up a national plan, determining the CO_2-emission allowances which will be allocated to each company. In view of the distribution of competences in Belgium, four allocation plans are drawn up, including this Flemish plan.

An allocation plan must be drawn up before the start of any trading period. The allocation plan for CO_2-emission allowances for 2005-2007 indicates the total number of CO_2-emission allowances available in the Flemish Region for the participating companies in the first trading period 2005-2007, and how many allowances the Government of Flanders intends to allocate to each individual company.

A proposal of this allocation plan for CO_2-emission allowances 2005-2007 was a first time approved in principle by the Government of Flanders on Friday 2 April 2004. Following this approval, a public consultation was organised between Wednesday 7 April 2004 and Wednesday 21 April 2004.

In addition to the position of the Government of Flanders regarding the responses received during this public consultation, the draft allocation plan for CO_2-emission allowances 2005-2007 was approved of a second time in principle on Friday 28 May 2004. Following the assessment and any additions and/or amendments in response to an evaluation of this plan by the European Commission, it will be definitively approved in November 2004.

The structure of the allocation plan is in accordance with the “Common Format for the National Allocation Plan 2005 to 2007” requested by the European Commission[2].

[1] Directive 2003/87/EC of the European Parliament and the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Directive 96/61/EC. PB L 275 of 25 October 2003.

[2] Appendix added in COM (2003) 830. Communication from the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to Directive 2003/87/EC and on the circumstances under which force majeure is demonstrated.

1. Determining the total quantity of emission allowances

1.1. Kyoto objective

In perspective of the European burden sharing agreement[3] with regard to the fulfilment of the Kyoto Protocol, the Belgian reduction objective for the emissions of greenhouse gases was set at 7,5 % below the emissions in 1990. This reduction objective must be complied with in the period 2008-2012 (= first commitment period of the Kyoto Protocol)[4].

In view of the distribution of competences in Belgium, this reduction objective had to be divided between the Regions and the federal state. On 8 March 2004, an agreement was reached thereon between the federal government and the community and regional governments of Belgium in the Consultation Committee. According to this agreement, it is the Regions (including the Flemish Region) which are responsible for presenting a certain quantity of allowances under the Kyoto Protocol during the period 2008-2012. The quantity of allowances which must be presented on average every year during this period was determined for each Region[5] (see Table 1).

	annual average quantity of allowances to be allocated	corresponds to an x% adjustment compared to CO_2-eq emissions in 1990
Flemish Region	83,37 Mton CO_2-eq.	-5,2 %
Walloon Region	50,23 Mton CO_2-eq.	-7,5 %
Brussels Capital Region	4,13 Mton CO_2-eq.	+3,375 %

Table 1: The division of burdens of the Belgian Kyoto reduction objective between the Regions in accordance with the agreement of 8 March 2004

This division of burdens assigned more allowances[6] to the three Regions than Belgium is assigned under the Kyoto Protocol. In order to compensate for this deficit (estimated at 2,46 Mton CO_2-eq. per year for the period 2008-2012, according to the figures for the inventory at the time that the agreement was concluded), it was agreed that the Federal Government would acquire additional allowances by making use of the flexibility mechanisms of the Kyoto Protocol. The Federal Government would also introduce additional internal federal policy measures to support the reduction efforts of the Regions.

The agreement also provides that the Flemish Region (and the other Regions) can determine the extent to which and the way in which they use flexibility mechanisms themselves, in order to acquire additional allowances.

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3 Decision 2002/358/EC of the Council of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol to the United Nations Framework Convention on Climate Change and the joint fulfilment of commitments thereunder. PB L 130 of 15 May 2002.

4 The greenhouse gas emissions in Belgium in 1990 are multiplied fivefold for that purpose, and then a reduction percentage of 7,5 % is applied. This calculation results in the "Assigned Amount" for Belgium for the first commitment period 2008-2012. The "Assigned Amount" is the total quantity of allowances which a country with a reduction objective is allocated under the Kyoto Protocol.

5 This division of burdens was based on 146,24 Mton CO_2-eq. emissions in Belgium in 1990, divided between the Flemish Region (87,95 Mton CO_2-eq.), the Walloon Region (54,30 Mton CO_2-eq.) and the Brussels Capital Region (3,99 Mton CO_2-eq.). The final calculation of the emission allowances indicated in Table 1 for each region will be based on the final emission figures for the reference year 1990, which must be submitted by Belgium at the latest on 31 December 2006.

6 “Allowances" refers to AAUs (=Assigned Amount Units).

Therefore, according to the agreement, the Flemish Region must limit the emission of greenhouse gases in the period 2008-2012 to an average of 83,37 Mton CO_2-eq. per annum as a contribution to achieving the European obligation under the Kyoto Protocol.

The figures of the inventory of greenhouse emissions in 1990 in the Flemish Region have already changed since the agreement was concluded on 8 March 2004. According to the latest figures on the inventory of greenhouse gas emissions in the Flemish Region in 1990, these were actually 88,419 Mton CO_2-eq. (compared to the 83,38 Mton CO_2-eq. in the agreement of 8 March 2004), and consequently the reduction objective of -5,2 % means that the Flemish Region must limit the emissions of greenhouse gases to an average of 83,82 Mton CO_2-eq. per annum in the period 2008-2012.

In this draft Allocation Plan CO_2-emission allowances 2005-2007, this 83,82 Mton CO_2-eq. is used as the Kyoto-objective of the Flemish Region.

1.2. Bottom-up calculation

AMINAL (= the Flemish Environmental Administration) commissioned a study[7], specifically to prepare for determining the required quantity of CO_2-emission allowances for industry[8].

On the basis of the figures (also see 3.2.3.1) made available by the participating ET-companies, this study made an estimate of the quantity of CO_2-emission allowances required by industry in the period 2005-2007, taking into account the planned extensions and known new entrants[9]. All the information submitted was verified and corrected, if necessary, by the Benchmarking Verification Bureau of Flanders (VBBV).

The study made an estimate of the expected annual percentage growth in CO_2-emissions for the different industrial sectors. The results are shown in.

Table 2: Expected annual percentage growth for the various industrial sectors in the period 2003-2007

Industrial sectors	annual growth without known new entrants (%)	total annual growth with known new entrants (%)
Chemical	3,1	6,0
Refineries	1,1	1,9
Iron and steel	5,2	5,3
Paper and board	5,1	30,5
Food	6,1	6,8
Metal	0,4	0,8
Textiles	0,1	0,9
Ceramics	4,9	5,5
Wood	0,0	0,05
Glass	1,7	1,7
Miscellaneous	3,1	3,1
Total Industry	6,1	4,6
Energy (excl. CHP)	-0,03	0,3
Energy (incl. CHP)	0	4,7

The study that was commissioned was partly due to the commitment done by the Government of Flanders in the context of the Flemish Benchmarking Covenant with the energy-intensive industry (cf. point 3.2.1). This covenant states that the participating

7 Ecolas (2004). Support for Flemish allocation plan for CO_2-emission allowances.

8 In the allocation plan the emissions from industry are seen as all the emissions which fall under the directive and which are not caused by energy production (CHP installations, electricity produced by blast-furnace gas, electricity produced by fossil fuels, etc.).

9 More specific, it asked about: 1) the CO_2-emissions in the reference year 2003, 2) the expected CO_2-emissions of planned new installations or extensions of existing installations for which an environmental permit is required, and which concerns an extension of more than 10 %, or an additional CO_2-emission of more than 5.000 tonnes on an annual basis ("known new entrants"), and 3) the expected CO_2-emissions for the years 2005, 2006 and 2007, taking into account the planned changes in production (increase or decrease) for which no permit application will be required ("existing installations").

companies are allocated all the emission allowances they need if the installations concerned observe the (mandatory) revisions in the benchmarking covenant.

The BAU-scenario for industry was drawn up on the basis of this study. Without the share of electricity production from blast-furnace gas and without the CO_2-emissions from heat production by CHP-installations, the study shows that the total quantity of CO_2-emission allowances for industry for the period 2005-2007 amounts to 61,872 Mton CO_2-eq. This comprises a share of 1,767 Mton (or 3 %) for known new entrants.

The expected reductions (resulting from the benchmarking covenant and a recent decision introduced by the Government of Flanders on energy planning[10]) compared with this BAU scenario, were used as reduction potential. These reductions are based on estimated potential energy savings in the chemical, iron and steel, paper and board sectors[11]. Calculations for the other sectors were based on potential energy savings of 15 % by 2012, based on the evaluation of the Dutch benchmarking covenant.

These prognoses on energy savings will be adjusted in accordance with the energy plans which companies will submit in the context of the benchmarking covenant (also see 3.2.3.2). This will have an influence on the "number of emission allowances required for industry", also modifying the top-down calculation in Table 4, and the comparison of the top-down and the bottom-up calculation in Table 6.

The number of CO_2-emission allowances required for industry in the period 2005-2007 is currently estimated at 60,159 Mton CO_2-eq. This comprises a share of 1,767 Mton CO_2-eq. for known new entrants.

The number of CO_2-emission allowances required for energy production is explained in 2.2 and amounts to 45,297 Mton CO_2-eq in the period 2005-2007. This comprises a share of 5,708 Mton CO_2-eq. for known new entrants.

Table 3 below shows these calculations.

[10] Decision of 14 May 2004 of the Government of Flanders on energy planning for classified energy-intensive installations and for modifications of Vlarem I and II (=Flemish environmental legislation). Not yet published in the Belgian Official Gazette.

[11] VITO (2000). Potential energy savings (to be completed on the basis of ANRE reference data).

Table 3: Bottom-up calculation

	2005	2006	2007	2005-2007	2010
energy production					
BAU	23.016	22.910	22.799	68.725	27.092
expected reductions					
reductions in accordance with the CREG scenario	6.663	7.811	8.954	23.428	12.780
additional reductions in electricity demand in accordance with VORA '04	0	0	0	0	715
number of emission allowances required	**16.353**	**15.099**	**13.845**	**45.297**	**13.597**
industry					
BAU	20.088	20.379	21.406	61.873	23.458
expected reductions					
fuel potential as a result of benchmarking covenant and energy planning decision	239	571	904	1.714	1.900
number of emission allowances required	**19.849**	**19.808**	**20.502**	**60.159**	**21.558**
total					
BAU	43.104	43.289	44.205	130.598	50.550
expected reductions	6.902	8.382	9.858	25.142	15.395
emission allowances allocated	**36.202**	**34.907**	**34.347**	**105.456**	**35.155**

1.3. Top-down calculation

1.3.1. Introduction

The quantity of emission allowances that can be allocated to the ET-companies (= Emission Trading companies) are calculated below, on the basis of the reduction potentials in the non ET-sectors and on the basis of the Flemish Kyoto reduction objective of an average of 83,82 Mton CO_2-eq. in the period 2008-2012.

This analysis ensures that the total quantity of emission allowances to be allocated to industry and energy production will not jeopardise the achievement of the Flemish Kyoto reduction objective.

1.3.2. Calculations

The scenario below is followed for this purpose:

1. the Kyoto objective of the Flemish Region will be achieved in 2010 (-5,2 % compared to emissions in 1990): in 2010 the greenhouse gas emissions will amount to 83.821 kton CO_2-eq.;
2. the reduction potentials indicated in the draft Progress Report 2004 of the Flemish Climate Policy Plan 2002-2005 will be achieved (cf. "reduction potential" and "fuel potential" calculations in Table 4);
3. with regard to the CO_2-emissions resulting from energy production, the Kyoto 7 scenario of the CREG is reference scenario: the expected CO_2-emissions in 2008 are used from this scenario, and the CO_2-emissions are presumed to develop in a linear way from the actual emissions in 2003 to 2008 (and 2012).

The BAU-scenarios and reduction potentials which are used for the sectors and installations in Table 4 that do not fall under the ET-directive are based on a number of different studies and plans.

Most calculations are based on the Flemish Climate Policy Plan 2002-2005 and its annual Progress Reports[12]. This plan and its progress reports incorporate a series of projects which should lead to greenhouse gas reductions in the Flemish Region. The numbers in Table 5 refer to the projects concerned in the draft Progress Report 2004.

The CO_2-emissions (BAU) from agriculture are also based on the draft Progress Report 2004, taken from the official emission inventory in 2002, which was submitted to the European Commission in December 2003 and to UNFCCC in April 2004.

The CO_2-emissions from transport (BAU and fuel potential) are calculated on the basis of a recent study by the VITO research agency[13].

The CO_2-emissions (BAU) from “other” industries concern emissions from waste incineration without electricity production and non-energy CO_2-emissions in non-industrial sectors. The figures are taken from various studies[14].

[12] Can be consulted on http://lucht.milieuinfo.be

[13] Calculations of CO2-emissions from traffic and transport for input in the Flemish climate plan 2004. VITO, March 2004.

[14] Draft Flemish energy and CO_2-emissions balance for 2002 (version of 17 May 2004) and Ecolas study (version 17 May 2004).

In addition, the calculation of the number of emissions which do not fall under the scope of application of the directive on ET-companies is made on the basis of a recent study commissioned by AMINAL[15].

[15] Ecolas (2004). Support for the Flemish allocation plan for CO_2-emission allowances.

Table 4: Top-down calculation

	2005	2006	2007	2005-2007	2010
Total cap greenhouse gases (A)	**94.076**	**92.025**	**89.974**	**276.075**	**83.821**
Emissions required for:					
CH_4, N_20 and F gas emissions (B)	**16.766**	**16.251**	**16.203**	**49.220**	**14.378**
BAU	17.013	16.921	16.939		17.038
reduction potential	247	670	736		2.660
reduction potential compared to BAU	1,45%	3,96%	4,35%		15,61%
CO_2-emissions (C)	**33.700**	**33.390**	**33.108**	**100.198**	**32.305**
of which::					
agriculture	**2.054**	**2.018**	**1.982**	**6.054**	**1.873**
BAU	2.054	2.018	1.982		1.873
fuel potential	n.a.	n.a.	n.a.		n.a.
fuel potential compared to BAU	n.a.	n.a.	n.a.		n.a.
transport	**13.878**	**13.637**	**13.425**	**40.940**	**12.831**
BAU	14.575	14.757	14.939		15.578
fuel potential	697	1.120	1.514		2.747
fuel potential compared to BAU	4,78%	7,59%	10,13%		17,63%
households	**13.611**	**13.567**	**13.523**	**40.701**	**13.391**
BAU	13.853	13.944	14.035		14.307
fuel potential	242	377	512		916
fuel potential compared to BAU	1,75%	2,70%	3,65%		6,40%
service sector	**3.964**	**3.975**	**3.985**	**11.924**	**4.017**
BAU	4.132	4.231	4.329		4.625
fuel potential	168	256	344		608
fuel potential compared to BAU	4,07%	6,05%	7,95%		13,15%
other	**193**	**193**	**193**	**579**	**193**
BAU	193	193	193		193
fuel potential	n.a.	n.a.	n.a.		n.a.
fuel potential compared to BAU	n.a.	n.a.	n.a.		n.a.
CO_2-cap for energy production and industry (=A-B-C) (D)	**43.610**	**42.384**	**40.663**	**126.657**	**37.138**
non ET-companies in industry (E)	**2.561**	**2.508**	**2.454**	**7.523**	**2.301**
BAU	2.615	2.663	2.710		2.859
fuel potential	54	155	256		558
fuel potential compared to BAU	2,07%	5,82%	9,45%		19,52%
emissions of ET-companies not subject to the ET-directive (F)	**4.847**	**4.872**	**5.265**	**14.984**	**6.053**
emissions required for the ET-companies (from bottom-up)	**36.202**	**34.907**	**34.347**	**105.456**	**35.155**
Balance to be completed	**0**	**97**	**-1.403**	**-1.306**	**-6.371**
Reserve for unknown new entrants	**0**	**185**	**554**	**739**	
Total balance to be completed	**0**	**-88**	**-1.957**	**-2.045**	**-6.371**

Table 5: Additional information on the calculation of the scenario

CH_4, N_2O and F-gases

9 Emission reduction policy on fluorinated greenhouse gases for cooling installations
- Introduction of a regulation for the homologation of cooling technicians
- Additional regulations for the exploitation of cooling installations
- Inspection campaign on the use of substances which break down ozone and fluorinated greenhouse gases

10 More stringent regulations with regard to the valorisation of landfill gases and maintaining the compulsory flaring off of landfill gases

12 Reduction plan for nitric acid and caprolactam production

Transport

n.a. Sustainability scenario of the mobility plan (50% included)

n.a. ACEA agreements (100% included)

n.a. Biofuels directive (100% included)

Households

2 Action Plan renewable energy: heat pump and solar boiler

6 RUE-Action Plan in households
- Introduction of an energy performance regulation and certificates
- Creation of subsidy programmes for the implementation of the RUE-decree
- RUE-public service obligations for the distribution network managers of electricity
- Energy policy agreement or RUE-obligations for suppliers of fuels
- Fiscal deduction for RUE-investments in income tax (federal measure): 50 % included (own calculations, that is: potential included of improvement in energy performance in new buildings and renovated housing, of insulation in existing housing (roof insulation, HR glass, insulation of walls and temperature control, replacement of electrical heating and heating using coal), long-life bulbs, water-saving showerheads, energy meter and A-label appliances)

15 Action Plan for the efficient maintenance of heating systems

Service sector

7 RUE-Action Plan in the service sector
- The introduction of subsidy programmes for the implementation of the RUE-decree
- The implementation of cluster energy in accordance with the municipal and provincial environmental agreement (local government setting an example)
- RUE-public service obligations for the distribution network managers of electricity and the energy policy agreement or RUE-obligation for suppliers of fuel
- The introduction of an energy performance regulation for new and thoroughly renovated buildings (energy-saving potential included for swimming pools, care homes, schools, administrative buildings: relighting, improving insulation, natural ventilation)

Industry

4 RUE-Action Plan in industry, coke factories and refineries
- Benchmarking covenants
- RUE-public service obligations for the distribution network managers of electricity and the energy policy agreement or RUE-obligation for suppliers of fuel
- Audit covenants
- The introduction of an energy performance regulation for new and converted industrial buildings

5 Decision on energy planning for classified installations

Electricity production

2 Renewable Energy Action Plan: green electricity certificates and promotion (green electricity objective: wind at sea, wind on land, biomass, organic biological fraction of residual waste, and to a small extent: water power and solar power)

3 CHP Action Plan: co-generation of heat and power certificates and promotion

1.4. Comparison of the top-down and the bottom-up calculation

Table 6: Comparison of the top-down and the bottom-up calculation

	2005	2006	2007	2005-2007	2010
Availability of emissions in the Flemish Region (= A from top-down)	94.076	92.025	89.974	276.075	83.821
Required emissions in the Flemish Region (= total from bottom-up +B+C+E+F from top-down)	94.076	91.928	91.377	277.381	90.192
Difference between available and required without an estimate of "unknown" new entrants surplus(+) deficit (-)	**0**	**97**	**-1.403**	**-1.306**	**-6.371**
Reserve for unknown new entrants	**0**	**185**	**554**	**739**	

Including the known new entrants, but not including unknown new entrants in industry, Table 6 shows that by allocating a total of 105,456 Mton CO_2-eq. emissions to the participating installations in the Flemish Region in the period 2005-2007, 1,306 Mton CO_2-eq. too much would be emitted to be "on target" for achieving the Kyoto-objective in 2010.

In addition, it is necessary to take into account a reserve of 0,739 Mton CO_2-eq. which the Flemish Region provides for unknown new entrants in industry. AMINAL[16] commissioned a study to estimate the size of this reserve in an objective way; in percentage terms it corresponds to 1,2 % of the total required quantity of CO_2-emission allowances for industry (also see 5.2.4).

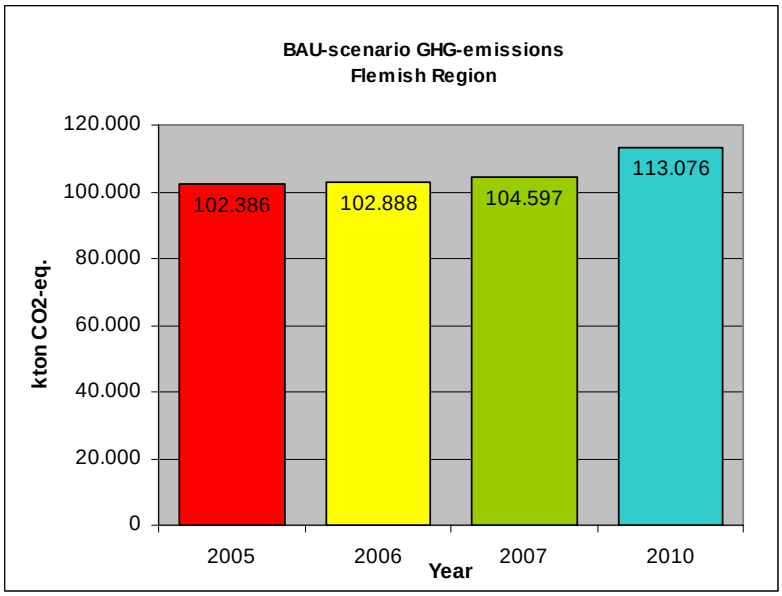
Taking into account the current national measures, the deficit needed to achieve the Kyoto objective in 2010 is slightly more than 6 Mton CO_2-eq. The administrations concerned in the Flemish Region were charged with analysing different scenarios to resolve this difference, and with presenting a proposal for this purpose to the Government of Flanders by 30 September 2004 at the latest. This proposal will be included in the final version of the allocation plan.

The figures below show the efforts of the Flemish Region in relation to the BAU-scenario.

The figures in Figure 1 concern the sum of all the BAU-evolutions of the various sectors as indicated in Table 3 and Table 4.

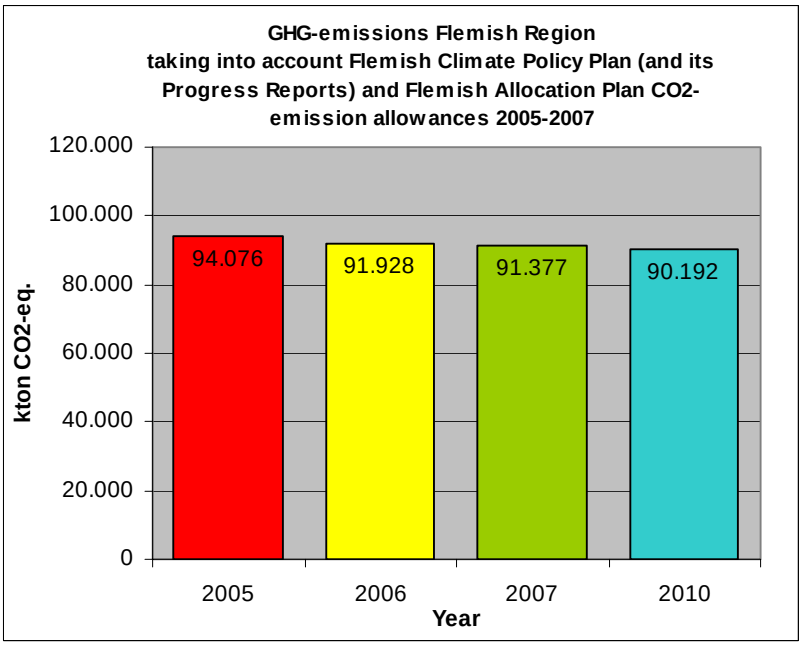
Figure 1: BAU-scenario GHG-emissions in the Flemish Region

[16] Ecolas (2004). Support for the Flemish allocation plan for CO_2-emission allowances.



The figures in Figure 2 concern the sum of the emissions required for the ET-companies (from Table 3) and the estimated GHG-emissions required for the other sectors (from Table 4).

Figure 2: GHG-emissions in the Flemish Region after taking into account the Flemish Climate Policy Plan 2002-2005 (and its Progress Reports) and the Flemish Allocation Plan CO_2-emission allowances 2005-2007



2. Determining the total quantity of emission allowances at the sector level

2.1. Introduction

In the allocation of emission allowances, the Flemish Region makes a distinction between energy production and industry.

The allocation for energy production is made in two stages. The first stage (= determining the total quantity of emission allowances) was referred to in 1.2, but is explained in more detail in 2.2.

For industry the allocation is not made in two stages. For the installations in these sectors the method of allocation is only at the installation level (see 3.2).

2.2. Energy production

2.2.1. Introduction

Energy production refers to:

1. the production of electricity using fossil fuels (other than blast-furnace gas);
2. the production of heat in CHP-installations;
3. the production of heat in individual boilers;
4. the production of electricity using blast-furnace gas.

The total quantity of available emission allowances for energy production in the period 2005-2007 is determined by calculating a quantity of emission allowances for these four categories and then adding these quantities together.

2.2.2. Electricity production using fossil fuels, other than blast-furnace gas

The quantity of available emission allowances for electricity production is determined on the basis of the formula below:

$$\sum_{n=2005}^{2007} (P_{e,n} * EF_{e,n})$$

where:

- $P_{e,n}$ = electricity production in GWh in the Flemish Region using fossil fuels in 2005, 2006 and 2007, calculated in accordance with version 3bis of the Kyoto 7 scenario;
- $EF_{e,n}$ = emission factor which reflects the average emission of the Flemish electricity production companies using fossil fuels, in tonnes CO_2 per GWh in 2005, 2006 and 2007 calculated in accordance with version 3bis of the Kyoto 7 scenario.

The annual production of electricity using fossil fuels (other than with blast-furnace gas) is determined for Flanders on the basis of the assumptions of version 3bis of the Kyoto 7 scenario of the "Indicative Programme for the Means of Production of Electricity" of the CREG. The expected annual emission factors of all the production companies determined in this Kyoto 7 scenario are applied to this.

This version of the Kyoto 7 scenario is the scenario that corresponds best with the Flemish energy policy, based on the controlled growth of demand for electricity in Flanders, and promoting the production of electricity from renewable energy sources and CHP. More specific provisions on the scenario are included in Annex I.

This scenario will be followed in Flanders from 2008. During the period 2005-2007 the emission factor and the related production of electricity will evolve in a linear fashion between 2003 and 2008, on the basis of the actual emissions of all the production companies in 2003.

According to this scenario, the emission factor of the production companies in Flanders that use fossil fuels (excluding blast-furnace gas) and the related production of electricity in the period 2005-2007 is as follows:

Table 7: The emission factor of the production companies in Flanders that use fossil fuels and the related production of electricity in the period 2005-2007

	Emission factor (in tonnes of CO_2/GWh)	**Production (in GWh)**
2005	540	23.151
2006	500	22.282
2007	461	21.161

The application of this in the formula results in:

Table 8: Proportion of electricity produced with fossil fuels in the total emission ceiling for energy production

	Emission ceiling (in kton CO_2)
2005	12.501
2006	11.141
2007	9.755
period 2005-2007	**33.397**

2.2.3. Heat production in individual steam boilers

The quantity of emission allowances for heat production from individual steam boilers is equal to Q.

Q = tonnes of CO_2 for heat production from individual steam boilers in the reference year.

Determining the quantity of emission allowances for the production of heat by individual steam boilers will take place on the basis of data from the CO_2-emission inventory.

2.2.4. Heat production by CHP-installations

The number of emission allowances allocated for heat production by CHP-installations is determined on basis of the formula below:

$$\sum_{n=2005}^{2007} (P_{q,n} * EF_{q,n} * 1000)$$

where:

- $P_{q,n}$ = heat production in GWh $_{th}$ in the Flemish Region by CHP-installations in 2005, 2006 and 2007, calculated in accordance with the Flemish Climate Policy Plan 2002-2005;
- $EF_{q,n}$ = emission factor which reflects the average emission of Flemish heat producing companies with a CHP-installation, in tonnes of CO_2 per GWh_{th} in 2005, 2006 and 2007, calculated in accordance with version 3bis of the Kyoto 7 scenario.

The annual production of heat from CHP-installations is determined for the Flemish Region on the basis of the CHP-Action Plan in the 2004 Progress Report of the Flemish Climate Policy Plan 2000-2005. The expected annual emission factors of the heat producing companies with a CHP-installation determined in this Kyoto 7 scenario are applied to this.

According to this scenario, the emission factor of the heat producing companies using a CHP-installation and the related heat production during the period 2005-2007 are as follows:

Table 9: Emission factor of the heat producing companies using a CHP-installation in the Flemish Region and the related heat production in the period 2005-2007

	Emissions factor (in tonnes of CO_2/GWh_{th})	**Production (in GWh_{th})**
2005	137	6.308
2006	137	7.083
2007	137	7.788

The application of this in the formula results in:

Table 10: Proportion of heat production from CHP-installations in the total emission ceiling for energy production

	Emission ceiling (in kton CO_2)
2005	864
2006	970
2007	1.067
period 2005-2007	**2.901**

2.2.5. Electricity production using blast-furnace gas

The emission allowances required for the production of electricity from blast-furnace gas are added to this. The calculation rule to determine this quantity is explained below.

2.2.6. Total quantity of emission allowances to be allocated for energy production

The total quantity of emission allowances to be allocated for energy production is shown in Table 11 (expressed in kton CO_2-emissions):

Table 11: Total quantity of emission allowances to be allocated for energy production

	electricity production using fossil fuels (other than blast-furnace gas)	heat production from individual boilers	heat production from CHP-installations	electricity production using blast-furnace gas	total
2005	12.501		864		
2006	11.141		970		
2007	9.755		1.067		
period 2005-2007	**33.397**		**2.901**		

3. Determining the quantity of emission allowances for installations

3.1. Introduction

The installations in Flanders which fall under the Emissions Trading Directive are subdivided into two groups: industry and energy production. For each of these groups there are different rules for the calculation of the number of emission allowances to be allocated in the period 2005-2007.

3.2. Industry

3.2.1. Introduction

The Government of Flanders has developed a benchmarking covenant for the energy-intensive industry. In this voluntary agreement the subscribing companies aim to improve their energy efficiency to the level of the world's best performers[17] within an agreed-upon period. This is achieved with the help of an energy plan which defines energy-saving measures that should enable the company to achieve this "world top". This benchmarking covenant was approved by the Government of Flanders on 29 November 2002. The allocation of emission allowances to industry is based on this covenant.

One of the concessions the government made in return to subscribing companies, is that all the emission allowances required by the installations concerned will be made available if the company achieves the improvement in energy efficiency agreed upon in the energy plan.

Therefore industrial installations are allocated emission allowances on basis of a benchmarking of the energy-efficiency of the installations concerned.

In principle, these installations are allocated the emission allowances they need on the basis of the energy efficiency improvements determined in the energy plans. Installations of companies which signed a voluntary agreement (covenant) with the government must have such energy plans. Other companies are allocated a certain percentage of the emissions from a reference period (85%). This reduction percentage is based on a general estimate of the industrial reduction potential.

For the period 2005-2007, the energy efficiency improvement determined in the energy plan takes into account measures to become the world's best performer in terms of energy efficiency, in so far as they have a profitability with an internal rate of interest of 15% after tax.

In order to achieve the maximum coordination between determining the number of emission allowances for installations in companies which have signed the benchmarking covenant and the commitment made in return by the Government of Flanders in this covenant, a growth factor will be used in the formula for the allocation. When drawing up the next allocation plan (period 2008-2012) the difference between the prognoses and the actual output in the previous period will be adjusted (see 3.2.3.4).

In order to achieve emission allowances using these calculation rules, the company must sign the benchmarking covenant and submit an energy plan to the Benchmarking Verification Bureau of Flanders (VBBV) on 1 July 2004 at the latest, which must be verified in due time. The company must have a verified energy plan on 15 September 2004 at the

[17] The world's best performers in the context of the benchmarking covenant can be calculated in different ways. For further information, refer to www.benchmarking.be.

latest. If a company submitted a final energy plan in due time, and the Benchmarking Verification Bureau of Flanders (VBBV) has still not taken a decision on this on 15 September 2004, this energy plan is deemed to have been approved. If these conditions are not observed, the calculation rules of non-covenant companies are used.

3.2.2. The calculation rules

3.2.2.1. The total allocation

The total allocation of CO_2-emission allowances to a site (company) is equal to:

$$A = A_v + A_p + A_r$$

This quantity can be supplemented with emission allowances for electricity and heat production by a CHP-installation if applicable (see 3.3.2.2).

3.2.2.2. Emissions from combustion installations

$$A_v = \sum_{n=2005}^{2007} (E_v * BF_n * P_n)$$

where:

- A_v = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
- E_v = retrieved direct CO_2-emissions from fuel consumption of installation A in the reference year or period;
- BF_n = benchmark factor in the year n (see 3.2.3.2)
- P_n = growth factor in the year n (see 3.2.3.3)

This formula is not applied if the company would be a world's best performer in one of the years 2005, 2006 or 2007. In that case a separate allocation is used for that specific year (cf. 3.2.3.2).

3.2.2.3. Process emissions

For installations which fall under the ET-directive in Flanders, the number of emission allowances for CO_2-emissions which are not produced by a combustion process are calculated as follows for the period 2005-2007:

$$A_p = \sum_{n=2005}^{2007} (E_p * P_n)$$

where:

- A_p = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
- E_p = emission from processes in the reference year or period;

P_n = growth factor in the year n (see 3.2.3.3)

For the time being, it is not possible to apply a benchmark factor for process emissions (as anticipated in the calculation rule for emissions from combustion installations) because there is currently not enough information available on the extent of these process emissions, or enough information available on the potential savings from these emissions.

3.2.2.4. Emissions from flue gases

Because of their energy content, flue gases can be recycled as a fuel in a combustion installation, so that these flue gases can be used efficiently rather than merely flared off. However, the emission factor for CO_2 of these gases is significantly higher than for traditional fuels, such as natural gas.

For some sites, the installations where these fatal gases are discharged do not fall under the scope of application of the ET-directive. The use of these fatal gases as fuel in an installation which does fall under the scope of application leads to a higher CO_2-emission which the installation must justify with sufficient emission allowances in the context of the emissions trading directive.

The Government of Flanders shall stimulate the useful application of these flue gases and provide sufficient emission allowances if:

1. the company concerned has signed the benchmarking covenant and an energy plan has been submitted to the Benchmarking Verification Bureau of Flanders (VBBV) on 1 July 2004 at the latest and has been verified in due time. The company must have a verified energy plan on 15 September 2004 at the latest. If a company has submitted a final energy plan in due time and the Benchmarking Verification Bureau of Flanders (VBBV) has not taken a decision on this by 15 September 2004, this energy plan is deemed to have been approved;
2. their energy plan includes the use of residual gases for fuel in installations which fall under the provisions of the directive in the company concerned;
3. the installations where these fatal gases are normally discharged off do not fall under the scope of application of the directive.

The emission allowances shall be calculated with the following calculation rule:

$$A_r = \sum_{n=2005}^{2007} [(I_{r,n} - I_{r,2003}) * UF * P_n]$$

where:

A_r = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
$I_{r,n}$ = use of the off-gas in the year concerned of the period 2005-2007 expressed in an energy unit;
$I_{r,2003}$= use of the off-gas in the reference year, expressed in an energy unit;
UF = the emission factor, defined as the difference between the emission factor of the flue gas concerned and that of the fuel replacing the off-gas, expressed in tonnes of CO_2 per energy unit;
P_n = growth factor in the year n (see 3.2.3.3).

Here the factor $l_{r,n}$ comes from the energy plan and reflects what use of the flue gas concerned the installation anticipates in the various years of the period 2005-2007, compared to the reference year.

Therefore this factor will be included together with the growth factor in the calculations between the trading periods.

3.2.3. Explanation of the calculation rules

3.2.3.1. Retrieved CO_2-emissions

The Ev- and Ep factors in the allocation formulae concern retrieved CO_2-emission data in a reference year or period. On 27 February 2004, AMINAL (= The Flemish Environmental Administration) sent all the operators a questionnaire (with a worksheet to be completed appended to it). This asked the operator of the installation to provide its CO_2-emission data for the year 2003 - partly on the basis of the directives issued by the European Commission on the reporting of CO_2-emissions[18]. On 26 March 2004, these questionnaires were submitted to the Benchmarking Verification Bureau of Flanders (VBBV), which verified the data. The Benchmarking Verification Bureau of Flanders is an independent bureau of experts which was established in 2003 in the context of the execution and follow-up of the Flemish benchmarking covenant.

In principle, the retrieved CO_2-emissions related to the reference year 2003. The operator was permitted to deviate from this reference year. This deviation could only be accepted if it was accompanied by clearly stated reasons, which had to relate to one of the following matters:

1. the closure of an installation because of an activity or circumstance which does not recur every year (e.g., maintenance which does no recur annually, safety measures, etc.);
2. a lower use of capacity because of an activity or circumstance which does not recur annually and will therefore not continue in the future;
3. exceptional climate conditions;
4. an installation which only become operational during the course of 2003.

The deviation from the reference year could only take place in three ways:

1. the use of the data from the year 2001;
2. the use of the data from the year 2002;
3. the extrapolation of available data from the year 2003.

The application to deviate from the reference year did not absolve the operator from the obligation to provide the data for the year 2003. The data for the years 2002 and 2001 had to be reported in the same way as those from 2003. For the extrapolation of data from the year 2003, the operator had to explain how he or she had proceeded.

Additional data will be requested and verified for the allocation to CHP-installations.

3.2.3.2. The benchmark factor

a) Introduction

A company which has signed the benchmarking covenant has the aim to be one of the world's best performers as regards the efficient use of energy, within a particular period. In the benchmarking covenant[19] this objective is described as:

[18] Decision 2004/156/EC of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council. PB L 59 of 26 February 2004.

[19] For detailed information on the benchmarking covenant in the Flemish Region, reference is made to www.benchmarking.be

"On the basis of the studies […] (these are the studies to determine the world's best performer), as well as the evaluation […] (this is the evaluation to determine how far the company has to go to reach the level of the world's best performer), the total objective to be achieved with regard to reducing energy consumption is determined for the whole company […]. This objective is calculated in absolute numbers in the following way. For each part the difference is calculated between the actual energy consumption in PJ per year and the energy consumption which would occur if the objective for this part were achieved. By adding up the differences it is possible to obtain the energy savings in PJ per year which can be achieved for the whole company if production remains the same."

The company shall indicate the possible ways in which the objective can be achieved in an energy plan.

The system of trading emission allowances concerns *direct* CO_2-emissions. In short, an operator must justify those CO_2-emissions which are emitted by his own installations.

The measures which a company takes in the covenant in the context of its energy plan with regard to a reduction in the amount of electricity bought in, lead to the more efficient use of energy consumption, but do not necessarily result in a reduction of direct CO_2-emissions. Consequently, allocating emission allowances to installations of companies in the benchmarking covenant will only take into account those measures which cause a reduction of the direct CO_2-emissions in the company if production remains the same.

In a particular year of the trading period a company can - in the context of its benchmarking covenant - achieve the world top level, do even better than the world top level, or fail to achieve this world top level. The Government of Flanders shall allocate all the emission allowances if the installations concerned observe the provisions of this covenant. Installations which perform better than this world top level will also be allocated emission allowances in proportion to this world top level.

The benchmark factor (which must be calculated for each of the years of the trading period) must be interpreted either as a 'progress factor', if it concerns a company which does not belong to the world's best performers in that year, according to the energy plan, or as a 'world top factor', if the company does achieve the world top level in that year, or does even better than the world top level.

The energy plan will contain a format which allows the companies to determine the benchmark factor straightaway. If the companies present their energy plans to the Benchmarking Verification Bureau of Flanders (VBBV) by the deadline (1 July 2004), these factors will be immediately available for every installation.

For companies which fall under the scope of application of the benchmarking covenant, but do not wish to sign it, and for companies which have signed the covenant but which have not submitted a draft energy plan to the Benchmarking Verification Bureau of Flanders (VBBV) by 1 July 2004, to be verified at the latest on 15 September 2004, the benchmark factor is established at 0,85 for the period 2005-2007. Therefore 85% of the emission allowances will be allocated in relation to the reference period. This corresponds to the technical reduction potential for CO_2-emissions that is present in the different sectors in the Flemish Region[20].

[20] VITO, April 2004. Technical CO_2-emission reduction potential of non-covenant companies.

As regards CHP-installations, the Government of Flanders shall calculate emission allowances independently of the structure of ownership of the installations. Reference is made to 3.3.2.2 for this purpose.

b) Installations which do not belong to the top world performers

Consequently the benchmark factor is a **progress factor (VF)** for installations which do not belong to the world's best performers, and is defined as the ratio of:

VF =

the energy consumption of the company in the year concerned of the trading period which gives rise to *direct* CO_2-emissions falling under the provisions of the directive, following from the energy plan and for the production quantity of the year concerned, with the deduction of the energy consumption of the related CHP in the reference period

to

the energy consumption of the company in the reference year that gives rise to direct CO_2-emissions falling under the provisions of the directive, determined on the basis of the production volume of the year concerned, with the deduction of the energy consumption of related CHP in the reference period.

This factor is at least 0. The related CHP refers to the CHP for which the greenhouse gas permit is held by the same operator as the installations under the emissions trading directive at the company as referred to in the definition above. This is related to the emissions in the reference year of the CHP. For more detail, see the allocation of emission allowances to CHP-installations (3.3.2.2).

One important aspect is that the term “direct CO_2-emissions” in the definition for the concerned company only relates to those emissions of installations which fall under the scope of the ET-directive. This is particularly important for companies which are not named as a sector in Annex I of the directive. The progress factor itself is calculated on the basis of energy consumption, not CO_2-emissions. This means that if a company changes to a less carbon-rich fuel during the trading period, the resultaing emission allowances which become available in relation to the reference period, are not deducted or adjusted (see 3.2.3.4) in the calculation.

c) Installations which belong to the world top or are better than the world top

The benchmark factor is a **world top factor (WF)** for companies which belong to or are better than the world's top performers, and is defined as the ratio of :

WF =

the energy consumption of the company concerned in 20xy, if it achieves the energy efficiency of the world top, with the production volume of the year concerned 20xy

to

the energy consumption of the company concerned in 20xy with the energy efficiency anticipated in the energy plan, with the production volume of the year concerned 20xy

This factor is greater than or equal to 1.

If the top world factor applies in a particular year of the trading period, the number of emission allowances for that year is calculated as follows:

$$A_{v(200x)} = E_{200x-1} * WF_x * P_x$$

where;

Av(200x) = number of emission allowances in tonnes of CO_2 for the year concerned;
E200x-1 = planned direct CO_2-emissions from fuel consumption of installation A in the trading year before 200x (or in the case that the company is already world top at the start of the trading period, the year of reference);
WFx = world top factor in that year, taking into account the energy plan;
Px = growth factor in the year x (see 3.2.3.3)

In this way the Government of Flanders would like to allocate to the companies concerned which perform better than the world's top performers, emission allowances in proportion to this world top level.

In this respect it is important to note that the world top factor cannot be automatically applied to the CO_2-emissions of the reference year.

For example, if an company plans to perform better than the world top in the last year of the trading period, the formula with the world top factor is used. This factor is a number larger than 1. If this factor is applied to the CO_2-emissions for the reference year, the company is allocated the surplus for its performance that year, in addition to the direct CO_2-emissions of the reference year. This would be an overallocation.

The years of a trading period in which a company does not achieve the world top in accordance with its energy plans, before the trading year in which it does do so, therefore play an important role. Consequently E200x-1 for the period 2005-2007 is determined as follows:

$$E_{200x-1} = E_v * \prod_{i=2005}^{200x-1} VF_i$$

In this formula, E200x-1 is equal to Ev if the year in which the world top is achieved, is the first year of the trading period.

In this, Ev are the retrieved direct CO_2-emissions from fuel consumption for installation A in the reference year. These are multiplied by the progress factors from the years of the trading period preceding the year in which the installation plans to achieve the world top or does better than this world top.

This formula will be examined in further detail.

3.2.3.3. The growth factor

In order to observe the commitment made by the Government of Flanders in the context of the benchmarking covenant, the calculation of the number of emission allowances will take into account the expected growth. This method of allocation will be combined with adjustments when the next allocation plan (period 2008-2012) is drawn up.

The growth factor is individually calculated per company. For this purpose the questionnaire sent to companies with regard to the CO_2-emissions in the reference year (see 3.2.3.1) also asked for a list of the expected extensions of the companies and the related expected increase in the consumption of fuel and/or raw materials. These data resulted in an expected percentage increase of the CO_2-emissions compared to the year 2003, or the year indicated by the operator (2001, 2002) or the extrapolated year 2003.

The data provided by companies on extensions were again verified by the Benchmarking Verification Bureau of Flanders (VBBV). The Benchmarking Verification Bureau of Flanders is an independent bureau of experts which was established in 2003 in the context of the execution and follow-up of the Flemish benchmarking covenant. Furthermore, the realistic value of the data provided on extensions was compared with the expected sectoral growth figures. This last check was carried out by an independent consultant appointed for this purpose by AMINAL (Flemish Environmental Administration).

The extensions announced by the companies were only accepted by the Government of Flanders if they were supported by a decision appended and signed by the company management with regard to the extension.

For installations which did not indicate any extensions in the questionnaire, the growth factor is equal to 1.

3.2.3.4. Allowance adjustment system

For companies which fall under the scope of the ET-directive, which signed the benchmarking covenant and presented a draft energy plan to the Benchmarking Verification Bureau of Flanders (VBBV) by 1 July 2004, which is verified on 15 September 2004 at the latest, the allowances will be adjusted when the next allocation plan (period 2008-2012) is drawn up. If a company has submitted a final energy plan in due time and the Benchmarking Verification Bureau of Flanders has not decided on this by 15 September 2004, this energy plan is deemed to have been approved.

Allocation on the basis of benchmarking is carried out with the help of prognoses. This means that the allowances must be adjusted after the trading period, so that the benchmark is applied to the real output. Therefore, with regard to industrial installations of companies which signed the benchmarking covenant, a system of allowance adjustments will be used as from the time that the allocation plan is drawn up for the period 2008-2012.

This means that when every allocation plan is drawn up, the reported emissions from the previous trading period are compared with the allocated quantity of emission allowances in the previous allocation plan. If the two data are not the same for the company, and the company did however achieve the agreed energy efficiency of the covenant, the difference will be added to or deducted from the emission allowances that will be allocated to this company for the next trading period.

Therefore adding or deducting allowances concerns the retroactive adjustment of the allocation to the actual production output during the previous trading period. Consequently

the growth prognosis will be compared with the actual growth in the previous trading period. If a company withdraws from the benchmarking covenant during the trading period, these adjustments will also be made when the next allocation plan is drawn up.

For companies which used the calculation rule for flue gases, the adjustments will also be calculated on the basis of the actual use of the flue gas in the previous period, compared to the reference year.

Adjustments will also be made for CHP-installations, if the operator has signed the benchmarking covenant.

This adjustment, together with the progress factor and the growth factor in the allocation formula ensures that the number of emission allowances allocated to companies which observe the benchmarking covenant rules, corresponds as closely as possible to the emission allowances actually required for the installations in the period 2005-2007.

Adjustments will also be made for new entrants who in due time signed the benchmarking covenant (see also 5.2).

3.3. Energy production

3.3.1. Introduction

For the operator of an electricity production installation, a CHP-installation or an individual steam boiler, the number of emission allowances is calculated on the basis of a technology and CO_2-efficient criterion.

For new entrants, a proportion of allowances is deducted from the total quantity of allowances. The balance is divided amongst the existing installations on the basis of CO_2-efficiency benchmarking. In every case, all the installations are allocated emission allowances on the basis of the emission factor of the best available technology for generating electricity and heat (viz, a STAG power station). If, after this allocation, emission allowances are left from the total budget of emission allowances for energy production, extra allowances are allocated to installations operating with coal and oil in relation to the relative CO_2-efficiency of these installations. For installations operating with blast-furnace gas (fatal gas) the specific emission factor of that gas is used as the basis for the calculation. In that case, the allowances are allocated to the producer of the gas and not to the direct emitter.

3.3.2. The calculation rules

3.3.2.1. Traditional electricity production technologies

$$A_e = [3{,}6 * \frac{P_e * U}{N}] * C_e$$

where

Ae = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
Pe = GWh electricity production in the reference period or the reference year;
U = CO_2-emission factor of the type of fuel;

N = best production efficiency of the technology used;
3,6 = conversion factor based on the units used of the different factors;
Ce = correction factor differentiated in terms of production technology (see 3.3.3.1);

For this, the factor U is determined as follows.

Table 12: CO_2-emission factors used for the different fuels

Type of fuel	**Emission factor** (kton CO_2/PJ)	**Emission factor** (ton CO_2/GWh_{el})
Coal	92,7	n.a.
Natural gas	55,8	n.a.
Petroleum	72,6	n.a.
Blast-furnace gas	240,8	2.649 - 2.680

Factor N is determined as shown in Table 13.

Table 13: Efficiencies used to determine the number of emission allowances per installation depending on the technology and the fuel used

		Efficiency reference electricity production		
		Coal CT	Gas power station	STAG
Fuel	Coal	0,39		
	Natural gas		0,50	0,53
	Oil			

3.3.2.2. CHP-installations

a) Limits and definitions

CHP or co-generation of heat and power is the simultaneous generation of thermal and electrical and/or mechanical energy. The thermal energy is of a useful or practical nature, which means that the low value heat generated by the production of electricity is used to meet the existing demand for heat. For that reason, CHP-installations are dimensioned on the heat demand.

A CHP-installation always requires a back-up boiler with a capacity to take over the heat produced by the CHP in the case that it breaks down. Therefore the number of operating hours of these boilers is limited and can be related to the operating hours of the CHP. Furthermore, a back-up boiler will always operate on limited capacity to restrict the start-up time to a minimum if the CHP breaks down.

Both aspects are related to the holder of the greenhouse gas permit. The emission allowances for a CHP-installation will be allocated to the holder(s) of the greenhouse gas permit(s) for those parts of the CHP that cause direct emissions.

The back-up boiler is also considered to be part of the CHP-installation if the greenhouse gas permit is held by the operator of the CHP-installation

b) The calculation rule

Emission allowances are allocated to CHP-installations both for the production of heat and for the production of electricity. This calculation is independent of the structure of the ownership of the CHP-installation.

Therefore the calculation rule allocates a quantity of emission allowances both for the production of heat and electricity. The method of distribution used is as follows:

Method of distribution for heat = $\frac{W}{W+K}$

Method of distribution for power (electricity) = $\frac{K}{W+K}$

W and K are either the outputs of the heat production and the electricity production, or the heat produced and the electricity produced in the period of reference of the CHP-installation concerned.

In that case the formulae for the allocation of CO_2-emission allowances are:

For electricity:

$$A_e = \left(\frac{K}{W+K}\right) * BV * U * C_e$$

where:

Ae = number of emission allowances for the production of electricity in tonnes of CO_2 for the period 2005-2007;
BV = fuel consumption in the reference period (in GJ);
U = CO_2-emission factor of the type of fuel (in tonnes of CO_2/GJ);
Ce = correction factor differentiated in terms of production technology (see explanation below).

For heat:

$$A_q = \left(\frac{W}{W+K}\right) * BV * U * C_e$$

where:

Aq = number of emission allowances for the production of electricity in tonnes of CO_2 for the period 2005-2007;
BV = fuel consumption in the reference period (in GJ);
U = CO_2-emission factor of the type of fuel (in tonnes of CO_2/GJ);
Ce = correction factor differentiated in terms of production technology (for the explanation, see 3.3.3.1)

The total number of emission allowances that is allocated to a CHP-installation is then calculated with the following formula:

$$A_{wkk} = A_e + A_q = BV * U * C_e$$

This formula actually merely provides the CHP-installation with the number of emission allowances that corresponds to the emissions of that installation in the reference period. Consequently this rule for allocating allowances does not focus on the performance of the CHP-installation. After all, CHP is a technology which saves energy, and its development should not be inhibited by the system of trading emissions. Good quality CHP should be specifically stimulated by the system of CHP-certificates.

An exception is made for CHP-installations which have extra capacity because they have post-combustion installations. This means that these CHP-installations are able to meet the future demand for heat with part of the CHP-installation by starting up post-combustion installations and not by using an extra boiler.

If this extra capacity was not used in the reference year, no emission allowances will be provided for the use of this capacity during the trading periods. However, the use of this extra capacity is considered more profitable than meeting this demand with a steam boiler.

For this type of CHP a growth factor will be provided for the heat aspect which takes into account this extra useable capacity. This is done under the following conditions:

1. it concerns a CHP of the post-combustion type;
2. the extra capacity available for use is clearly indicated;
3. this extra capacity uses gases from the part that produces electricity;
4. there is a clear indication of what extra capacity will be used when.

These data are submitted by the operator and verified by the Benchmarking Verification Bureau of Flanders (VBBV).

With regard to the acquisition of emission allowances, the use of the extra capacity that is available must take place with available oxygen-rich gases from the part that produces electricity.

These extra emission allowances are provided in the quantity of emission allowances allocated to the CHP-installation and are allocated in the year that it is expected to start operating.

For all the CHP-installations which are in a company that signed the covenant, the allowances will be adjusted when the next allocation plan is drawn up (see 3.2.3.4).

3.3.2.3. Heat production from individual steam boilers

a) Limits and definition

An individual boiler is an independent production unit which exports energy. An auxiliary heating boiler for city heating is an example of this. With regard to the calculation rules, the situation for an individual boiler is the same as that for a CHP-installation, but without the production of electricity. A boiler in a production site falls under the calculation rules for CO_2-emissions allowances for industry.

b) Calculation rule

$$A_{q'} = [\frac{P_q * U}{N}]$$

where:

Aq' = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
Pq = TJ heat production in the reference period or the reference year;
N = 0,9;
U = CO_2-emission factor of natural gas.

The availability of emission allowances for these individual steam boilers is added to the available emission allowances for the production of electricity and is based on the emission inventory.

3.3.2.4. Electricity production using blast-furnace gas

In the Flemish Region, part of the blast-furnace gas is used in a nearby electricity power station. The Government of Flanders adopts a different formula for the allocation of allowances for this fatal gas. The CO_2-emission allowances are allocated to the owner of the blast furnace gas

$$A_{HO} = \sum HO * U$$

where:

AHO = number of emission allowances in tonnes of CO_2 for the period 2005-2007;
HO = GWh electricity produced with blast-furnace gas in the reference year;
U = emission factor of blast-furnace gas per GWh electricity produced (see Annex 2);

These emission allowances are calculated on the basis of data for the reference year. Therefore the allocation corresponds to the emission allowances required for the blast-furnace gas which was used in the reference year for the production of electricity.

The amount of blast-furnace gas used during the trading period can increase compared to the reference year. The emission allowances which are required for this increase in emissions are incorporated in the emission allowances allocated for the process installations which produce the blast-furnace gas and the process installations which currently use this blast-furnace gas as a fuel in the plant. These process installations are allocated emission allowances in accordance with the calculation rules for allowances for industry. This comprises a growth factor. If a larger proportion of the quantity of blast-furnace gas that is produced is used for electricity production, the emission allowances required are therefore taken from the quantity allocated to these process installations which produce the blast-furnace gas, or use the blast-furnace gas as a fuel.

When supplying blast-furnace gas, the supplier of this gas to third parties is obliged to transfer an equivalent quantity of emission allowances free of charge to the operator of the installation which holds the permit and purchases the blast-furnace gas.

3.3.3. Explanation of the calculation rules

3.3.3.1. Differentiated correction factor

The sum of the emission allowances allocated to the installations may not be larger than the established number of emission allowances allocated for this sector. In that case, a proportion of the emission allowances shall be deducted from the installations so that they correspond with the number of allocated emission allowances.

This correction factor will be differentiated in terms of the technology that is used. In fact, a general correction factor can lead to insufficient emission allowances for clean production technologies and the removal of the incentive for CHP installations in industry. Consequently this correction factor will be set at 1 for STAG and CHP.

Depending on the emission data from the reference period for the different installations, supplied by the emission inventory, a proportional part of emission allowances will be deducted from the other production technologies to coordinate the number that are allocated with the number of emission allowances allocated for the trading period concerned.

3.3.3.2. Reference data

For every installation, the necessary data from the reference period will be available from the CO_2-emission inventory to determine the number of emission allowances for every installation in this sector.

The Annex contains the tables with the standard efficiencies that are used for traditional production technologies. The emission factors of the different fuels are also shown in Annex II.

3.4. The application of opt-out clauses

3.4.1. Introduction

The ET-Directive provides for the possibility of temporarily excluding particular installations or activities from participating in the system of emissions trading. This opt-out possibility is subject to the condition that emissions are restricted in a comparable way for these installations.

3.4.2. Scope of application

The Government of Flanders shall make use of this opt-out clause for companies which are permitted solely for combustion installations (with an aggregate thermal input power of more than 20 MW) that are used for heating purposes in buildings. The Government of Flanders will also make use of the opt-out clause for companies requiring a permit which fall in the natural gas transport sector, as defined in the amendment of Article 1 of Title I of Vlarem (the Flemish environmental legislation).

Companies which only have combustion installations for heating purposes are in sectors which do not perform purely economic activities and are sometimes not familiar with commercial activities. As regards the natural gas transport sector, the climate policy stimulates the use of natural gas to replace coal and oil products in order to reduce greenhouse gas emissions. In this respect, the allocation of emission allowances in Flanders in energy production is strongly supported by the increased use of natural gas as a fuel to replace other fossil fuels. Therefore it is difficult to predict the growth in this sector.

3.4.3. Measures for reductions in installations that are temporarily excluded

In Flanders the provisions with which sites that are temporarily excluded must comply, are related to the decision on energy planning.

New sites which require a permit and belong to the natural gas transport sector or which only comprise combustion installations (with an aggregate thermat input power of more than 20 MW) for heating purposes in buildings must append an energy study with their application for a permit. These provisions are similar to those for classified energy-intensive companies, as stated in chapters I and II of the decision on energy planning for classified energy-intensive companies. This obligation applies up to 31 December 2007 at the latest.

Existing similar sites must make up an energy plan. The content and procedure for making up this plan, is also similar to the provisions for classified energy-intensive companies, as stated in chapters I and II of the decision on energy planning. Again this obligation applies up to 31 December 2007 at the latest. The measures in the energy plan with an internal rate of return of at least 15% after tax must be executed at most 3 years after the environmental permit has been awarded.

The expertise of the participating sectors and the government in the period 2005-2007 can be used to thoroughly prepare the service sector for emisions trading in the following trading period.

4. Technical aspects

4.1. The potential for reduction

With regard to determining the total number of emission allowances to be allocated to the sectors, the technical and economic potential for reduction was taken into account as far as industry was concerned, because the allocation is based on the progress in energy efficiency which is agreed upon in the context of the benchmarking covenant and determined in the energy plan. If there are no specific data for the installation in the context of that covenant, the reduction is based on a general estimate of the potential for reduction. As regards the electricity sector, the potential for reduction is one of the elements for determining the total quantity of allowances.

The potential for reduction was also used as a criterion for the allocation at the level of the installation. For installations for the production of electricity the allocation is based on a strict and general benchmark based on the most efficient fuel and technology. For industry the same principles apply as for determining the total quantity of emission allowances.

4.2. Early action

In its allocation plan the Flemish Region took into account the possibility of early action by inserting a top world factor in the calculation rules for allowances for emissions from combustion installations (see 3.2.2.2 and 3.2.3.2). The installations which perform better than the world top, as determined in the context of the benchmarking covenant, are allocated proportionally more emission allowances.

4.3. Clean technologies

The allocation plan takes into account the principles of clean technologies in various different measures.

For example, these provide that new entrants in energy production will only be allocated emission allowances on the basis of the emission factor of the best available technology for generating electricity and heat (see 3.3.1).

The allocation plan also provides that the differentiated correction factor, which was introduced to coordinate the total available emission allowances for energy production with the sum of emission allowances allocated to individual installations in energy production, is differentiated, depending on the technology that is used. This means that no correction factor applies for STAG and CHP-installations (see 3.3.3.1).

4.4. Company closures

No more emission allowances are made available if the environmental permit of a GHG-installation has expired or has been suspended. No further emission allowances are provided either if the annual CO_2-emission report of the previous calendar year shows that the emissions have fallen to less than 20% of those in the reference year.

The emission allowances which were allocated to the operator of this sort of installation for the remaining calendar years are added to the reserve for new entrants. In the case of a suspension of the environmental permit, this is for the duration of the suspension.

5. Community legislation and policy

5.1. Policy on competition

5.2. Policy on the internal market: the treatment of new entrants

5.2.1. Definition of new entrants

New entrants in a trading period of the emissions trading system are new installations or physical extensions of existing installations for which a greenhouse gas permit or an adaptation of this permit is required. The following conditions must be met:

1. the extension or new unit is more than 10% of the existing comparable production unit, or
2. as a result of the extension or the new unit, more than an extra 5 kton of CO_2-emissions are emitted per year in the extended or newly built unit, or
3. the licensed installation did not emit any CO_2-emissions in the reference year.

5.2.2. Distinction between known and unknown new entrants

In addition, a distinction is made between known and unknown new entrants in a trading period. A known new entrant is an installation (or part of an installation) which requires a permit, for which the construction has been contracted out and the date of entry into operation has been determined, and for which the application for the permit or the notification of minor changes to the installation which requires a permit has been submitted. The possible procedure for drawing up and approving an environmental impact report must have started.

These conditions must be met at the latest 30 months before the start of a trading period. For the period 2005-2007, this is on 1 July 2004 at the latest.

Unknown new entrants are new entrants which cannot be considered to be known new entrants.

5.2.3. Allocation of emission allowances to new entrants

5.2.3.1. Time of allocation

The allocation of emission allowances for known new entrants is made in the allocation plan for the trading period concerned. For unknown new entrants, this takes place when the installation is given an environmental permit. The operator of the installation is granted the emission allowances following the test stage of the new installation, or change in an existing installation. This must be confirmed by the Benchmarking Verification Bureau of Flanders (VBBV).

5.2.3.2. Method of allocation

The new entrant will be allocated the emission allowances on condition that it demonstrates in an energy study that the installation concerned adopts ‘best-practice’ with regard to

energy efficiency. Therefore the provisions of the decision on energy planning apply to the new entrants as conditions for obtaining emission allowances.

The number of emission allowances is determined on the basis of a well-founded CO_2-emission prognosis for the remainder of the current trading period.

5.2.3.3. Adjustment of emission allowances that have been allocated

When the next allocation plan has been drawn up, the allowances of the new entrants are adjusted in relation to the previous trading period. The quantity of emission allowances allocated to the new entrant will be compared with the emissions that were measured and reported. The aim is to give every new entrant sufficient emission allowances. In the next trading period the installation concerned is no longer a new entrant, but an existing installation, and the number of emission allowances will be determined on the basis of the calculation rules for allowances, as described above.

5.2.4. Reserve for known and unknown new entrants

The Government of Flanders reserves a particular quantity of emission allowances for new entrants to the system of trading emission allowances during the period 2005-2007. The emission allowances required for new entrants are deducted from the available emission allowances for industry and energy production.

The size of this reserve shall be determined on the basis of the emission inventory. This asks about planned investments or extensions in the period 2005-2007 and the related extra CO_2-emissions. In this respect, an extra quantity will be provided as a buffer for unknown new entrants of unexpected circumstances.

If the reserve for new entrants is used up during a trading period, the Government of Flanders will buy new allowances for every new entrant that presents itself. These emission allowances will be purchased to the extent that funds are available for this. The Government of Flanders must determine the funds available for this purchase.

The reserve of emission allowances for new entrants for the period 2005-2007 is divided into equal quantities for the three years of the trading period. If there is a surplus at the end of any trading year, the Government of Flanders will decide whether these emission allowances are transferred to the next trading year or whether they are sold. In the last year of the trading period the Government of Flanders will sell any surplus of emission allowances in the reserve for new entrants, because banking allowances between the period 2005-2007 and the next trading period is not permitted.

5.3. Other legislative or policy instruments

5.3.1. European directive on promotion of electricity produced from renewable energy sources

The directive on the promotion of electricity produced from renewable energy sources[21] requires that by 2010, sustainably generated electricity must account for 6 % of Belgian

[21] Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market. PB L 283 of 27 October 2001.

electricity consumption. The Government of Flanders introduced the instrument of green electricity certificates for this purpose, which obliges suppliers of electricity to demonstrate, for a particular percentage of the electricity sold, that it has been generated in a sustainable way. Furthermore, this objective was taken into account in determining the number of emission allowances allocated to the electricity sector in this allocation plan.

6. Public consultation

Following the first approval in principle by the Government of Flanders on 2 April 2004, the proposal of the Flemish allocation plan for CO_2-emission allowances 2005-2007 was presented to the public for consultation. The period for this consultation was fourteen days.

This public consultation consisted of the following elements:

1. an official request for advice from the MiNa Council (Nature and Environment Council of Flanders) and the SERV (Social-Economic Council of Flanders);
2. an additional discussion with the industrial sectors and the electricity producers;
3. the publication of an announcement of a public enquiry into the proposal of the allocation plan in the most important Flemish newspapers, as well as the publication of the proposal of the Flemish allocation plan and related information on the website of the Flemish environment administration (via www.vlaanderen.be/lucht).

A questionnaire was provided where comments could be made. During the 14-day public consultation, 35 comments were received (= reply forms or letters). Half of these came from companies which fall under the directive. In addition, comments were received from professional federations, NGOs and advisory organs.

The comments (as well as the response from the Government of Flanders) were collected in a report that was presented to the Government of Flanders and is available on the internet. At the same time, the proposal of the Flemish allocation plan was approved a second time in principle and the plan was then presented to the chairperson of the Nationale Climate Commission.

When the comments have been received from the European Commission on the Flemish allocation plan that was submitted, a second public consultation will be organised.

7. Criteria other than Annex III of the directive that are taken into account in the allocation

No criteria other than those of Annex III of the ET-directive were taken into account.

8. List of installations

Code	Company
100	**CHEMICAL**
101	VFT Belgium NV
102	Bayer Rubber NV
103	Taminco N.V.
105	BP Chembel N.V.
106	Bayer Antwerpen NV, installation on the Right Bank (Lillo)
106	Bayer Antwerpen NV installation on the Left Bank (Kallo)
106	Bayer Shell Isocyanates N.V.
107	Borealis Polymers NV
108	Borealis Kallo NV
110	Teepak nv
111	Oleon Ertvelde N.V.
112	Oleon Oelegem N.V.
114	ATOFINA Antwerpen N.V.
117	UCB Surface Specialties
118	Dow Chemical bvba
119	Monsanto Europe N.V.
120	Solvay Polyolefins Europe
121	Janssen Pharmaceutica Beerse
122	Janssen Pharmaceutica Geel
123	Degussa Antwerpen N.V.+ Oxeno
125	Kaneka Belgium
126	Proviron Holding NV
127	BASF Antwerpen N.V.
129	Meerhout Polymers Plant - ExxonMobil Chemical Belgium is a division of ExxonMobil Petroleum & Chemical
130	Antwerp Polymers Plant belongs to ExxonMobil Chemical Belgium, a division of ExxonMobil Petroleum & Chemical bvba
131	3M Belgium
132	FINA ANTWERP OLEFINS
133	Agfa-Gevaert nv
134	PB Gelatins Vilvoorde
135	Atofina Elastomers NV
136	Prayon N.V.
137	Rousselot NV
138	Ineos nv
139	Ineos Phenol GmbH & Co KG
140	LATEXCO
142	Rhodia Eco-Services BVBA
143	LVM
144	Amcor Flexibles Transpac N.V.
145	Haltermann BVBA
149	Ajinomoto Omnichem nv

Code	Company
190	**REFINERIES**
191	Belgian Refining Corporation NV
192	TOTAL Raffinaderij Antwerpen
193	Esso Raffinaderij belongs to Esso Belgium, Divisie of ExxonMobil Petroleum&Chemical bvba
194	Petroplus Refining Antwerp Bitumen N.V.
195	Petroplus Refining Antwerp Bitumen N.V.
200	**IRON and STEEL**
201	SIDMAR (Technical environmental unit, comprising the companies Sidmar NV, Galtec NV, Sidgal ESV and Decosteel II NV)
202	UGINE & ALZ Belgium NV
300	**PAPER**
301	STORA ENSO LANGERBRUGGE N.V.
302	Kimberly-Clark
303	Oudegem Papier
304	DENAEYER PAPIER
305	CATALA
306	Sappi
400	**FOOD**
401	Cargill Gent
402	Cargill Antwerpen
403	Citrique Belge
404	Tiense Suikerraffinaderij NV vestiging Tienen
405	SUIKERFABRIEK MOERBEKE
406	NV Cargill
407	Suikerfabriek of Veurne
409	CCEB Production & Distribution Center Gent NV
411	Amylum Belgium, division of Amylum Europe NV
412	Oliefabriek Vandamme / Repro NV
413	Campina NV
415	Belgomilk
416	Belgomilk cvba
417	Veurne Snack Foods
418	Cargill France
420	Limelco NV
421	Interbrew NV
422	Inza
423	Scana Noliko N.V.
424	Rendac
425	INEX N.V.
426	Clarebout Potatoes NV
452	Sobelgra NV.
453	MOUTERIJ ALBERT N.V.
461	Farm Frites Belgium nv
462	Farmo nv

Code	Company
464	NV PRIMEUR - NV VANELO
465	VAN POLLAERT GEBR. NV
466	PURATOS Group NV
467	Struik Foods Belgium
468	Brouwerij Haacht
500	**METALS**
501	UMICORE NV site Hoboken
502	Umicore Olen
503	Umicore Site Balen
504	Umicore Site Overpelt
506	Atlas Copco Airpower n.v.
508	Opel Belgium
509	Corus Aluminium N.V.
510	NV Bekaert SA site Zwevegem
511	NV Bekaert SA Aalter
512	NV Bekaert SA site Lanklaar
513	Bekaert Hemiksem
514	Volvo Cars Gent
515	FORD WERKE AKTIENGESELLSCHAFT
516	New Holland Tractor Ltd. N.V.
517	CNH Belgium NV
518	Volvo Europa Truck nv
519	Van Hool NV
521	Picanol-Proferro
556	Bombardier Transportation
600	**TEXTILES**
601	Associated Weavers Europe N.V.
603	Uco Sportswear
605	Utexbel
606	NV Concordia Textiles
607	Microfibres Europe nv
608	Fabelta Ninove N.V.
609	Balta Industrys N.V., St. Baafs-Vijve branch
611	Balta Industrys NV
613	SANTENS NV
614	LANO nv
616	Nelca N.V.
617	Desso the ndermonde NV
618	Domo Gent N.V.
620	Celanese Acetate n.v.
621	Beaulieu Wielsbeke N.V.
652	Groep Masureel Veredeling NV
700	**CERAMICS**
701	Terca Beerse
702	Desimpel Kortemark
703	Terca Nova

Code	Company
704	Terca Quirijnen
705	Terca SAS
706	Terca Schouterden
707	Desimpel Niel
708	Desimpel Heylen
709	Terca Tessenderlo
710	Terca Zonnebeke
711	Steenfabriek HEYLEN
712	DESTA NV
713	N.V.VANDERSANDEN
714	N.V.VANDERSANDEN
715	N.V.VANDERSANDEN-VIJF
716	AMPE N.V.
717	nv Steenfabrieken A. Nelissen Haesen
718	Floren & Cie
719	Vande Moortel NV
720	SVK
721	ANTWERPSE MACHINESTEENBAKKERIJEN N.V.
722	Terca Rumst
723	Terca Steendorp
751	Dakpannenfabriek Pottelberg NV
790	Keramo Steinzeug NV
800	**WOOD**
803	UNILIN BOSPAN NV.
804	Unilin Flooring - Unilin the cor
807	Agglo NV groep interlin
900	**GLASS**
901	Glaverbel MOL
902	Pittsburgh Corning Europe N.V.
903	EMGO NV
910	**MISCELLANEOUS**
911	Promat International nv
912	Eternit nv
E00	**ENERGY**
E01	Centrale HERDERSBRUG – Electrabel
E02	Centrale RUIEN – Electrabel
E03	Centrale LANGERBRUGGE – Electrabel
E04	Centrale RODENHUIZE – Electrabel
E05	Centrale Aalst – Electrabel
E06	Centrale KALLO – Electrabel
E07	Centrale VILVOORDE – Electrabel
E08	Centrale DROGENBOS – Electrabel
E09	Centrale MOL – Electrabel
E10	Centrale LANGERLO – Electrabel
E11	Centrale BAYER

Code	Company
E12	Centrale ZANDVLIET-POWER
E14	TJ ZEEBRUGGE – Electrabel
E15	TJ NOORDSCHOTE – Electrabel
E16	TJ ZEDELGEM – Electrabel
E17	TJ ZELZATE –SIDMAR
E18	TJ AALTER – Electrabel
E19	TJ BEERSE – Electrabel
E30	S.P.E. nv
E31	S.P.E. nv
E32	S.P.E. nv
E33	S.P.E. nv
E40	Centrale Essent Energy België nv with Ineos
E43	Centrale Nuon Belgium with BRC

For the time being, it is not possible to estimate the number of emission allowances allocated for the first trading period.

The number of emission allowances allocated to each installation will only be known after 1 July 2004. A progress factor for each installation is used to determine the quantity of emission allowances. This progress factor results from the energy plans drawn up according to the provisions of the Flemish benchmarking covenant. These energy plans must be submitted to the Benchmarking Verification Bureau of Flanders (VBBV) before 1 July 2004.

Annex I: CREG K7 applied to Flemish electricity production

Demand for electricity in Flanders

It is assumed that the demand for electricity will increase in a controlled way. This means an annual increase of an average of 1.3 % between 2000 and 2012.

Related production in Flanders

The **nuclear** production in Flanders is assumed to remain the same as the production in 2002 and therefore constant for the years 2002 to 2012.
The production from **renewable energy sources** follows the policy of the Flemish climate policy plan. The anticipated percentages for the 'share of renewable energy production' are applied to the total demand for electricity in Flanders, with the deduction of network losses and self-production.
The production using **blast-furnace gas** is set at 1128 GWh, which corresponds to a consumption of 11.6 PJ per annum in a power station with an output of 35% and is therefore constant up to 2012.
The **net import** of electricity in Flanders is based on the energy balance for 2002. The progress of net imported electricity in Belgium from CREG K7, expressed in percentages, is applied to this net import figure for Flanders for 2002. This will be applied from 2008.

If the various productions indicated above are deducted from the total demand for electricity in Flanders, this leads to the electricity production in Flanders generated annually with **fossil fuels** for the period 2002 to 2011.

New entrants are included in these figures below the total ceiling and must consequently be removed. The data from the emissions inventory can be used for this.

For the production companies using **fossil fuels**, an average emission factor expressed in tonnes of CO_2 per GWh was calculated with the CREG Kyoto 7 scenario. These will be applied to Flemish production companies from 2008. From 2002, this emissions factor will fall in a linear fashion to the objective for 2008.

Annex II: Explanations with the calculation rules for energy production

Table 14: Efficiencies used to determine the number of emission allowances per installation, depending on the technology and fuel used

		Efficiency reference electricity production		
		Coal CT	Gas power station	STAG
Fuel	Coal	0,39		
	Natural gas		0,50	0,53
	Oil			

Table 15: CO_2-emission factors used for the different fuels

Type of fuel	**Emission factor** (kton CO_2/PJ)	**Emission factor** (ton CO_2/GWh_{el})
Coal	92,7	n.a.
Natural gas	55,8	n.a.
Crude oil	72,6	n.a.
Blast-furnace gas	240,8	2.649 - 2.680

IV. ALLOCATION PLAN FOR THE BRUSSELS CAPITAL REGION

ALLOCATION PLAN 2005-2007
FOR THE BRUSSELS CAPITAL REGION

13TH APRIL 2004

Note: the information and figures provided in this plan are of a provisional nature while awaiting a final decision on the allowance quantities to be allocated.

This document is a translation for information purpose only. The official document is in French or Dutch

Table of Contents

0 INTRODUCTION: EVOLUTION OF GREENHOUSE GAS EMISSIONS IN THE BRUSSELS CAPITAL REGION

0.1 Past emissions

In 2001, all greenhouse gas emissions in the *Brussels Capital Region* (BCR) represented a total of 4,440 ktonnes (kt) eq-CO_2 (equivalent tonnes of CO_2), i.e. approximately 3% of total emissions in Belgium.

Emissions in Brussels consist of 93% CO_2. In view of the very low level of industry across the territory of the Region, the main source of CO_2 emissions is the consumption of fossil fuels for heating buildings, whether residential, offices, businesses or other services.

CO_2 emissions for the Region have increased overall by 12% compared with 1990. It should be noted, however, that the winter of 1990 was particularly mild. On the other hand, the high emissions witnessed in 1996 were the result of the high level of heating consumption caused by a harsher winter[1]. Taken overall, there is a good correlation between the level of CO_2 emissions in Brussels and the number of degree-days[2], which gives an indication of the number of days on which heating is used (see figure below).

[1] 1990 = hot year (DD15/15=1723), 1996 = cold year (DD15/15=2383); the average taken here is 2010 DD and corresponds to the period between 1971 and 2000.

[2] Degree-days = difference expressed in degrees centigrade, between the average temperature on a particular day and a reference temperature (15°C). Average temperatures in excess of 15°C are not counted. The total number of degree-days for the period is taken for a particular period (month, year).

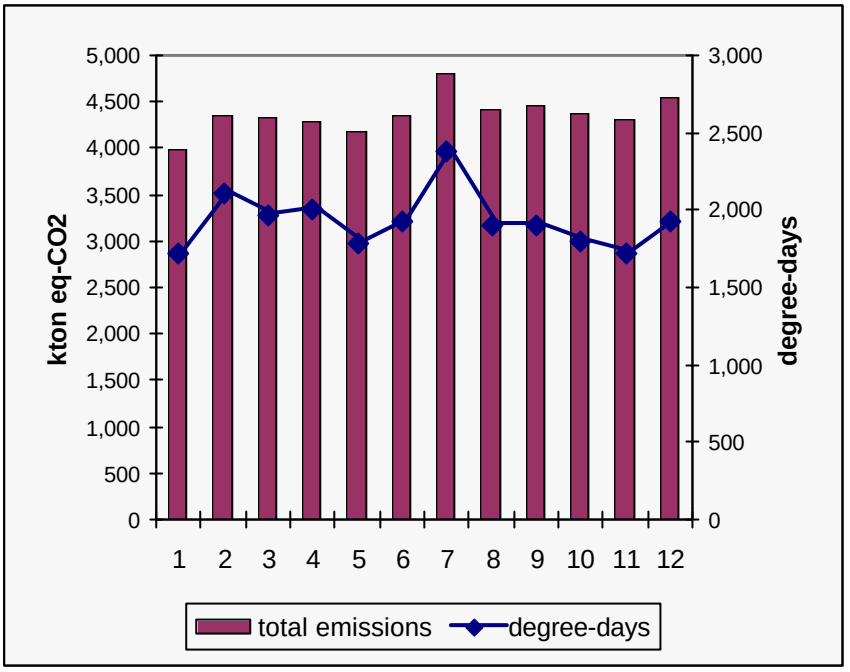


Figure 1: Evolution of greenhouse gas emissions in the Brussels Region and comparison with the number of degree-days
Source: Inventory of Brussels greenhouse gas emissions

The situation in the Brussels Region is difficult to compare with that in other regions. In fact, when taking all CO_2 emissions, the Residential sector represents the largest proportion (48%), followed by the Service sector (24%), then Transport (19%). While the Energy and Industry sectors cover practically half of emissions taken right across Belgium, these sectors only represent approximately 3% of CO_2 emissions in the BCR. In particular, emissions in the Energy sector have fallen sharply compared with their 1990-1993 level. This has been caused by the disappearance of cokeries.

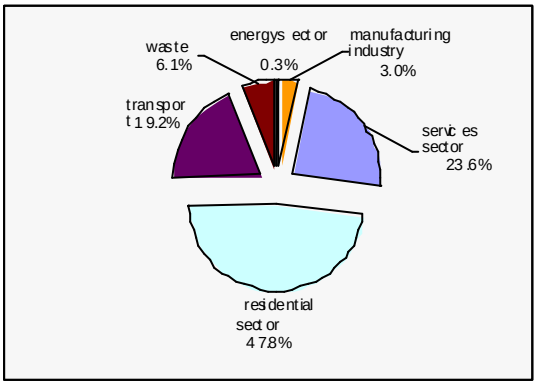


Figure 2: Breakdown of CO_2 emissions in the Brussels Capital Region

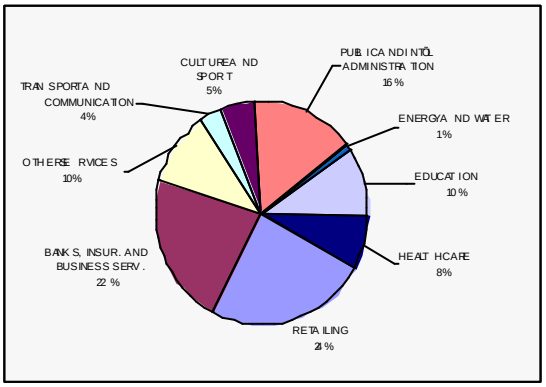


Figure 3: CO_2 emissions associated with service industries

NB: the data above relates to direct emissions produced in the Brussels Region, in accordance with the applicable emission accounting rules. Indirect emissions are not taken into account. These relate to emissions associated with the electricity consumed in the Region but generated elsewhere in the country. Given the fact that the production of electricity in the Brussels Capital Region is virtually non-existent, the

measures for reducing electricity consumption will not have any impact on emissions in Brussels, but will do so in the other Regions.

The installations covered by the Directive are within the three sectors of Industry, Energy and Services, and represent only **2% of emissions in Brussels (i.e. less than 0.06% of Belgian greenhouse gas emissions).**

0.2 Future emissions

0.2.1 Benchmark scenarios

In a study conducted by Econotec[3], CO_2 emissions in the BCR were estimated for 2010 to be 4,819 kt of CO_2, assuming no change to the policy (business as usual - BAU). This value does not take into account any additional emissions associated with the development of combined heat and power, which are estimated at 104 kt of CO_2. By adding in projections for the other greenhouse gases to be taken into account (CH_4, N_2O and fluoridated gases), the BAU figure for Brussels in 2010 will be 5,189 kt eq-CO_2. NB: This BAU scenario takes account of the increase in energy efficiency expected between now and 2010 as a result of the "natural" evolution of technology.

Since greenhouse gas emissions in the BCR are closely linked to heating requirements, which themselves depend on the outside temperature, actual emissions for any given year cannot be compared with those of any other year without first applying a so-called "climate adjustment" to the actual emission figures. This adjustment makes it possible to take a "normal" climate into account. To determine the BAU scenario, we therefore have to base ourselves on normalised past emissions, otherwise it is not possible to estimate future emissions correctly (risk of over-estimation or under-estimation.

This is the reason why the BAU projections for the BCR have been conducted assuming "normal" climate conditions (according to the Royal Institute of Meteorology), conditions that correspond to an average of 2,088 Degree-Days (DD), taking the average of DD for the period 1901-1975. However, in the context of the allocation plan, these climate conditions have been revised using the average for the DD over a more recent period (1971 to 2000), i.e. 2,010 DD, which gives us BAU emissions of 5,149 kt eq-CO_2 in 2010. These adjusted projections are shown in Figure 4. By way of comparison, the figure also presents, for 2001, the emissions actually observed and those calculated on a climate base of 2,010 DD (i.e. 4,667 kt eq-CO_2). BAU emissions in 2006 (4,935 kt eq-CO_2) have been recalculated simply by simple interpolation between 2001 and 2010 (after climate adjustment).

[3] Econotec, 2003, Potentials for reducing emissions of CO_2 in the Brussels Capital Region for the period 2008-2012, final report for the Brussels Institute for Management of the Environment

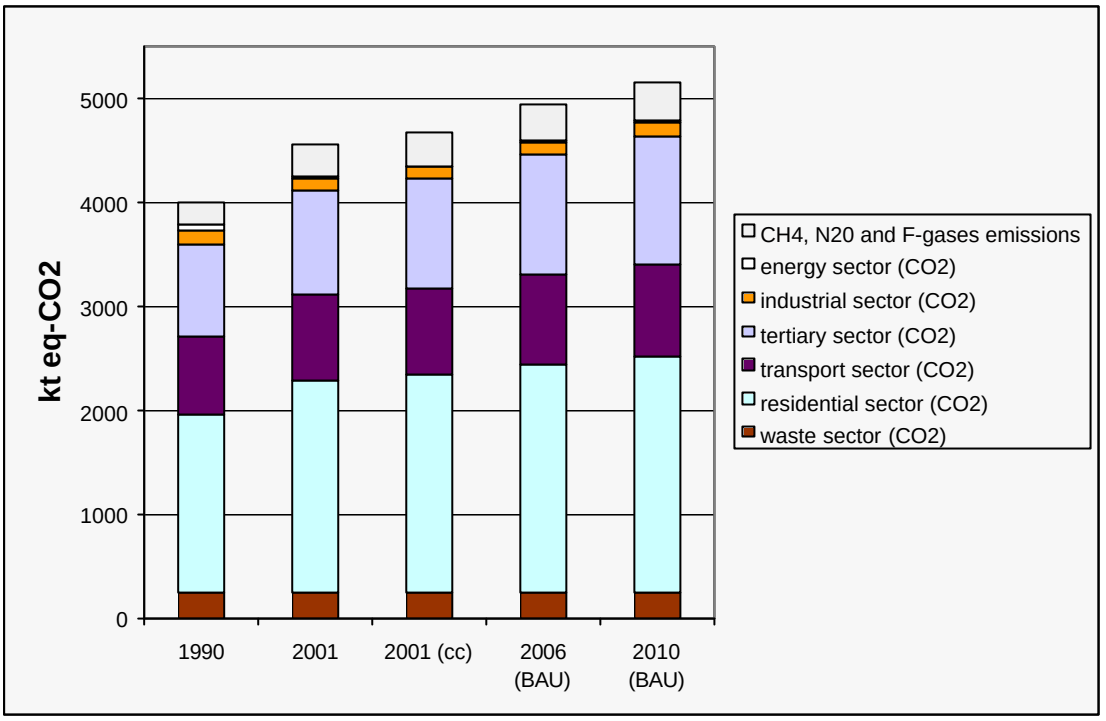


Figure 4: Projections for greenhouse gas emissions in the BCR (BAU scenario) - "ca" = climate adjustment
source: Econotec + adaptation on the basis of a reference value of DD=2010 for the climate adjustment

1 DETERMINATION OF THE TOTAL QUANTITY OF ALLOWANCES

1.1 Reduction target

What is the Member State's emission limitation or reduction obligation under Decision 2002/358/EC or under the Kyoto Protocol (as applicable)?

Belgium is committed to reducing its greenhouse gas emissions over the period of 2008-2012 by 7.5% in comparison with emissions in 1990. Given the Belgian federal context, this reduction effort is shared between the Federal state and the Regions. According to the terms of the burden sharing agreement laid down in the decision taken on 8th March 2004, the Brussels Capital Region has undertaken not to increase its greenhouse gas emissions over the period of 2008-2012 by more than 3.475% compared with 1990 emissions, which, based on current data caps emissions at approximately 4,130 ktonnes eq-CO_2 per annum on average.

This means that compared with Brussels' BAU emissions for 2010, the reduction effort represents a fall of 20%.

For the purpose of progressing towards its target over the period between 2008 and 2012, the Region envisages to limit its greenhouse gas emissions during the period of 2005-2007, to 14,025 kt eq-CO_2, which corresponds to an annual average of 4,675 kt eq-CO_2 (see Figure 5). This target corresponds to a stabilisation of emissions compared with 2001 (after climate adjustment). This target entails that the Region intends to halt the increase in emissions observed between 1990 and 2001 (an increase that the Econotec study says would have continued without the introduction of new measures).

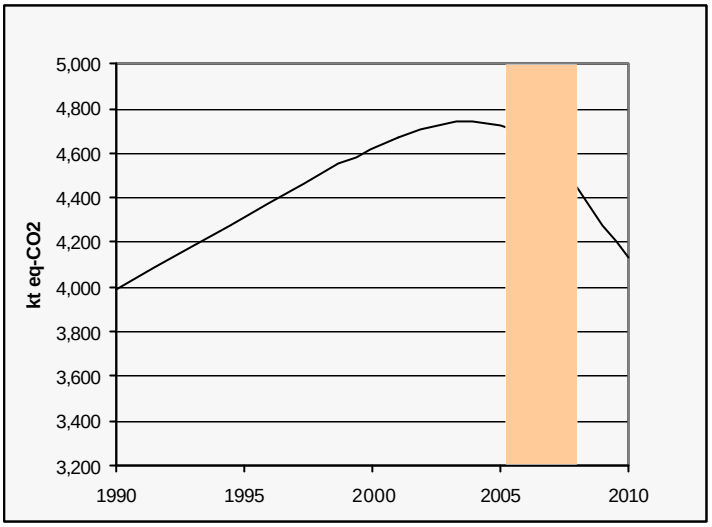


Figure 5: Curve for greenhouse gas emissions from 2001 emissions towards the restriction target for 2010 (kt eq-CO_2)

The aforementioned target entails that more important emission reductions are to be achieved during the period between 2008 and 2012, compared with those planned for the period 2005-2007. This can be justified by the fact that the introduction of instruments such as the European Directive on the energy performance of buildings will only take place after the period 2005-2007.

Moreover, with regard to transport, the "Réseau Express Régional" (RER) (Regional Express Network) the construction of which the Federal state has undertaken to finance, will only be fully operational during the period 2008-2012 and, hence, any significant progress in terms of reducing CO_2 emissions associated with road transport in Brussels cannot be expected before 2008.

Furthermore, the BCR has already decided to invest in flexible mechanisms (Clean Development Mechanism) from the Kyoto Protocol.

1.2 Determination of the overall envelope

What principles, assumptions and data have been applied to determine the contribution of the installations covered by the emissions trading Directive to the Member State's emission limitation or reduction obligation (total and sectoral historical emissions, total and sectoral forecast emissions, least-cost approach)? If forecast emissions were used, please describe the methodology and assumptions used to develop the forecasts.

Determining the overall envelope of emission allowances for the Brussels Capital Region builds on two approaches implemented simultaneously: on the one hand, a top-down approach, and on the other, a bottom-up approach. The overall principle of the approach is illustrated in the figure below.

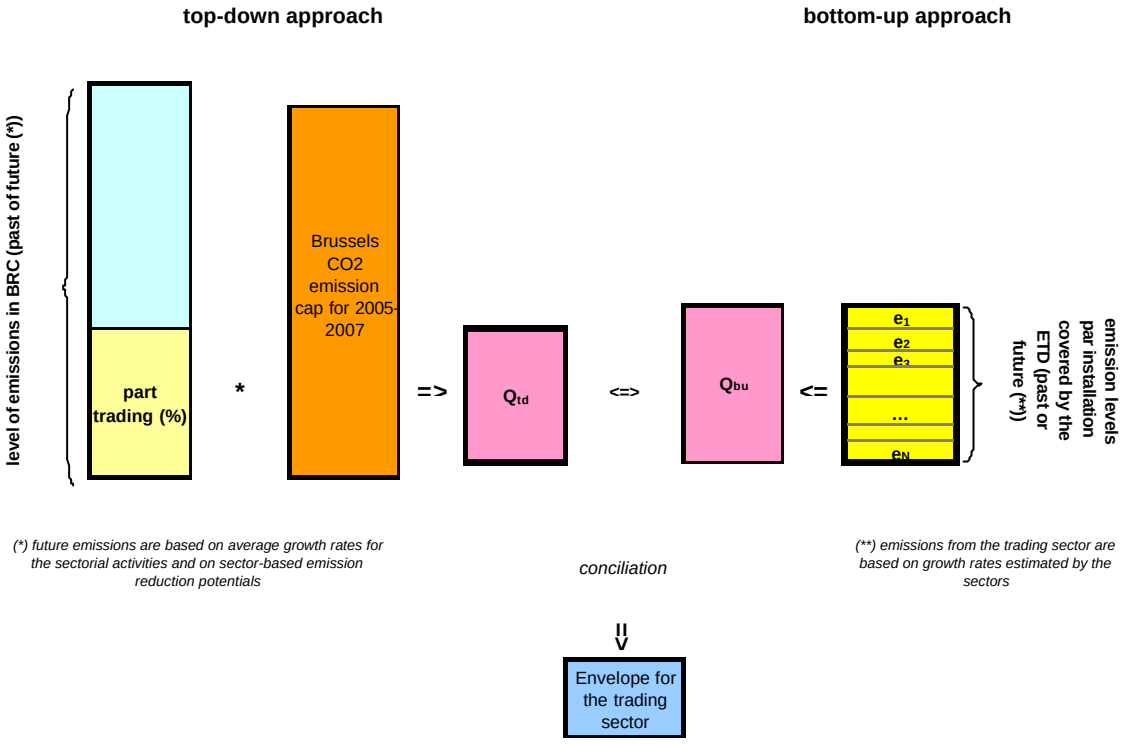


Figure 6: Illustration of the calculation of the overall envelope

Application of the **top-down method** is based on a breakdown of the volume of CO_2 emissions that the Brussels Capital Region is aiming not to exceed during the period 2005-2007 (i.e., the Region's emission cap), between the non-trading sector and the trading sector in order to calculate an overall envelope for the latter sector's allowances. To achieve this breakdown, both past emissions (average emissions over the period 1995-2001) and emissions estimated for the period 2005-2007 have been taken into account. In this latter case, both 'business-as-usual' emissions (BAU - emissions that would probably be recorded if no measures are introduced) and projected emissions taking account of the reduction potential achieved in 2005-2007 have been taken into consideration.

As far as <u>past emissions</u> are concerned, those emissions relating to the whole of the Region are based on the inventory data calculated annually by applying international recommendations in the context of the *United Nations Framework Convention on Climate Change* (UNFCCC)[4]. Those relating to the trading sector are based on information provided by the various companies and installations concerned (see paragraph 3.2).

[4]IBGE, 2004, Greenhouse gas emissions: http://www.ibgebim.be/francais/contenu/content.asp?ref=1869

To evaluate BAU emissions, we base ourselves, using the top-down approach, on the growth rates evaluated for each sector in the studies available (see paragraph 0.2). In order also to take account of the reduction potentials of these BAU emissions, we refer to the average potentials estimated for each sector (see paragraph 4.1)).

It is possible to use this first approach to deduce an initial estimate of the level of the overall envelope to be allocated to the trading sector.

This approach requires the emissions cap for Brussels for the period 2005-2007 to be determined in advance, which itself is a function of the emissions cap for the period 2008-2012 in accordance with the commitments made by the Region (see paragraph 1.1).

Furthermore it is relevant to take into account an important special feature of the Brussels trading sector: the trading sector involves an extremely limited number of installations and therefore represents a very low percentage of emissions in Brussels. As a result, this group of installations does not constitute a representative statistical sample of the sectors to which it belongs. Consequently, there is a high probability that the changes in emissions associated with these installations will differ significantly from those emissions based on the average growth rates deduced from regional or sector-based studies. Hence the interest of also taking an approach based solely on data supplied by the operators involved, including for estimated emissions for 2005-2007. This is the **bottom-up approach**.

The **aggregation** of the emissions estimated on the basis of data supplied by the operators involved (either past or future) constitutes a second way of estimating the overall envelope of allowances.

Of course, it is also necessary to **reconcile both types of estimates.**

In practice, the method used for determining the overall envelope for the trading sector involves combining the data relating to past emissions, as well as BAU projections and projections that take account of the reduction potential.

The formula used can be presented in the form below:

$$Q = p^h \cdot Q^h + p^{BAU} \cdot Q^{BAU} + p^p \cdot Q^p$$

Where:

- Q^h = the average of the calculation results for the overall envelope based on past emissions using both the top-down approach and the bottom-up approach. A period of 6 years (1995-2001) has been taken into account to reduce fluctuations associated with the economic climate.

  The top-down emission data are those provided by the Region upon the communication, through Belgium, of its inventories of greenhouse gas emissions to the Secretariat of the United Nations Framework Convention on Climate

Change. The bottom-up data stems from the data collection, as described in paragraph 3.2.

- p^h = weighting factor for past emissions.
- Q^{BAU} = the average of the calculation results for the overall envelope based on BAU emissions using both the top-down approach and the bottom-up approach. For the top-down approach, the projections from the Econotec Study[5] were used. For the bottom-up approach, the data supplied by the operators by way of the questionnaire (see 3.2) were used.
- p^{BAU} = weighting factor for BAU projections.
- Q^p = the average of the calculation results for the overall envelope based on emission projections taking into account reduction potentials. The reduction potentials as described in paragraph 4.1 were applied to the BAU projections both for the top-down approach and the bottom-up approach.
- p^p = weighting factor for projections adjusted in view of taking into account the reduction potential.

[5] Econotec, 2003, CO_2 emission reduction potential in the Brussels Capital Region for the period 2008-2012, final report for the Brussels Institute for Management of the Environment

1.3 Quantity of allowances to be allocated to the trading sector

What is the total quantity of allowances to be allocated (for free and by auctioning), and what is the proportion of overall emissions that these allowances represent in comparison with emissions from sources not covered by the emissions trading Directive? Does this proportion deviate from the current proportion of emissions from covered installations? If so, please give reasons for this deviation with reference to one or more criteria in Annex III to the Directive and/or to one or more other objective and transparent criteria.

Given the lack of leverage, the BCR is of the opinion that the reduction effort required from the non-trading sector may not differ from its reduction potential estimated for the period 2005-2007. The effort required from the trading sector must be at least equal to its reduction potential. It is this criterion that determined the choice of weighting factors for the formula above.

These factors are 0%, 40% and 60% respectively regarding the weight of the approach based on past emissions, BAU projections and projections adjusted to include reduction potentials.

Applying the formula above results in an envelope of 93 ktonnes for the trading sector. The whole of these allowances will be located for free. These allowances represent 2% of the Brussels cap for 2005-2007.

It should be noted that the quantity of allowances is compatible with the reduction potential of the non-trading sector (see table below). As far as the trading sector is concerned, an effort greater than the reduction potential is required.

		past approach	BAU approach	approach with potential	**result of calculation**
non-trading sector	envelope (kt CO2)	4593	4580	4583	**4582**
	share of Brussels cap	98.3%	98.0%	98.0%	**98.0%**
	reduction effort in relation to BAU	-5.2%	-5.5%	-5.4%	**-5.5%**
	reduction potential	-5.3%			
trading sector	envelope (kt CO2)	82	95	92	**93**
	share of Brussels cap	1.7%	2.0%	2.0%	**2.0%**
	reduction effort in relation to BAU	-22.3%	-9.9%	-13.6%	**-12.1%**
	reduction potential	-6.4%			

Table 1: Result of the calculation for the overall envelope using the calculation formula combining the approach based on past emissions, BAU projections and projections adjusted to include reduction potentials

It should be noted that the issuance of allowances reserved for trading sector installations will take place in equal shares over the three years of the period 2005-2007. As a result, the previous figures, as well as those provided in this document, are expressed on an annual basis for the year 2006, while bearing in mind that the total quantity of allowances is obtained simply by multiplying these annual figures by three.

1.4 Policies and measures in the non-trading sector

What policies and measures will be applied to the sources not covered by the emissions trading Directive?

On 13th November 2002, the Brussels Government approved the *Plan for the structural improvement of air quality and the fight against global warming 2002-2012*, known and the Air-Climate Plan. This plan incorporates the final version of the Brussels climate plan, which will be part of the national climate plan and which aims at meeting the Kyoto targets, i.e. a reduction of 7.5% in greenhouse gases in Belgium.

The rational management of air quality requires the implementation of coordinated multi-discipline measures in response to the issues linking the global level (even planetary) to purely local and regional levels. The Air-Climate Plan is intended to meet this dual reality. Starting out from a global approach such as concerns about the planet in terms of global warming, the destruction of the ozone layer or the acidification of the atmosphere, the Plan tends to bring highly practical responses to issues at a local level.

The main lines of the Air-Climate Plan[6] are directed at two main sources of pollution, i.e.: the energy consumption in buildings and industries, and road transport. Other, less important, sources are also dealt with in the Plan. In this way, the Plan covers the main sectors that emit greenhouse gases, whether or not they are covered by the Directive. Given the fact that the Directive only covers a limited part of emissions from the manufacturing and service industries in the BCR, the Plan does not make a distinction between those sectors covered by the Directive and those that are not.

Below are the main measures envisaged in the plan in relation to greenhouse gas emissions.

- Transport

A. The reduction of the volume of road traffic to be achieved, amongst others, by:
    - encouraging the reduced use of cars, in particular by implementing a policy to control parking on and off public roads;
    - encouraging the use of less polluting transport methods through the mandatory production of company mobility plans by organisations employing more than 200 people on the same site;

[6] IBGE, 2003, Plan for the structural improvement of air quality and the fight against global warming.

- the adaptation of infrastructure to promote non-polluting methods of transport , such as walking and cycling;
- the introduction of dissuasive car parks outside Brussels.

B. The lowering of emission factors in road traffic through:
- the support and dissemination of technological improvements to vehicles (clean vehicles);
- traffic management (speed and traffic flows) aimed at achieving a lower level of pollution in the atmosphere;
- better maintenance and inspections of vehicle emissions.

C. Campaigns directed towards a change in transport behaviour aimed at achieving less pollution, in particular by using an awareness policy focused on changing behaviour.

It should be noted that these measures cannot have a significant impact if they are not accompanied by additional measures over which the Region has no control, mainly the introduction of the "Réseau Express Régional" (RER) (Regional Express Network).

- Energy consumption in buildings and industries:
  - Draw up an inventory: increase understanding of the energy situation of buildings portfolio
  - Information campaigns directed at the general public
  - A real information and awareness centre for consumers
  - Beef up incentive schemes directed at households, companies and the public sector
  - Make energy bills readable and informative
  - Enforce thermal regulations
  - Strengthen thermal regulations
  - Encourage owners, occupants and lessors to obtain energy certification
  - Systematic checks on the proper functioning of boilers
  - Inform: Get the business sectors to discuss the topic of "energy efficiency in office buildings"
  - Promote electrical applications with high energy efficiency
  - Improve energy efficiency through public procurement
  - Enter into voluntary agreements with the sectors involved

1.5 Recourse to flexible mechanisms in the Kyoto protocol?

Will use be made of the flexible mechanisms of the Kyoto Protocol? If so, to what extent and what steps have been taken so far (e.g. advancement of relevant legislation, budgetary resources foreseen)?

As part of its Air-Climate Plan, the BCR has opted to favour clean technology transfer projects towards countries in the south by way of Clean Development Mechanisms (CDM). A number of CDM such as investments in renewable energy and carbon sinks are currently being identified in the BCR's three partner countries: Morocco, Ivory Coast and the Democratic Republic of Congo.

1.6 Taking energy policy into account

How has national energy policy been taken into account when establishing the total quantity of allowances to be allocated?

When determining the total quantity of allowances to be allocated, account was taken of the order issued on 19th July 2001 relating to the organisation of the electricity market in the BCR, which implements a system of green certificates favouring green electricity and combined heat and power. The growth of CO_2 emissions by 2010 as a consequence of the development of combined heat and power within the BCR, has been taken into account.

1.7 Guarantees for achieving the reduction targets for Brussels

How is it ensured that the total quantity of allowances intended to be allocated is consistent with a path towards achieving or over-achieving the Member State's target under Decision 2002/358/EC or under the Kyoto Protocol (as applicable)?

How is it ensured that the total quantity of allowances to be allocated is not more than is likely to be needed for the strict application of the criteria of Annex III? How is consistency with the assessment of actual and projected emissions pursuant to Decision 93/389/EEC ensured?

These aspects are dealt with in paragraph 1.3 where we show that the breakdown of the Brussels cap for the period 2005-2007 requires a effort from both the trading and non-trading sectors that is at least as great as their respective reduction potential.

1.8 Auctions

If the Member State intends to auction allowances, please state the percentage of the total quantity of allowances that will be auctioned, and how the auction will be implemented.

The BCR is not planning any auctions. This means that the whole amount (100%) of the allowances in the envelope reserved for the trading sector will be allocated for free.

2 DETERMINATION OF THE QUANTITY OF ALLOWANCES AT ACTIVITY LEVEL

2.1 Method of allocation at activity level

By what methodology has the allocation been determined at activity level? Has the same methodology been used for all activities? If not, explain why a differentiation depending on activity was considered necessary, how the differentiation was done, in detail, and why this is considered not to unduly favour certain undertakings or activities within the Member State.

The Brussels Capital Region plans to divide the overall envelope for the trading sector into three sub-envelopes. These will be:

- 1 sub-envelope for "electricity"
- 1 sub-envelope for "industry"
- 1 sub-envelope for "services"

The breakdown of the envelope for the trading sector into sub-envelopes for the various sectors/businesses is carried out in the same way as for determining the overall envelope for the trading sector.

Estimates based on the currently available data result in sub-envelopes of 5.9, 49.9, and 30.0 kt of CO_2 for the electricity, industry and services sectors respectively.

2.2 Taking the technological emissions reduction potential into account

If the potential, including the technological potential, of activities to reduce emissions was taken into account at this level, please state so here and give details in Section 4.1 below.

The technological reduction potential values for each of the three types of activities (energy, industry and services) have been taken into account.
See paragraph 4.1.

2.3 Taking the Community legislative and policy instruments into account

If Community legislative and policy instruments have been considered in determining separate quantities per activity, please list the instruments considered in Section 5.3 and state which ones have been taken into account and how.

The Community legislative and policy instruments have not been taken into account.

2.4 Competition from outside the Union

If the existence of competition from countries or entities outside the Union has been taken into account, please explain how.

The Brussels Capital Region is not planning to allocate additional allowances to certain industry sectors for reasons of competition from outside the Union.

In fact, most of the sectors involved are not exposed at all, or if they are, only slightly, to any intense competition from outside the Union, or if they were, their competitive position would not be affected significantly by the Directive.

3 DETERMINATION OF THE QUANTITY OF ALLOWANCES AT INSTALLATION LEVEL

3.1 Methodology

By what methodology has the allocation been determined at installation level? Has the same methodology been used for all installations? If not, please explain why a differentiation between installations belonging to the same activity was considered necessary, how the differentiation by installation was done, in detail, and why this is considered not to unduly favour certain undertakings within the Member State.

The allocation method used by the Region is based on an allocation established on a dual basis:

- The allocation of 50% of the allowances of the sub-envelopes based on past emissions:

  For this part, the allowances will be allocated in proportion to the past emissions of each installation over the period 2001-2003. This makes it possible to start out from data that is better known and, in principle, available for each organization. The data for this period best reflect the current reality of the organization, while allowing for an average over 3 years, which makes it possible to erase variations due to the level of activity, for example. With a view to taking early action into account, an earlier year may be used at the request of the operators and provided a certain number of conditions are met (see paragraph 4.2). It should be noted that for the services sector, the data has been corrected to take account of the effect of the climate, by considering a benchmark value of 2010 degree-days.

- The allocation of 50% of the allowances for the sub-envelopes based on BAU emissions:

  This second part of the sub-envelope has been allocated in proportion to BAU emissions.

3.2 Evaluation of past emissions by the installations covered

If historical emissions data were used, please state whether they have been determined in accordance with the Commission's monitoring and reporting guidelines pursuant to Article 14 of the Directive or any other set of established guidelines, and/or whether they have been subject to independent verification

The past emissions for the installations covered have been estimated from the consumption of fuel supplied by the various operators of installations.
Hereto a questionnaire was drawn up and sent out to the operators. In the questionnaire, operators were invited to give details of their annual energy consumption between 1990 and 2003, by fuel type and, if possible, by installation.

After the questionnaire had been received, site visits were conducted in order to supplement and, where required, adjust the data provided with the operator.

The CO_2 emissions were then calculated on the basis of energy consumption by using low heat values and CO_2 emission factors. These values were selected in accordance with the Commission's Decision of 29/01/2004 in relation to "guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the Europe Parliament and of the Council":

The low heat values for relevant fuels (natural gas and heating oil) were defined in accordance with "tier 2" (specific values for each country indicated by the Member State in the most recent national inventory submitted to the secretariat of the UNFCCC proposed in the Decision).

The emission factor values indicated by the Region in its most recent inventory designed to notify the Belgian inventory to the secretariat of the UNFCCC were used (which corresponds to "tier 2a" proposed in the Decision).

Also, the level of oxidisation of 0.995 was applied to all fuels (no consumption of coal across all installation in Brussels), in accordance with "tier 1" proposed in the Decision.

The low heat value (LHV) values and emission factors (fe) are shown in the following table:

	fe CO2 (kg/GJ)	LHV	
heating oil	74	36.38	MJ/l
natural gas	56	33.49	MJ/m3

NB: Validation of the data from individual installations will take place upon issuance of the CO_2 emission permit (before 30/09/04).

3.3 Taking early actions or clean technologies into account

If early action or clean technology were taken into account at this level, please state so here and give details in Sections 4.2 and/or 4.3 below.

See paragraphs 4.2 and 4.3.

3.4 Opt-in by installations

If the Member State intends to include unilaterally installations carrying out activities listed in Annex I below the capacity limits referred to in that Annex, please explain why, and address, in particular, the effects on the internal market, potential distortions of competition and the environmental integrity of the scheme.

In principle, the BCR is not planning the opt-in installations that do not fulfil the rated thermal input criterion provided for in the Directive. Indeed, there is no significant environmental gain in applying the opt-in in the BCR.

However, the BCR might reconsider its position should a request be made hereto by those operators of installations that are close to the threshold mentioned in annexe I of the Directive, who are planning to expand their activities in such a way that they will exceed the threshold mentioned above in the period 2005-2007. In view of including these installations by way of opt-in, operators will have to:

- Supply all of the data needed to substantiate that the extension of their activities will make the Directive applicable to their installations during the period 2005-2007, and
- Lodge an application for a permit on time (30th June 2004).

For combustion installations, for which the threshold is set at 20MWth by the Directive, the Region plans to take into account those (groups of) installations with an output of between 18 and 20 MWth that meet the conditions above.

3.5 Opt-out by certain installations

The Brussels Region does not envisage opt-out certain installation on account of the fact that these installations would in any case come under the application of the Directive as from 2008, and that the first period might be considered as a learning period that would enable operators in the trading sector to familiarise themselves with the system of exchanging allowances.

Also, opting-out would require creating a parallel programme providing for a similar reduction effort, monitoring and verification rules, as well as penalties. This would

mean greater complexity in management and follow-up by the Region, without releasing the establishments in question from the constraints of reducing emissions, verification and other requirements.

4 TECHNICAL ASPECTS

4.1 Potential, including technological potential

Has criterion (3) been used to determine only the total quantity of allowances, or also the distribution of allowances between activities covered by the scheme?

Please describe the methodology (including major assumptions made) and any sources used to assess the potential of activities to reduce emissions. What are the results obtained? How is it ensured that the total quantity of allowances allocated is consistent with the potential?

Please explain the method or formula(e) used to determine the quantity of allowances to allocate at the total level and/or activity level taking the potential of activities to reduce emissions into account.

Please explain in Section 4.1 below how the potential, including the technological potential, of activities to reduce emissions was taken into account in determining the total quantity of allowances.

In the study conducted by Econotec for the Brussels Region[7], the CO_2 emissions reduction potential was estimated up to 2010 for the **Services and Residential** sectors.

The potential for reduction corresponding to a cost less than €20/t CO_2 was estimated, for direct emissions alone, at 231 kt, based on a reduction potential of 45 kt in the Services sector and 186 kt in the Residential sector.

NB: The Econotec study indicates that these potentials are under-estimated on account of the methodological approach used. Hence, we found it appropriate to consider that 100% of this potential would be achieved during the period 2005-2007, whereas according to the study, it would only be achieved during the period 2008-2012. The lead times for preparing the plan did not allow more detailed studies to be conducted into reduction potentials. For the following period (2008-2012), the BCR intends to benefit from the experience gained, particularly in the area of energy audits, to fine-tune the potential for reduction in the various sectors.

[7] Econotec, 2003, Potentials for reducing emissions of CO_2 in the Brussels Capital Region for the period 2008-2012, final report for the Brussels Institute for Management of the Environment

This does not take account of the potential provided by combined heat and power. Yet the system of green certificates could, according to the same study, support the installation of new combined heat and power units. This would result in additional emissions estimated at 104 kt.

In relation to the **Energy and Industry** sector, we refer, in the absence of a specific study for Brussels, to the "DSM" study conducted in 2003[8] for Belgium. In this study, two emission scenarios for the whole of Belgium were calculated, making it possible to define an economically viable reduction potential.

The study takes into consideration a scenario with a BAU policy, as well as a "benchmarking scenario" covering the effect on Belgian emissions of the implementation of measures similar to those taken in other European countries having particularly high energy efficiency levels. According to these results, a potential for reducing electricity consumption by 5% in comparison with the BAU scenario could be achieved in 2007.

In the case of industry, and more especially the equipment sub-sector into which fall installations in the Brussels Region affected by the Directive, the DSM study tells us that the reduction potential would be 8.2% by 2007.

Finally, for the Transport sector, the main measure that would enable urban road traffic to be reduced is the construction of the Réseau Express Régional (RER) (Regional Express Network). The federal Government recently confirmed its commitment to finance the construction of the RER, as well as to cover any operating losses until 2010. However, the RER will only be fully operational after 2008 and so consequently the potential for reduction associated with measures arising from the region alone can be considered as negligible.

[8] FhG-ISI, ECI-Oxford University, ENERDATA, CEA, STEM, Ghent University, Walloon Institute, 2003, Management of the demand for energy as part of the efforts to be made by Belgium to reduce its greenhouse gas emissions, for the Ministry of Economic Affairs.

Sector / gas	Gases concerned	Potential for reduction (% of BAU emissions 2006)
Electricity sector	CO_2, CH_4, N_20	5%
Industrial sector	CO_2, CH_4, N_20	8.2%
Services	CO_2, CH_4, N_20	3.5%
Residential	CO_2, CH_4, N_20	8.2%
Transport	CO_2, CH_4, N_20	0%
Waste	CH_4	0%
Solvents and other products	N_20	0%
Fluorinated gases	HFC	16%
Short-lived emission	CH_4	7%

4.1.1 Use of benchmarks

If benchmarking was used as a basis for determining the intended allocation to individual installations, please explain the type of benchmark used, and the formula(e) used to arrive at the intended allocation in relation to the benchmark. What benchmark was chosen, and why is it considered to be the best estimate to incorporate achievable progress? Why is the output forecast used considered to be the most likely development? Please substantiate the answers.

The Brussels Capital Region has not applied benchmarks for calculating allowances.

4.2 Early action (where appropriate)

If early action has been taken into account in the allocation to individual installations, please describe in which manner it is accommodated. Please list and explain in some detail the measures that were accepted as early action and what the criteria for accepting them were. Please demonstrate that the investments/actions to be accommodated led to a reduction of covered emissions beyond what followed from any Community or national legislation in force at the time the action was taken.

If benchmarks are used, please describe on what basis the grouping of installations to which the benchmarks are applied was made and why the respective benchmarks were chosen. Please also indicate the output values applied and justify why they are considered appropriate.

The Brussels Capital Region plans to take account of early action by authorising operators to substitute one of the years from the period 2001-2003 (see above, paragraph 3.1) used for the allocation on the basis of past emissions, with emissions from another year in the period 1990-2000.

Hereto companies will have to supply reliable and documented data demonstrating in particular that the emission reductions obtained are significant and that the reduction is not the result of achieving compliance with a statutory obligation.
Other elements, such as any subsidies granted to finance the "early action" will be taken into account to avoid the allocation of the allowance being characterized as unauthorised State Aid.

4.3 Clean technologies (where appropriate)

How has clean technology, including energy efficient technologies, been taken into account in the allocation process? If at all, which clean technology has been taken into account, and on what basis does it qualify as such? Have any energy production technologies intended to be taken into account been in receipt of approved State aid for environmental protection in any Member State? Please state whether any other industrial technologies intended to be taken into account constitute "best available techniques" as defined in Council Directive 96/61EC, and explain in what way it is particularly performing in limiting emissions of covered greenhouse gases.

The BCR does not envisage allocating additional allowances for clean technologies. It should be noted that where combined heat and power is concerned, the system of green certificates already provides a framework for supporting combined heat and power. This is a system that benefits both existing installations and installations that will be put in place during the period 2005-2007.

5 COMMUNITY LEGISLATION AND POLICIES

5.1 Competition policy (articles 81, 82, 87 and 88 of the Treaty)

If the competent authority has received an application from operators wishing to form a pool and if it is intended to allow it, please attach a copy of that application to the National Allocation Plan. What percentage of the total allocation will the pool represent? What percentage of the relevant sector's allocation will the pool represent?

The Brussels Capital Region plans to authorise the pooling of allowances that complies with the provisions of the Directive. With a view to allowing the evaluation of a demand for pooling by the Commission, as well as the completion of the final regional plan within the deadlines set, companies wishing to engage in pooling will have to file their request with the Region at the latest by 31st May 2004.

5.2 Internal market policy (article 43 of the treaty)

How will new entrants be able to begin participating in the EU emissions trading scheme?

In the case that there will be a reserve for new entrants, how has the total quantity of allowances to set aside been determined and on what basis will the quantity of allowances be determined for each new entrant? How does the formula to be applied to new entrants compare to the formula applied to incumbents of the relevant activity? Please also explain what will happen to any allowances remaining in the reserve at the end of the trading period. What will apply in case the demand for allowances from the reserve exceeds the available quantity of allowances?

Is information already available on the number of new entrants to expect (through applications for purchase of land, construction permits, other environmental permits etc.)? Have new or updated greenhouse gas emission permits been granted to operators whose installations are still under construction, but whose intention it is to start a relevant activity during the period 2005 to 2007?

The Brussels Capital Region will set up a reserve for new entrants with, in addition, a method of dividing it up between combined heat and power and non-combined heat and power installations. This option allows putting aside part of the reserve for new entrants for combined heat and power installations.

5.2.1 Amount of the reserve

The total amount of the reserve will be estimated based on the following elements:

a) The number of new enterprises in the Brussels Capital Region which, taken from 1999 to 2002 was on average around 6,700, whereas the total number of companies in Brussels is around 73,500[9].
b) The fact that the existing trading sector trading represents a dozen companies (0.02% of the total number of existing companies).

From the foregoing, the number of potential new entrants amounts to at least 1 new company per year over the period 2005-2007 (three to four in total).

According to current data, this would result in a reserve of approximately 7.4 kt of CO_2, or some 7.9% of the overall envelope[10].

5.2.2 Taking combined heat and power into account

According to the Econotec study, the potential for combined heat and power in the Brussels Capital Region by 2010, achieved thanks to the system of green certificates, would amount to a total electrical output of 128 MWe. In 2010, this would represent, emissions of around 104 ktonnes of CO_2.

Combined heat and power in the trading sector (including by new entrants) will only represent a small percentage of this total output. However, we need to avoid that the Directive would constitute a barrier vis-à-vis this technology in view of the fact that a combined heat and power installation represents additional emissions compared to a combustion installation that would provide the same requirements in heat - whereas taken across the whole of the production of heat and electricity there is a net environmental benefit.

In this context, the Brussels Capital Region plans to divide the reserve for new entrants in a sub-reserve A (70% of the reserve) dedicated to installations that do not have combined heat and power, and a sub-reserve B (30% of the reserve) dedicated to combined heat and power installations.

In practice, when an operator lodges an application for an allowance during the period 2005-2007, he will be able to obtain:

- Allowances from sub-reserve A for a maximum of 85% of his requirements.
- The balance (15% its requirements) could be allocated to the operator from sub-reserve B and this for combined heat and power installations only. The Region will establish criteria in order to limit the allocation of these

[9] Ministry of Economic Affairs, data available at the website http://ecodata.mineco.fgov.be/Fr/begin_fr.htm

[10] Based on these two elements, an average quantity of CO_2 is calculated by dividing the amount of the overall envelope intended for the trading sector by the total number of installations (currently in existence + potential new entrants), and then multiplied by the average number of potential new entrants per year. However, this calculation does not include the contribution from the installation with the greatest weight in emissions in the trading sector.

allowances to combined heat and power installations that comply to minimum output standards (to be defined at a later stage) and which are sized so as to meet a demand for heat that can be economically justified.

5.2.3 Method of allocation

The allowances reserved will be granted to new entrants at the time they receive their CO_2 emission permit, provided there are still allowances available in the reserve.

Moreover, a benchmarking approach (taking account of the best levels of energy performance for each relevant sector/activity) will be followed in order to determine the allowances.

5.2.4 Treatment of surplus allowances

Those allowances remaining in the reserve up to the end of the period will be cancelled (given their rather low number).

5.3 Other legislative and policy instruments

Please list other Community legislation or policy instruments that were considered in the establishment of the National Allocation Plan and explain how each one has influenced the intended allocation and for which activities.

Has any particular new Community legislation been considered to lead to an unavoidable decrease or increase in emissions? If yes, please explain why the change in emissions is considered to be unavoidable, and how this has been taken into account.

No other legislative or policy instrument was used.

6 PUBLIC CONSULTATION

6.1 Organising public consultation

How is this national allocation plan made available to the public for comments?

The public consultation phase was designed in two steps so that comments could be fully taken into account before the adoption of the final decision relating to the national allocation plan (Section on the Brussels Capital Region):

- A first public consultation was aimed at gathering information on preferences and comments from the public about the draft regional allocation plan for Brussels. This consultation was organised during the period from 15th March 2004 to 25th March 2004. The public was invited to view the plan through advertisements in the regional press and via the IBGE (Brussels Institute for Management of the Environment) Internet website. The main environmental associations, as well as the companies and organisations involved and the main Brussels professional federations, were notified by e-mail.

- A second public consultation will be organised after the communication of the draft national allocation plan to the Commission and the processing of any remarks the Commission may have. This will be after 30th June 2004. This second consultation will enable the public to make observations about the draft national allocation plan as a whole.

To facilitate the consultation process, the Region has drafted documents explaining the context, questions and options envisaged, as well as the Brussels Region's preferred option and a questionnaire.

These documents can be viewed on the Internet:
http://www.ibgebim.be/francais/contenu/content.asp?ref=1857

6.2 Taking the observations received into account

How does the Member State provide for due account to be taken of any comments received before a decision on the allocation of allowances is taken?

The comments made by the public or the organisations involved have been analysed by the IBGE and the consultants entrusted with the study on the allocation plan. The analysis covered those comments made several times by various commentators, as well as any individual comments made by specific organisations. The relevance of each comment was evaluated, taking into account of the constraints set by the Directive. Next, the need to follow it up was assessed, considering what

modifications the plan might be required and its consequences, both in terms of complying with the criteria of Annexe III of the Directive and the impact on the whole of the trading sector.

A concise summary of the comments and suggestions for modifications was provided to the government, which decided on what to do with them.

If any comments from the public received during the first round of consultation have had significant influence on the national allocation plan, the Member State should summarise those comments and explain how they have been taken into account.

Taking into account the comments made by the public upon the consultation did not entail any significant modification to the draft allocation plan for Brussels.

7 CRITERIA OTHER THAN THOSE IN ANNEXE III OF THE DIRECTIVE

Have any criteria other than those listed in Annex III to the Directive been applied for the establishment of the notified National Allocation Plan? If yes, please specify which ones and how they have been implemented. Please also justify why any such criteria are not considered to be discriminatory.

Not relevant

8 BANKING

The Brussels Capital Region does not envisage allowing banking of allowances between the period 2005-2007 and the period 2008-2012.

9 ANNEXE I - LIST OF INSTALLATIONS

Please submit a matrix containing the following information:

- Identification (e.g. name, address) of each installation
- The name of the operator of each installation
- The number of the greenhouse gas emissions permit
- The unique (EPER) identifier of the installation
- The main activity, and, if applicable, other activities carried out at the installation
- Total quantity of allowances to be allocated for the period, and the annual breakdown, for each installation
- Whether the installation has been unilaterally included or temporarily excluded and whether it is part of a pool
- Annual data per installation, including emission factors if emissions data are used, which have been used in the allocation formula(e)

A subtotal per activity of data used and number of allowances allocated

See table on the next page.

Allocation Plan 2005-2007 of the Brussels Region

Annex : List of installations concerned

Name of the installation	adress		Operator	EPER Code	Main activity on the site		Total installed rated thermal power (MWth)	Emissions (kton CO2)			allowances (kton CO2)				Number of the emission permit (**)
	street, number	Municipality	Name		NACE-code	activity		Historical (*)	BAU 2005-2007	BAU incl. reduction-potential 2005-2007	total	2,005	2,006	2,007	
turbo-jet plant Schaerbeek	Quai Léon Monnoyer, 7	1000 Bruxelles	Electrabel S.A.		40.1	Production of electricity	60	0.15	3.52	3.34	4.89	1.63	1.63	1.63	
turbo-jet plant Ixelles	Rue Volta	1050 Bruxelles			40.1	Production of electricity	60	0.27	3.58	3.40	6.50	2.17	2.17	2.17	
turbo-jet plant Buda	Angle de la chaussée de Buda et digue du canal	1130 Bruxelles			40.1	Production of electricity	60	0.24	3.57	3.39	6.20	2.07	2.07	2.07	
total energy							*180*	*0.66*	*10.68*	*10.14*	*17.59*	*5.86*	*5.86*	*5.86*	
Combustion installations of VW (****)	Britse II de Legerlaan, 201	1190 Forest	Volkswagen Brussel S.A.		34.1	Manufacture of motor vehicles	106	43.56	51.39	47.18	138.95	46.32	46.32	46.32	
Combustion installations of Sabca	Chaussée de Haecht 1470	1130 Bruxelles	SABCA S.A.		35.3	Manufacture of aircraft and spacecraft	23	3.63	3.57	3.28	10.60	3.53	3.53	3.53	
total industry							*129*	*47.19*	*54.96*	*50.45*	*149.55*	*49.85*	*49.85*	*49.85*	
Boiler room at the Monts des Arts site: - Musées royaux des Beaux-Arts de Belgique - Bibliothèque Royale - Archives Générales du Royaume	- 9, rue du Musée - Rue de Ruysbroeck 2 - 4 Boulevard de l' Empereur	1000 Bruxelles	Régie des Bâtiments		92.5	Library and archives activities	23	5.82	5.82	5.62	16.98	5.66	5.66	5.66	
Combustion installation of VRT & RTBF	Bd Reyers	1040 à 1044 Bruxelles	- VRT - RTBF		92.2	Radio and television activities	27	5.72	5.72	5.72	16.68	5.56	5.56	5.56	
Combustion installations of the European Parliament	Rue Wiertz	1047 Bruxelles	European Parliament		75	General (overall) public service activities	44	8.77	10.88	10.58	28.57	9.52	9.52	9.52	
Combustion installations of the National Bank	de Berlaimontlaan 14	1000 Bruxelles	National Bank		65.1	Central banking	30	5.33	5.33	5.24	15.57	5.19	5.19	5.19	
Combustion installations of the "Palais des expositions" (Brussels Expo)	Place de la Belgique	1020 Bruxelles	Parc des Expositions de Bruxelles A.S.B.L.		92	Fair and amusement park activities	46	1.56	1.49	1.44	4.46	1.49	1.49	1.49	
Combustion installations of WTC I et II	30, boulevard du Roi Albert 2	1000 Bruxelles	SOGEPRO S.A.		-	National post activities other offices and trade	34	2.66	2.66	2.56	7.75	2.58	2.58	2.58	
total tertiary							*205*	*29.86*	*31.90*	*31.15*	*90.00*	*30.00*	*30.00*	*30.00*	
total trading (existing installations)							***514***	***77.70***	***97.54***	***91.75***	***257.14***	***85.71***	***85.71***	***85.71***	
Reserve for new entrants												7.37	7.37	7.37	
total trading												***93.09***	***93.09***	***93.09***	

(*) average 2001-2003 after climate correction for the tertiary
(**) no permit delivered at this stage
(***) not relevant for any combustion installation <50 MWth
(****) subject to verification of some provisional data

NOTE : In compliance to the annexe I of the Directive, Solvay and academic hospitals and centres are out of the scope of the Directive because research activity represents their main activity

V. ALLOCATION PLAN FOR THE WALLOON REGION

June 2004

Ministry of the Walloon Region

Allocation plan for the Walloon Region under directive EC/2003/87

Approved at its second reading by the Walloon Government, 17 June 2004

This document is a translation to English of the French version of the "Allocation plan for the Walloon Region under directive EC/2003/87" and is provided for convenience only.
In case of confusion with the French version, the French version prevails to this document.

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Glossary

Early action	Greenhouse-gas emission reduction measures taken at an early stage, and which may qualify for the granting of allowances under the criteria proposed by this method of working.
The ET Directive	Directive EC/2003/87 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.
Emissions	The release of greenhouse gases into the atmosphere from sources in an installation. (cf Art. 3, ET Directive)
Operator	Within the meaning of the order of 11 March 1999 relating to environmental permits
Installation	Within the meaning of the order of 11 March 1999 relating to environmental permits
Trading system market	Also known as the 'community system'. System for trading greenhouse-gas emission allowances within the Community.
Allowance	Allowance to emit one tonne of carbon dioxide equivalent during a specified period, which shall be valid only for the purposes of meeting the requirements of the ET Directive and shall be transferable in accordance with the provisions of the ET Directive. (cf Art. 3, ET Directive)
Equivalent tonne of carbon-dioxide	A metric tonne of carbon-dioxide or a quantity of any other greenhouse gas covered under appendix II of the ET Directive that has an equivalent global-warning potential.
Cogeneration	Technique facilitating the simultaneous production of heat and mechanical energy using a fuel.

Acronyms

ET	Emissions Trading
ETS	Emissions Trading Scheme
GHG	Greenhouse gas
NAP	National allowance allocation plan
tCO_2 eq.	Equivalent tonne of carbon-dioxide
GGI	Greenhouse gas index (= carbon-dioxide)
BAT	Best Available Technology
BAU	Business as Usual
CCGT	Combined-Cycle Gas Turbine
GDNRE	General Directorate of Natural Resources and the Environment of the Ministry of the Walloon Region (MRW)
WBU	Walloon Business Union
GDTRE	General Directorate of Technology, Research and Energy of the Ministry of the Walloon Region (MRW)
SA	Sector Agreement (Negociated Agreement, Voluntary Agreement)
T	Tonne
WAP	Walloon Allocation Plan, the term used to name the allocation plan for Walloon installations, forming part of the national allocation plan for Belgium

1. Determining the total number of allowances

1.1 Commitment made by Belgium and the three Belgian regions

In view of the competence of the Belgian regions (Walloon Region, Flemish Region and the Region of Brussels-Capital) in respect of the management of the environment, the three Belgian regions, by agreement with the federal government, reached an intra-Belgium burden-sharing agreement on 8 March 2004 (Agreement on Belgian burden-sharing[1]). This shares out the effort to which Belgium has committed itself under the Kyoto Protocol among the three Belgian regions and the federal government, namely to restrict or reduce average annual greenhouse-gas emissions (GHG, these being the 6 gases covered by the ET Directive) over the period 2008-2012 to a level of 92.5% of the 1990 emissions.

Under this agreement, the Walloon Region has committed itself to adopt a linear distribution of the Belgian burden to reduce GHG, by reducing its average annual emissions during the period 2008-2012 to a level equal to 92.5% of the Walloon Region's 1990 emissions, the Region of Flanders simultaneously committing to a level over 2008-2012 of 94.8% of its 1990 emissions, and the Brussels-Capital Region agreeing to limit its emission growth during the 2008-2012 period to 103.475% of its 1990 emissions.

Given their competence with regard to the environment, and in accordance with the Belgian burden-sharing Agreement, the Belgian regions have to implement the regional policies required to achieve the targets to which they are committed, both in terms of internal measures and in terms of recourse to the flexible mechanisms provided for under the Kyoto Protocol.

Since the sum of the targets for the three Belgian regions is higher than the target set for Belgium under the Kyoto Protocol, the Belgian burden-sharing Agreement provides that the Federal Government will make good the difference by recourse to the flexible mechanisms provided for under the Kyoto Protocol. In an initial estimate, it is considered that the Federal Government will have to buy approximately **on average 2.46 Mt CO_2 eq a year** of emission allowances for each of the 5 years of the 2008 – 2012 commitment period. Moreover, it is expected that the Federal Government will also implement policies and internal federal measures to support the regions' efforts.

1.2 Commitment of the Walloon Region – Emissions target for the Walloon Region for period 2008-2012

The latest survey assesses the Walloon Region's GHG emissions for 1990 at 54.293 Mt CO_2 eq. Given the current state of 1990 surveys, the Walloon Region's commitment thus involves reducing the Walloon Region's GHG emissions to a level of 54.293 * (92.5%), i.e. **on average 50.221 Mt CO_2 eq a year** over the 2008-2012 period.

[1] Committee on Federal Government dialogue – Governments of the Communities and Regions – Meeting held on 8 March 2004.

1.3 Estimates of future Walloon Region's GHG emissions

On 18 December 2003, the Walloon Government adopted an action programme for air quality in the Walloon Region until 2010, also known as the «Walloon Air Plan ». The Walloon Air Plan is a per-sector programme with regard to sustainable development. It describes the actions the Walloon Region has decided to implement as part of its policy of controlling atmospheric emissions. It incorporates the international commitments made by the Walloon Region, in particular the Kyoto Protocol, as well as the Walloon Region's energy policy. The Walloon Air Plan is available at http://air.wallonie.be.

The Walloon Air Plan identifies GHG emissions forecasted in the absence of specific measures (« Business As Usual (BAU) » scenario) and after implementing those measures. The measures and their effects on future GHG emissions in the Walloon Region are also presented.

Estimates of future emissions have been made as part of preparing the Walloon Air Plan by ECONOTEC, based on the EPM model (Energy/Emissions Projection Model) and – for macro-economic modelling – based on the Belmod model. EPM is a bottom-up technical economic simulation model; in other words, it explains energy consumption and GHG emissions from activity variables expressed as physical units and it contains a detailed representation of the sources of emissions and the main determining factors in changes in the energy demand and the various types of emissions. Given that EPM incorporates the penetration of modern production techniques into its estimates by aiming to minimise emission-reduction costs on a sector-by-sector basis, the estimates obtained correspond to a least-cost scenario. The emissions expected under the Walloon Air Plan are summarised in the table below.

Changes in historic and forecasted GHG emissions - Walloon Air Plan (kt CO_2 eq)				
Sectors	**Emissions 1990**	**Emissions 2000**	**Emissions 2010 BAU**	**Emissions 2010 with measures**
Energy*	6,777.6	4,910.0	6,382.7	5,034.7
Industry	25,831.7	25,370.2	21,634.6	20,432.6
Tertiary	2,626.8	2,716.6	3,339.0	2,852.0
Domestic	6,935.8	6,652.3	8,585.8	7,901.8
Transport	7,297.9	8,911.5	11,140.2	10,630.2
Agriculture	4,824.0	4,635.9	4,476.0	4,476.0
Total	54,293.8	53,196.5	55,558.3	5,327.3
Change compared with 1990	100.0%	98.0%	102.3%	94.5%
Target 2008-2012 (1990 survey)	50,221.0	50,221.0	50.221,0	50,221.0
Distance compared with target objectif	4,072.8	2,975.5	5,337.3	1,106.3

*Taking into account for the purposes of 2010 simulations that CO2 emissions produced by steel-manufacture gases at (a) Charleroi are associated with the Energy sector and (b) Liège are associated with the industrial sector - sources: Corinair survey and ECONOTEC

In accordance with the Walloon Region's commitments, and based on estimates of the Walloon Region's GHG emissions after implementation of the measures provided for under the Walloon Air Plan, this plan foresees that the Walloon Region will have recourse to the flexible mechanisms of the Kyoto Protocol at an average rate of around **1.100 Mt CO_2 eq a year** throughout the 2008-2012 period. The legal provisions allowing the use of these flexibility mechanisms are in the process of being adopted by a Walloon decree. At its second reading on 17 June 2004, the Walloon Government adopted the proposal for a «*Decree introducing a system for exchanging greenhouse-gas emission allowances »,* which will be presented to the Walloon Parliament in autumn 2004. This decree once passed will allow to record budgets required to allow to recourse to the flexible mechanisms.

1.4 Total number of allowances to be allocated for period 2005-2007

In accordance with Appendices I and IV of the ET Directive, only direct CO_2 emissions are taken into consideration for the purposes of preparing the National Allocation Plan (NAP). The Walloon Air Plan also makes provision for changes in emissions of atmospheric pollutants by pollutant type, and thus makes it possible to distinguish changes in CO_2 emissions from those of other GHG.

The following table shows the changes expected in Walloon Region CO_2 emissions based on the emissions structure used in Corinair's surveys conduced for the Walloon Air Plan, by sector up to 2010, as well as total CO_2 emissions of the Energy and Industry sectors.

Changes in historic and forecasted CO2 emissions - Walloon Air Plan (kt CO_2)				
Sectors	**Emissions 1990**	**Emissions 2000**	**Emissions 2010 BAU**	**Emissions 2010 with measures**
Energy*	6,577.0	4,761.0	6,174.0	4,826.0
Industry	24,775.0	24,020.0	20,204.0	19,084.0
Tertiary	1,365.0	1,743.0	2,099.0	1,684.0
Domestic	6,745.0	6,526.0	8,410.0	7,726.0
Transport	7,164.0	8,552.0	9,873.0	9,363.0
Agriculture	291.0	281.0	281.0	
Total	46,917.0	45,883.0	47,041.0	42,683.0
Total Energy & Industry	31,352.0	28,781.0	26,378.0	23,910.0
Exchange sector survey 2000		26,693.0		
- compared with Energy and Industry emissions		92.7%		

*Taking into account for the purposes of 2010 simulations that CO2 emissions produced by steel-manufacture gases at (a) Charleroi are associated with the Energy sector and those at (b) Liège with the Industry sector - sources: Corinair survey, ECONOTEC and e-questionnaire

In order to extract from these data the emissions associated to installations covered by the ET Directive, it is necessary to take account of the differences in coverage between projections made as part of the Walloon Air Plan and the coverage provided for by the ET Directive.

The main differences in coverage between the Walloon Air Plan for the Energy and Industry sectors and the coverage to be used in the context of the ET Directive are associated with the inclusion in the surveys of the Walloon Air Plan, unlike the ET Directive, of:

- emissions of fuel-powered installations below 20 MW;
- CO_2 process emissions in the chemicals sector;
- emissions from installations associated with activities provided for in Appendix I to the ET Directive, even at thresholds below those specified in Appendix I;
- all emissions from installations associated with activities listed in Appendix I to the ET Directive, even in the absence of any technical link;
- emissions associated with safety flares.

It is also important to note the special treatment of emissions produced by chalk kilns in the food sector (confectionery). Given the particular features of the process involved, more consistent with a chemical reactor than a lime kiln, emissions produced by them are accounted for as a fuel installation. This method will obviously be maintained when reporting on and monitoring these installations.

On the other hand, the Energy and Industry sectors, as defined in the Walloon Air Plan, do not include two types of installations covered by the ET Directive, namely any fuel installations in the tertiary and military sectors that exceed the 20 MW thresholds. As shown in the following table, the total of these emissions is an order of magnitude lower (in the order of 0.1%) than that of the total of emissions covered by the ET Directive. Consequently, this difference in coverage is no longer taken into account when estimating the total of allowances to be allocated.

Emissions of installations not included in the Electricity and Industry sectors (kt CO_2)				
	Emissions 2001	Emissions 2005	Emissions 2006	Emissions 2007
Tertiary sector (combustion >20 MW)	25.1	28.9	31.6	33.2
Military sector (combustion >20 MW)	11.3	11.2	11.1	11.0

In order to estimate the impact of the difference in coverage considered when preparing the Walloon Air Plan and that used in the context of the ET Directive, the General Directorate of Natural Resources and the Environment (GDNRE) of the Walloon Region has conducted a survey of CO_2 emissions associated to installations covered by the ET Directive (referred to hereafter as « e-questionnaire »; this survey was conducted during November and December 2003). The e-questionnaire survey estimates the emissions from installations covered by the ET Directive during the year 2000 at **26.693 Mt CO_2**, representing **92.7%** of total emissions by the Energy and Industry sectors as estimated in the Walloon Air Plan.

However, the e-questionnaire and public consultation have also enabled the Walloon Region to validate the emissions of Walloon installations expected for the period 2005-2007, taking particular account of meeting the targets set under Sector Agreements (SAs) signed previously by the Walloon Region and the majority of the Walloon industrial sectors. A brief presentation of these agreements is provided in section 3.1; detailed information is available at http://energie.wallonie.be.

Walloon Region has also ordered an update of the emission projections made when preparing the Walloon Air Plan, going until 2006. This update, based on the EPM model and – in the case of macro-economic models – the Belmod model, takes particular account of new economic-growth forecasts of the Walloon Region PIB, i.e. 2.51% (2004), 3.43% (2005) and 3.95% (2006) instead of the 2% initially forecasted until 2010 when originally preparing the Walloon Air Plan. Just like the original estimates, this update distinguishes between emissions in accordance with a BAU scenario, and after the implementation of special measures.

The various projections for CO_2 emissions by installations covered by the ET Directive for the 2005-2006-2007 period are set out in the following table. In order to take new developments into account and to ensure consistency with the present allowance allocation plan, the data provided in this table have required an additional adjustment of the projections made in the Walloon Air Plan (both under the titles «Walloon Air Plan – 92.7% factor » and under the title «Walloon Air Plan – updated ») compared with the figures published in the draft Walloon Allocation Plan. The two new items are, firstly, an increase in the output of cast iron by Carsid (approx. 400,000 t of iron a year up to 2010, compared with earlier the Walloon Air Plan projections), and secondly the impact of this increase on

the production of fatal iron & steel manufacturing gases, taking account of the new distribution of the allowances among the various operators who make extensive use of these gases.

Estimated emissions for the installations covered by the ET Directive 2003/87/EC (kt CO_2)	Emissions 2000	Emissions 2005	Emissions 2006	Emissions 2007
Walloon Air Plan* (factor 92,7%)				
- Emissions BAU 2010	26.693,0	26.138,1	26.028,2	25.921,0
- Emissions 2010 with measures	26.693,0	24.980,9	24.641,1	24.301,2
Walloon Air Plan - updated				
- Emissions BAU 2006	26.693,0	NA	26.716,1	NA
- Emissions 2006 with measures	26.693,0	NA	25.198,0	NA
E-questionnaire (first data)	26.693,0	31.255,5	31.553,3	31.806,3
E-questionnaire (data improved by GDNRE **)	26.693,0	26.203,7	25.565,6	25.699,6

*Intermediary years between 2000 et 2010 estimated through a linear interpolation
** Without information for new entrants provision and special reserve for the steel industry

On the basis of this information, the Walloon Government has decided to allocate an average total of **25.823 Mt CO_2 a year** for the period 2005-2007 to existing installations covered by the ET Directive. By adding a new-entrants provision of **0.500 Mt CO_2 a year** (approx. 2% of emissions associated with currently-existing installations covered by the ET Directive), this is an average of **26.323 Mt CO_2 a year** for the period 2005-2007.

This figure also has the advantage of corresponding to a weighting coefficient equal to one that demonstrates the success of the participatory approach the Walloon Region has adopted with most of the industrial players covered by the ET Directive. The various scenarios of future emissions produced by the Walloon Region take account of the closure announced by Arcelor of the hot phase of iron-& steel-making, to take place progressively from July 2005. Given all the uncertainties that exist with regard to subsequent decisions by the Arcelor group and their importance in relation to the emissions produced by those installations, the Walloon Government has also decided to set aside a special reserve for the steel industry (i.e. Arcelor), amounting to **4.926 Mt CO_2** for the whole of the 2005-2007 period, representing on average **1.642 Mt CO_2 a year**. A second special reserve of **0.435 Mt CO_2 (i.e. 0.145 Mt CO_2 a year)** has also been made for CARSID's ID 28 installation, which is currently mothballed. For the management of these two special provisions, see para 5.2.

The table below summarises the preceding information.

Bubble Emission Trading (ET) Walloon Region 2005-2006-2007 (kt CO_2)				
	Emissions* 2005**	**Emissions*** 2006**	**Emissions*** 2007**	**Total Emissions 2005-2006-2007**
New-entrants provision	**500,0**	**500,0**	**500,0**	**1.500,0**
Initial allocation for currently-existing installations covered by the ET Directive	**25.822,9**	**25.822,9**	**25.822,9**	**77.468,9**
Total - Bubble ET WR without special reserves for the steel industry	**26.322,9**	**26.322,9**	**26.322,9**	**78.968,9**
- in percentage of ET emissions in 1990*	91%	91%	91%	91%
- in percentage of ET emissions in 2000**	99%	99%	99%	99%
- in percentage of CO2 walloon emissions****	59%	60%	60%	60%
Special reserve for the steel indust. (Arcelor)	1.642,0	1.642,0	1.642,0	4.926,0
Special reserve for the steel indust. (Carsid)	145,0	145,0	145,0	435,0
Total - Total ET Bubble Walloon Region	**28.109,9**	**28.109,9**	**28.109,9**	**84.329,9**
- in percentage of ET emissions in 1990*	97%	97%	97%	97%
- in percentage of ET emissions in 2000**	105%	105%	105%	105%
- in percentage of CO2 wallon emissions****	63%	64%	64%	64%

*Estimated on base of the factor 92,7% and the inventory 1990 and 2000

**Estimated on base of the inventory of the e-questionnaire (2000)
***Annual emissions on average during the period 2005-2007
****Linear interpolation 2000-2010 Walloon Air Plan, non updated, with measures

In conclusion, the Walloon « ET[2] bubble » (including reserve for new entrants but excluding special reserves for iron & steel) estimates that installations covered by the ET Directive will reduce their CO_2 emissions during the period 2005-2007 by 9% compared with 1990 emissions, i.e. by 1% compared with their 2000 emissions.

Moreover, the Walloon ET bubble (including reserve for new entrants but excluding special reservces for iron & steel) is estimated at around 60% of the total of the Walloon Region CO_2 emissions during the same period, i.e. a reduction of 2% compared with 1990, the date at which those same activities represented around 62% of the total of Walloon Region's CO_2 emissions.

1.5 Consistency with the energy policy and measures taken for installations not covered by the ET Directive.

Consistency of the Walloon Region energy policy with the definition of the Walloon Region ET bubble is guaranteed by reference made to the Walloon Air Plan for estimating the ET bubble.

Furthermore, the measures taken or to be taken by Walloon Region for installations that are not covered by the ET Directive are also set out in the Walloon Air Plan. We may summarise these very briefly as follows:

- *In the domestic and tertiary sectors*

  In these sectors, the strategy for fighting greenhouse-gas emissions might proceed as follows:

  - developing cleaner energy-production methods: choice of heating installations, training heating technicians, financial incentives, developing renewable energies and cogeneration for the tertiary sector, etc.;

[2] I.e. the total of quotas to be allocated to installations covered by the ET Directive

- developing rational use of energy, especially by informing and raising awareness, but also through financial incentives;
- integrating the energy impact when carrying out environmental and town-and-country planning: natural lighting, natural ventilation, building design, choice of materials and equipment, insulation, etc.;
- set an example through good energy management of Walloon Region buildings.

- *In the farming sector.*

  Changes in agricultural practices in the Walloon Region, working in the fight against atmospheric pollution.

  - It is necessary to ensure the maintenance of the link to the soil of the Walloon agriculture, particularly by implementing environmental permits and the nitrates order. It is also important to maximise the storage and dispersal of effluents produced by animal husbandry, also to keep the ban on importing and disposal in Walloon territory of animal-husbandry effluents originating in other regions or countries.
  - Moreover, it is essential to encourage forest carbon retention (these are « CO_2 repositories ») out of respect for biodiversity.

- It is equally important advisedly to develop, firstly, energy cultures and, secondly, recovery of materials and energy of ligneous biomass, while ensuring the maintenance of biodiversity and humus levels of forest soil.

- *In the waste sector*

  The main thrust of waste policy indisputably pursues the goal of fighting against greenhouse-gas emissions:

  - placing the accent on preventing waste-creation, to reduce the dumping of waste;
  - placing the accent on putting waste-sorting, collection and recovery procedures in place, in order to reduce the unrecovered rubbish-bin. For example, recovery of used equipment and products and destroying them following the rules of the trade makes it possible to prevent particularly powerful greenhouse-gas emissions such as fluoridated gases produced by refrigeration systems (fridges, air-conditioning, …);
  - When waste cannot be prevented, find a new use for it through procedures that make it possible to salvage materials (« material recovery ») or energy (« energy recovery »);
  - « ultimate » waste (non-recyclable, non-recoverable) is intended for placing in CET ;
  - lastly, the Walloon Region is also acting in favour of rehabilitating old waste deposits (methane harnessing - CH_4 – produced by the decomposition of organic material in deposits). As from 1 January 2010, the dumping of biodegradable waste will be permanently banned.

- *In the transport and travel sector, and in environmental planning*

  With regard to air quality and climate change, the pollution produced by transport, especially by road transport – cars and lorries - is probably the greatest challenge we have to face. For

example, CO_2 emissions produced by transport have increased by 20% in ten years, and are in danger of increasing still further by 15% by 2010, despite the application of European standards to new vehicles.

Sadly, this is also the sector in which the benefits of policies to be implemented regarding travel will be the longest time coming through.

Above all, we must make it possible to use, and then encourage the use of modes of travel that are less environmentally damaging than road transport:

- by investing massively in water-borne and rail transport (especially in the Walloon Brabant network over the RER (fast regional network) to Brussels and the modernisation of the new Walloon trunk route Tournai-Eupen via Mons, Charleroi, Namur and Liège);
- by improving public-transport facilities in rural areas;
- by encouraging intermodality, company, local-authority and school travel plans, etc.

We must also encourage the development and use of less environmentally-damaging vehicles and fuels, especially through research and differential taxation.

We also need to act on environmental planning in order to reduce the need to travel: encouraging job-mixing, planning the location of a range of activities, particularly with easy access for merchandise and staff in mind, etc.

To some extent we could also reduce the need to travel by encouraging the use of new technologies such as working from home.

Not forgetting awareness-raising and informing people about the pollution produced by transport, aimed at encouraging behavioral change.

- *Awareness-raising, behaviour*

We are all responsible for CO_2 emissions - the main greenhouse gas which is produced by burning coal, gas, petrol, diesel oil, wood. This is because we use it for heating, travelling by car, as the light left burning consumes electricity that had to be produced, since all the products we use or are manufactured each day by industry also consume energy. This includes the computer, the DVD player and the play-station. And when forests are cut down without being replaced, the CO_2 produced by the logs we burn remains in the atmosphere instead of being absorbed by trees.

It would be a big mistake to say « industries are the big polluters, so they just need to reduce their emissions, and then everything will be all right ». For over these past few years, it has not been industry that has increased its greenhouse-gas emissions. Thus, the Air Plan concerns everyone else as well: for example domestic heating, methods of transport, whether lights are left on needlessly, what we do about our waste, …

1.6 Portion allocated on a paid-for basis

The Walloon Region has decided that all allowances will be allocated free of charge during the period 2005-2007. Thus, no auctions are foreseen at this stage.

2. Determining the number of allowances per activity type

The method of allocating allowances adopted by the Walloon Region is based on the Sector Agreements (SAs) reached (or being finalised) between the Walloon Region and nearly all industrial sectors operating in the Walloon region. A brief presentation on these agreements is provided in section 3.1, and detailed information is available at http://energie.wallonie.be.

In fact, the data produced by these agreements, partially completed and reprocessed in order to comply with conventions that must be used when working out NAPs, make it possible to estimate the number of allowances to be allocated to each installation covered by the SAs.

Working out the WAP therefore requires supplementing the data produced by SAs with data that specifically cover the sectors and installations covered by the ET Directive but which are not covered directly by SAs. This supplementary information has been collected notably in the e-questionnaire mentioned earlier. The sectors affected by the collection of this particular information are:

- The electricity sector, whose emissions at installations covered by the Directive represent approximately 10% to 14% of all the Walloon Region CO_2 emissions, depending on whether one includes or not emissions of fatal iron&steel-industry gases consumed by some installations in the electricity sector;
- The tertiary sector, whose emissions by installations covered by the ET Directive represent around 0.1% of all Walloon Region's CO_2 emissions.

In these sectors, in view of their size and the number of installations affected, only the electricity sector requires an estimate of the number of allowances allocated to that activity. In the case of installations belonging to other sectors, the quota allocation has been based on direct adaptation of the method used in the context of granting allowances based on SAs, but applied to those installations.

2.1 Estimating the number of allowances allocated to the electricity sector

In order to ensure consistency, particularly with the energy policy, estimates of the number of allowances allocated to the electricity sector are based on projections produced by the Walloon Air Plan. These projections forecast emissions on the basis of a «Business As Usual » scenario (BAU) and the impact of various measures for reducing CO_2 emissions already implemented or planned by Walloon Region, specifically:

- The impact of Sector Agreements on electricity consumption by the companies concerned;
- Developing renewable energies and cogeneration in accordance with regional decisions and the system of green certificates put in place;
- Substituting fuels that produce high CO_2 with other fuels that produce less CO_2.

Moreover, in order to ensure consistency over the production of CO_2 emissions per sector, it is also necessary to take account of associated emissions at this stage:

- the « Solvay » cogeneration unit recently transferred to Electrabel;
- Arcelor's electricity-production installations at Liège (ID10 and ID12[3]) and CARSID at Charleroi (ID143) which were associated with the Industrial sector for the purposes of emission projections made for the Walloon Air Plan (unlike installations ID48 and ID55, belonging to Electrabel, which have been directly associated with the Energy sector when preparing the Walloon Air Plan).

The Walloon Air Plan is reckoning on growth in central electricity production of 1.64% a year (excluding car production) and growth in total electricity consumption (final demand including what is accounted for by car production) of 1.73% a year. By comparison, CREG is working on the basis of an increase in total electricity consumption of around 1.9% a year, whereas the Plan Office is providing for an increase in total electricity consumption of around 1.5% a year.

It is important to note that emission projections for the electricity sector, estimated below, include all emissions associated with iron- and steel-industry gases that may be used by these installations and do not reflect the method of allocating allowances to installations that consume iron- and steel-industry gases adopted by Walloon Region (see also section 3.4).

The following table summarises the data required for estimating the number of allowances to be allocated to the electricity sector.

Expected change in the emissions produced by the electricity sector –Wallonia Air Plan (kt CO2)								
		Impacts to be taken into account						
Year	BAU Emission	Sector Agreement	Renewable Energy	Cogeneration	Substitution of fuels	Cogen «Solvay»*	Steel gases (ID10, ID12, ID143)**	Total
2000	4,717.2						2,424.0	7,141.2
2001	4,804.3	-9.8	-54.5	-48.5	-22.0		2,533.6	7,203.2
2002	4,891.5	-19.6	-108.9	-97.0	-44.0	404.0	2,532.8	7,558.8
2003	4,978.7	-29.4	-163.4	-145.5	-66.0	404.0	2,913.5	7,891.9
2004	5,065.9	-39.2	-217.8	-194.0	-88.1	404.0	2,302.1	7,232.9
2005	5,153.1	-49.0	-272.3	-242.5	-110.1	404.0	2,682.7	**7,565.9**
2006	5,240.3	-58.8	-326.7	-291.0	-132.1	404.0	2,327.1	**7,162.8**
2007	5,327.4	-68.6	-381.2	-339.5	-154.1	404.0	2,327.1	**7,115.2**
2008	5,414.6	-78.4	-435.7	-388.0	-176.1	404.0	2,327.1	7,067.6
2009	5,501.8	-88.2	-490.1	-436.5	-198.1	404.0	2,327.1	7,020.0
2010*	**5,589.0**	**-98.0**	**-544.6**	**-485.0**	**-220.2**	**404.0**	**2,327.1**	**6,972.4**

*Wallonia Air Plan 2010 target for the electricity sector, excepting emissions** not taken into account. Other years interpolated linearly towards targets

**Emissions not associated with the electricity sector when preparing the Wallonia Air Plan

In sum, the number of allowances to be allocated to the electricity sector up to 2010 is 6.972 Mt CO_2 a year, the total number of allowances for the period 2005-2007[4] coming on average to **7.281 Mt CO_2 a year**, i.e. a total for the period 2005-2007 of **21.843 Mt CO_2**.

2.2 Estimating the number of allowances allocated to other sectors

The following table summarises the data required to allocate allowances per installation, as described in the next section.

[3] ID makes reference to the identification numbers given to the plants listed in Appendix I to this document.
[4] Also known as the electricity ET bubble.

Emission Trading Bubble Walloon Region (2005-2007) kt CO2)	Emissions** 2005	Emissions** 2006	Emissions** 2007	Total emissions 2005-2006-2007
New entrants provision	500,0	500,0	500,0	1.500,0
Initial allocation for existing installations covered by the ET directive				
- electrical sector (without reserves)***	7.281,3	7.281,3	7.281,3	21.843,9
- other sectors (without reserves)	18.541,6	18.541,6	18.541,6	55.625,0
Total ET Bubble for the Walloon Region (without special reserve for the steel industry)	**26.322,9**	**26.322,9**	**26.322,9**	**78.968,9**

**Annual Emissions on average during the period 2005-2007

***including end-of-pipe gases from electrical installations in the steel industry

3. Determining the number of allowances per installation

3.1 Use of Sector Agreements in the context of settling the WAP

As mentioned above, since 1990 the Walloon Region has undertaken to negotiate voluntary agreements to improve the energy efficiency of most industrial sectors based in Walloon Region, known as Sector Agreements (SAs). These agreements also set out the efforts made by those industrial sectors to reduce their CO_2 emissions.

SAs are normally implemented in four successive stages:

1. **Declaration of intention**: signing a declaration of intention to conclude a SA between a federation representing an industrial sector and the Walloon Region;

2. **Energy audits**: conducting energy audits at companies in order to identify potential energy savings and draw up plans for their implementation;

3. **Signing the SA**: working out the agreement, including the quantified targets accepted by the sector, and the formal signing of the SA;

4. **Implementing the SA**: implementing the plans, together with an annual declaration, certified by an auditor of the results achieved and an annual sector report.

The SAs cover virtually all installations covered by the ET Directive. Moreover, energy audits carried out when elaborating SAs have made it possible to identify and quantify the measures that can enable participating industries to reduce their energy consumption and their CO_2 emissions. Consequently, the Walloon Region has decided to use this facility to estimate the granting of emission allowances to installations located in the Walloon Region and that are covered by the ET Directive.

Information obtained when working out SAs must however be reprocessed in order to be usable directly in the context of preparing the WAP:

- SAs that call for energy-efficiency improvements, with regard to both direct and indirect emissions need to distinguish between these two components in order to identify direct emissions separately;
- Furthermore, when preparing an WAP that requires an emission estimate in absolute terms, it is necessary to convert improvements in energy efficiency into changes in direct emissions expressed in absolute terms;
- Lastly, it is necessary to deal with the rare cases of installations covered by the ET Directive but not taken into account in the context of SAs, namely the electricity and tertiary sectors.

3.2 Settling the WAP for installations subscribing to an SA.

SAs specify the sector energy-efficiency index (EEI) which measures changes in the specific consumption of the sector compared with a given reference year. Such indices can be converted into

a Greenhouse-Gas Emission Index (GGEI, in fact emission indices specifically of CO_2) using CO_2 conversion factors. The conversion factors used for this purpose are those published by the IPCC or those used in the context of establishing the SAs.

SA implementation plans make it possible to deduce GGEIs for direct emissions and specific to each installation, also known as $GGEI^{ET}$. Hence, at constant production-rates for a given installation, the $GGEI^{ET}$ directly measures the changes in that installation's CO_2 emissions compared with the reference year.

EEIs and GGEIs (defined using a baseline of 100) take account of both direct and indirect emissions for a sector and are consequently always lower than 100. This corresponds to an systematic reduction of the total specific emissions (direct and indirect) of GHGs of the installations covered by SAs. Consequently, depending on actions undertaken in order to reduce total CO_2 emissions of a installation (direct and indirect), the $GGEI^{ET}$ for that installation – which takes account only of direct emissions – may in some instances be greater than 100.

The e-questionnaire used by the Walloon Region to collect additional information required to prepare a WAP has made it possible to produce a $GGEI^{ET}$ for each installation taking part in an SA, calculated[5] on the basis of SAs, as well as on a production-rate[6] expected for the 2005-2007 period for those installations.

On the basis of these data, the allocation per installation is estimated based on the following formula:

$$A_y = e \cdot E_{ABC} \cdot \frac{GGEI_y^{ET}}{100} \cdot t_y \qquad (1)$$

where:

e [no unit]	is a weighting factor making it possible to ensure that the total of allowances allocated corresponds to the number of allowances of the Walloon ET bubble.
y [year]	is a year in the period 2005-2007;
A_y [tCO_2]	is the number of allowances allocated for year *y*;
E_{ABC} [tCO_2]	is the measure of CO_2 emissions during the SA reference year;
$GGEI_y^{ET}$ [no unit]	is the index of direct greenhouse-gas emissions for year *y* (defined on baseline of 100 for the reference year);
t_y [no unit]	is the production-rate for that installation expected for year *y* compared with the reference year.

[5] In a case where EEIs and GGEIs had not been set in the context of SAs for years 2005, 2006 and 2007, a linear extrapolation of the rates set has been made in order to estimate annual rates.

[6] Production-rates defined as the relationship between expected CO_2 emissions for that plant and maximum emissions of CO_2 for that plant, always excluding efficiency improvements and excluding production capacity increases compared with the reference year.

The following table sets out the average GGEI^{ET} by sector, as used when allocating allowances, as well as the reference year used when preparing SAs.

Overview of Sector Agreements for Wallonia Region				
	Reference year	AverageGGEI* 2005	Average GGEI* moyen 2006	Average GGEI* 2007
Food	2001	94.54	92.79	92.37
Bricks & ceramics	being negotiated	Audits in progress	Audits in progress	Audits in progress
Lime	2000	103.08	102.45	102.43
Chemicals	1999	93.10	92.08	91.06
Cement	2000	98,81	98,08	97.99
Non-ferrous smelting and metal manufacture	1999	90.06	89.12	88.44
Paper	2000	89.66	87.50	85.35
Iron & steel	2000	97.17	96.60	96.04
Glass	1999	99.23	98.95	98.52

*actual GGEI$_{ET}$ unweighted average

Formula (1) has been applied to all installations that subscribe to an SA. In the cases of sectors which have already finalised their SA, the Walloon Region has at its disposal the complete set of parameters required for formula (1). A special approach has had to be applied to two sectors subscribing to an SA :

- **Iron & steel**: this sector has recently ended its sector plan and in so doing has settled a sectorial GGEI of 94.34 up to 2010 compared with 2000, which is treated as the reference year, i.e. a GGEI of 96.6 in 2006. The iron & steel sector does not yet have a plan for the implementation of its SA that allows of estimating GGEI^{ET} for the installations in question. Consequently, it has been agreed to use the same factor for all installations in the sector (except installations ID 26, 27, 28, 29, 42, 43, 44, 142, 143 for which actual GGEI^{ET} per installation are known), taking into account as a first approximation that indirect emissions associated with this sector were negligible compared with direct emissions.
- **Bricks and ceramics, also the timber sector**: The SA between this sector and the Walloon Region is being negotiated. This sector has therefore been treated at this stage as a non-participating the an SA. Consequently, a GGEI^{ET} of 90 in 2006 based on reference year 2000 has been imposed by default to all installations in this sector on an identical basis to the treatment required of non-participating SA sectors. Nonetheless, it is expected that energy audits relating to installations subject to ET Directive will be finalised in the course of September. Against this background, individual allocations for these installations will be amended to take account of actual GGEIs in the final allocation plan, which will be ordered by the Walloon Government at the end of this year.

3.3 Settling the WAP for installations that are not subject to an SA – Tertiary sector

Two heating installations belonging to the tertiary sector are covered by the ET Directive. As the use of these installations has been adapted primarily according to temperatures, emissions may fluctuate from one year to the next, sometimes substantially. In order to limit this effect, the Walloon Region has decided to base the granting of allowances to these installations on their average emissions over the period 2000-2002 and on an emission-reduction factor of 0.95 compared with this period, future production levels having no impact upon this allocation.

The allocation per installation is therefore based on the following formula:

$$\boxed{A_y = e \cdot E_{2000-2002} \cdot 0{,}95} \qquad (2)$$

where:

e [no unit]	is a weighting factor making it possible to ensure that the total of allowances allocated corresponds to the number of allowances in the Walloon ET bubble.
y	is a year in the period 2005-2007;
A_y [tCO_2]	is the number of allowances allocated for year y ;
$E_{2000-2002}$ [tCO_2]	is the average CO_2 emissions for the installation in question considered for years 2000, 2001 and 2002.

3.4 Settling the WAP for installations that are not subject to an AB – Electricity

The total number of allowances to be allocated to the electricity sector has already been estimated above. In order to allocate these allowances to the various installations of this sector, the Walloon Region has decided to adopt the following principles:

- **For the main electricity production installations**, the allowances are allocated by reference to emission rates per MW installed at a reference CCGT (Combined-Cycle Gas Turbine) installation. Electricity generation installations are initially allocated a number of allowances in proportion to a reference emission rate (that of installation ID49) and the power installed (case of installations ID49, ID50, ID109, ID110 and ID111). However, in a case where a number of allowances below this reference has been provided for an installation, it is this number of allowances that is adopted when granting the allowances (case of installation ID111). This method of allocation does not concern peak installations, nor installations that burn iron & steel gases, nor cogeneration installations, which are dealt with separately;
- **For peak installations and small installations in general**, given the particular nature of their usage and the low level of their emissions, these installations are granted the allowances requested for the period 2005-2007 (cases of installations ID51, ID52, ID53, ID54, ID56, ID57, ID137) ;
- **For large cogeneration installations,** given their energy efficiency, these installation are allocated the number of allowances requested (case of installation ID138);
- **For installations burning iron & steel gases**, a special approach has been worked out in order to take account of process emissions (« fatal gases ») associated with those exhaust gases. This method is further described below.

The following table sets outs the sequence of stages in calculating the allocation.

Allocation of quotas for the CO2 emissions of the installations of the electric sector (kt CO2)										
Ref ID	Installation	Capacit	Type	Historical emission	Forecast (1)	Standard	Standard (2)	Minimum ((1) (2)	Factor balance	Quota after balance
		MW		ktCO2/a	ktCO2/a	ktCO2/an/M	ktCO2/a	ktCO2/a		ktCO2/a
10	Arcelor_Centrale		Steel ind	696,4	547,5		NA	547,5	1,00	547,5
12	Arcelor_Centrale		Steel ind	1.632,7	1.246,		NA	1.246,	1,00	1.246,
48	Electrabel_Amercoeur-	256	Steel ind	719,4	623,1	2,434	NA	623,1	1,00	623,1
49	Electrabel_Baudour (Saint	350	CGT	666,6	792,0	2,263	792,0	792,0	0,86	680,0
50	Electrabel_Flemalle	416	Conventional	573,4	1.274,	3,064	941,3	941,3	0,86	808,3
51	Electrabel_Bresso	2,7	Cogen	9,14	9,7	3,585	NA	9,7	1,00	9,7
52	Electrabel_Turbo Jet back	17	Turbojet	0,42	1,7	0,100	NA	1,7	1,00	1,7
53	Electrabel_Turbo Jet back	17	Turbojet	0,42	1,7	0,101	NA	1,7	1,00	1,7
54	Electrabel_Turbo Jet back up_Deux	18	Turbojet	0,22	1,7	0,093	NA	1,7	1,00	1,7
55	Electrabel_Monce	92	Steel ind	1.187,4	220,0	2,391	220,0	220,0	1,00	220,0
57	Electrabel_Vervie	pm	heat product.	83,19	0,0	NA	NA	0,0	1,00	0,0
109	SPE_Seraing	460	CGT	642,5	1.122,	2,441	1.040,	1.040,	0,86	893,8
110	SPE_Angleur_TGV	158	CGT	69,60	203,2	1,286	357,5	203,2	0,86	174,5
111	SPE	70	Gaz turb.	3,41	5,7	0,081	158,4	5,7	1,00	5,7
137	SEDILEC_UCL	pm	Cogen	17,70	19,5	NA	NA	19,5	1,00	19,5
138	Solvay/Electrabel_Cogénération_Jem	94	Cogen	342,5	404,0	4,298	NA	404,0	1,00	404,0
143	Carsid_Autoproduction_Charleroi		Steel ind	167,6	1.643,		NA	1.643,	1,00	1.643,
	Totl	**1.950,7**		**6.812,8**	**8.117,4**	**NA**	**NA**	**7.702,2**	**NA**	**7.281,**

In the previous table, five electricity-production installations burn partially iron & steel gases (coking gas or blast-furnace gas) (ID10, ID12, ID48, ID55 and ID143) whose large CO_2 content compared with their calorific power, together with the fatal character of these gases, requires developing a special approach.

The following table summarises the position:

Emissions of installations using fatal gases from the steel ind. (ktCO2/an)				
Ref ID	Sector	Installation	Emissions* 2000-2002	Alloc. emissions* 2005-2007
10	Electricité	Arcelor_Centrale Energie_Ougrée	547,5	547,5
12	Electricité	Arcelor_Centrale Energie_Seraing	1.632,8	1.246,4
48	Electricité	Electrabel_Amercoeur-Roux	719,4	623,1
55	Electricité	Electrabel_Monceau	1.187,5	220,0
143	Sidérurgie	Carsid_Autoproduction_Charleroi	167,6	1.643,8
Total			**4.254,8**	**4.280,8**

*annual average

In view of the nature of these iron & steel gases, it is not possible, except by stopping the installations concerned altogether, to undertake measures making it possible to reduce CO_2 emissions associated with these gases. This property makes them « fatal gases », since they are intimately associated with the manufacturing processes in question. Moreover, the usage of calorific power of these gases is the only acceptable and optimal solution from an environmental point of view.

The Walloon Region has therefore decided to require the recovery of those gases and to impose no GGEIs reductions for these gases.

However, out of these five installations, two (ID48 and ID55) do not belong to the iron & steel operator that produced the gases. It is therefore necessary in this situation to specify an allowance allocation methods among the steel manufacturer (ID143) and the electricity generation installation operator (ID48 and ID55).

In case the allowances associated to the 2000-2002 emissions, i.e.:

- For burning the fatal gases (average annual production of about 1.470 Mt of smelting)

- Other combustibles consumed by the electricity generating installation operator,

were allocated for 2005-2007, either entirely to one of these operators, or pro-rata by 2000-2002 emissions to both these two operators, this « bubble » of allowances would amount to 1.981 Mt CO_2, regardless of changes in smelting output.

However, for 2005-2007, the Walloon Region has decided to grant allowances to installations ID 48, ID 55 and ID 143, on the following basis:

- allocate to the steel-manufacturing operator (ID 143) a number of allowances equal to the CO_2 inherently produced by burning fatal steel-manufacturing gases produced by their installations as part of annual smelting production of 1.935 Mt (compared with annual production in the order of 1.470 Mt of smelting on average over 2000-2002);

- for installations ID 48 and ID 55 in the electricity sector, it has been decided to allocate the allowances corresponding to the CO_2 produced historically (2000-2002) by burning the other fuels;

- the iron & steel manufacturer has an obligation to recover, or make recover, its fatal gases (coking gas and blast-furnace gas). If the iron & steel manufacturer has its fatal gases recovered by an external firm, it has an obligation to transfer to that firm, free of charge, the allowances corresponding to the CO_2 inherently produced by burning iron & steel gases that must be recovered.

3.5 Settling the WAP for installations that are not subject to an SA – other sectors

In the case of installations belonging to a sector not subject to an SA, the Walloon Region has decided to apply formula (1) and using a $GGEI_y^{ET}$ = 90 in 2006, taking year 2000 as reference, future production levels being duly taken into account.

In this case, formula (1) thus becomes:

$$A_y = e \cdot E_{ABC} \cdot 0{,}9 \cdot t_y \qquad (3)$$

The Walloon Region has decided to adopt a figure of 90 for this $GGEI^{ET}$ in order to put sectors not subscribing to an SA on an equal footing compared with those sectors that have made an SA.

Just as for installations subscribing to an SA, production rates t_y of those installations not covered by an SA have been collected by the Walloon Region by means of the e-questionnaire.

3.6 Early action

In fact, upon investigation, it appeared scarcely justifiable to grant additional allowances on the basis of actions passed that met either regulatory demands or decisions relating to the proper management

of installations, or unconcerned behaviour where it was simply found convenient to comply with authenticity.

On the other hand, it appeared particularly difficult to set the conditions (period covered, target aimed at, impact/materiality of action, aspect that does not form a constraint on the action) to which the actions passed had to comply in order to qualify as early actions without those conditions being so restrictive as to prevent de facto any historic action as capable of qualifying as being an early action.

Consequently, the Walloon Region has decided not to consider early actions when settling the WAP.

3.7 Unilateral inclusion (article 24 § 1 of the ET Directive)

Article 24 §1 of the ET Directive allows member states to apply *« […] the exchange system for emission allowances to installations that pursue operations listed in Appendix I which do not reach the capacity limits provided for in that appendix. […] ».*

In view of the complexity of the system to be put in place under the ET Directive, the Walloon Region has decided not to resort to this option and, as a result of this, to restrict installations subject to the ET Directive to those installations that meet the criteria set out in Appendix I to the ET Directive.

3.8 Temporary unilateral exemption (article 27 § 1 of the ET Directive)

Article 27 §1 of the ET Directive allows a temporary exemption for certain installations: *« Member States may apply to the Commission for installations to be temporarily excluded until 31 December 2007 at the latest from the Community scheme. Any such application shall list each such installation and shall be published. »*

In order to simplify implementation of the ET Directive as much as possible in the Walloon Region, and to prevent as far as possible any temporary application of it, the Walloon Region has decided not to adopt this facility for the temporary exemption for particular installations – but allowing for exceptions.

When settling the WAP, four installations have however been treated as admissible for a temporary exemption. Consequently the Walloon Region has decided to ask the European Commission for a temporary exemption, valid until 31 December 2007, for those four installations.

The installations, the grounds for their temporary exemption and the measures tied to the temporary exemption are set out below:

- Installation belonging to Fluxys with an installed thermal power greater than 20 MW: natural-gas compression installation at Berneau, Route de Maastricht (Male Voye), 4607 Berneau, Dalhem (installation ID129):
    - **Justification for the request for exemption**: this installation is a natural-gas compression plant. Its operation over the past 15 years has shown wide variations in plant utilisation rates. Producing on average 23.8 kT of CO_2 over the same period, annual emissions have varied over that period from 0.4 to 51.3 kT of CO_2. These wide variations in emissions, associated with substantial variation in terms of compression and gas

transport requirements, do not – in practice – lend themselves to forecasting and rule out any fair estimate of allowances for this installation. On the other hand, the usage of this plant is directly dictated by the usage of the gas transport network, and thus cannot be changed unilaterally by Fluxys. Moreover, average annual emissions by this plant are negligible in comparison with the Walloon ET bubble. Lastly, since this installation is integrated into an economic activity of a monopolistic nature, exempting this installation from application of the ET Directive does not produce any risk of discrimination;

- **Equivalent limitation of emissions:** during the period 1993-1997, Fluxys went ahead with major investments that have enabled it significantly to reduce the CO_2 emissions associated with its gas-transport operations, to such an extent that, in 2003, CO_2 emissions came to around 35% of Fluxys' CO_2 1993 emissions. These significant improvements demonstrate the progress achieved by Fluxys and are more important than the reductions normally achieved by most installations covered by the ET Directive. Moreover, the regulatory framework to which Fluxys is subject and the participation of various regulatory authorities for preparing its investment plan ensure that future investment will be taken into account, clearing the way if need be for bringing about further reductions in CO_2 emissions;

- **Monitoring, declaration and verification:** the Walloon Region has made provision for imposing the same requirements regarding monitoring, declaration and verification for this installation as those for installations subject to the ET Directive;

- **Sanctions at least equivalent in the event of failure to comply with national requirements:** the regulatory framework to which Fluxys is subject ensures that planned investment will be carried out. This is settled as part of an investment programme agreed in close co-operation with the Belgian regulator for the sector, the CREG (Commission de Régulation de l'Electricité et du Gaz) which aims to ensure the maintenance and development of the transport and storage infrastructure. This regulatory framework does not make provision for sanctions that are directly comparable with the sanctions provided for installations subject to the ET Directive. However, in view of the relatively low scale of investment relating to reducing CO_2 emissions compared with the main investment undertaken by Fluxys, it is reasonable to suppose that potential investments in CO_2 emission reductions will be achieved as planned.

- Three military installations with a thermal power greater than 20 MW (ID173) :

  - **Justification for the request for exemption**: in view of the special status of the military zones regulated by the decrees of 8-10 July 1791 and 24 December 1811, these installations should be placed in an opt-out. Moreover, (1) inclusion of such military installations would require working out special rules in order to avoid compromising public safety and confidentiality rules applicable to certain data and (2) as shown in the following table, CO_2 emissions associated with these military installations represent less than 0.06% of the volume of emissions from the Walloon installations covered by the ET Directive. Lastly, exempting these three installations from the scope of application of the ET Directive does not induce any risk of discrimination ;

  - **Equivalent limitation of emissions**: national defence is committed to reducing greenhouse-gas emissions (or CO_2) by 1% a year over the years 2005-2007.

These reductions, compared with 1990 emissions, make it possible achieve a total reduction in emissions of these three military installations by 32.1% compared with their 1990 emissions.

Reductions in emissions by the 3 military sites ($ktCO_2$)	1990	2000-2001	2005	2006	2007
Emissions by the 3 military sites	16.14	11.30	11.18	11.07	10.96
Reduction compared with previous year (table)		70.0%	99.0%	99.0%	99.0%
Reduction compared with 1990		70.0%	69.3%	68.6%	67.9%
Emissions of CO_2 – existing plants covered by the ET Directive	**29,077.5**	**26,693.0**	**26,322.9**	**26,322.9**	**26.322.9**
Portion relating to emissions by military sites	0.06%	0.04%	0.04%	0.04%	0.04%

3.9 Initial allocation of allowances, installation by installation

The Walloon installations covered by the ET Directive, as well as initial allocations proposed for each installation for the period 2005-2007 and the reference of the formulæ used to estimate initial allocations, are detailed in Appendix I to this document.

A shown in Appendix I, the total number of allowances initially allocated, excepting provisions for new entrants and excluding special provisions for iron & steel, is **25.823 Mt CO_2 a year**.

Summary of projected emissions and quotas allocated (kt CO_2)	1990*	2000*	2005**	2006**	2007**
Emissions of CO_2 in Wallonia Region	46,917.0	45,883.0	44,983.0	43,263.0	43,643.0
% of 1990 emissions	100%	97.80%	94.39%	93.70%	93.02%
Emissions of CO_2 by ET sector in Wallonia Region ***	29,077.5	26,693.1	26,203.7	25,565.6	25,699.6
% of 1990 emissions	100%	91.80%	90.80%	88.61%	89.07%
initial ET bubble allocation (excl new-entrants provision and special iron & steel provisions	NA	NA	**25,823**	**25,823**	**25,823**
Normal new-entrants provision	NA	NA	500	500	500
ET buble excl special iron & steel provisions	NA	NA	**26,323**	**26,323**	**26,323**
Special iron & steel provision (Arcelor)	NA	NA	1,642	1,642	1,642
Speciale iron & steel provision (Carsid)	NA	NA	145	145	145
ET bubble with provisions	NA	NA	**28,110**	**28,110**	**28,110**
Initial allocation for sectors					
Smelting, non-ferrous and metal manufacturing		141.9	133.0	133.0	133.0
Food		609.4	676.5	676.5	676.5
Iron & steel		7,154.6	5,738.1	5,738.1	5,738.1
Bricks, ceramics and refractories		86.2	102.4	102.4	102.4
Chalk		3,253.1	3,676.4	3,676.4	3,676.4
Chemicals		1,280.9	1,090.9	1,090.9	1,090.9
Cement		5,605.6	5,515.6	5,515.6	5,515.6
Paper		375.8	351.7	351.7	351.7
Glass		957.6	1,171.6	1,171.6	1,171.6
Tertiary		18.3	20.8	20.8	20.8
Electricity		7,141.2	7,281.3	7,281.3	7,281.3
Gas		0.5	0.0	0.0	0.0
Military		11.3	0.0	.0.0	0.0
Other		56.7	64.7	64.7	64.7
total initial allocation to the trading sector		26,693.1	25,823.0	25,823.0	25,823.0

* survey

** first line, projections of CO2 emissions, linear extrapolation Wallonia Air Plan, not updated with measures

*** e-questionnaire emissions after revision by GDNRE, excluding information on new-entrant provisions and special iron & steel provisions

4. Technical aspects

4.1 Potential, including technological potential

This section describes how the third criteria of Appendix III has been taken into account when determining the total number of allowances or the allocation of allowances among activities covered by the ET Directive. By way of reminder, this criteria specifies that « *Quantities of allowances to be allocated shall be consistent with the potential, including the technological potential, of activities covered by this scheme to reduce emissions. Member States may base their distribution of allowances on average emissions of greenhouse gases by product in each activity and achievable progress in each activity.* »

As mentioned earlier, the method of allocation used actually distinguishes four distinct types of approach:

- Estimating the « Walloon ET bubble», i.e. the total of allowances to be allocated to installations covered by the ET Directive for the period 2005-2007 (including the normal reserve but excluding special iron & steel reserves);
- Estimating the « Electricity ET bubble », i.e. the total of allowances to be allocated to electricity sector installations;
- Allocation of allowances to electricity sector installations;
- Allocation of allowances to installations that do not belong to the electricity sector.

Since criteria 3 applies to allocations overall or at the level of particular activities, only the first two approaches need to be justified against this criteria. The consistency of allocations to installations is justified below by reference to criterion 8 of the ET Directive.

Consistency of the Walloon bubble ET estimate with the potential for reductions

As mentioned in sections 1.3 and 1.4, the Walloon Air Plan, as well as updates of the GHG projections made in the context of settling the WAP, are based on the EPM model.

This model estimates future emissions on the basis of a *least-cost* approach and therefore takes account of the technological potential for reductions of the Walloon installations covered by the ET Directive.

These estimates have served as the basis for settling the Walloon bubble ET (excluding iron & steel).

Consistency of the Electricity bubble ET estimate with the potential for reductions

As mentioned in section 2.1, the Electricity bubble ET is settled on the basis of Walloon Air Plan projections and corrections required to present CO_2 emission by sector. The Walloon Air Plan uses a *least-cost* approach and thus incorporates the potential for reduction at installations.

With regard to the electricity sector, the Walloon Air Plan projections also take account of:

- the development of renewable energies and cogeneration as a function of regional decisions and the system of green certificates implemented in the Walloon Region;
- the impact of SAs on the electricity consumption by the companies affected;
- the possibility to substitute progressively fuels that are high producers of CO_2 with other fuels producing less CO_2.

4.2 Early actions

Walloon Region has decided not to consider early actions for the purposes of settling the WAP.

4.3 Clean technology

This section documents criterion 8 to Appendix III of the ET Directive which specifies that « *The plan shall contain information on the manner in which clean technology, including energy efficient technologies, are taken into account.* »

Whereas criteria 3 (see sub-section 4.1 above) applies overall or at the level of a particular activity, this criteria applies at the level of the individual installation.

Consistency of the allocation to electricity sector installations with their potential for reduction

Within this sector, the allocation of allowances for installations has given priority to two broad approaches:

- a distinction among installations depending on their energy-production role, the matching of electricity energy production with demand, and dealing specifically with the issue of iron & steel gases;
- an aspiration to use the environmentally top-performing installations, using Combined Cycle Gas Turbines (CCGTs) as a benchmark, in order to ensure an allocation that is consistent with the potential for reduction at the main installations.

This approach takes account of the potential for savings at installations in the sense that:

- Main generation installations: these installations have been allocated a number of allowances based on the emissions of a CCGT installation of equivalent power. The reference to CCGT installations thus ensures an allocation of allowances that is consistent with the potential for reduction by large electricity-production installations;
- peak installations: these installations have been allocated a number of allowances based on their emission projections. Those emissions represent a very small portion of total electricity sector emissions. However, in the nature of things, these installations have particularly poor utilisation rates. Given the technical properties required for these installations, the potential for reducing emissions at these installations is particularly low. However, the use of these installations makes it possible to maximise the utilisation of electricity production facilities and is thus essential in order to exploit the favourable environmental characteristics of those latter installations. The

granting of the number of allowances requested can therefore be considered as integrating the potential for savings at the main generation installations;

- Cogeneration installations: these installations have been allocated a number of allowances based on their emission projections. This grant is justified by the fact that these installations are acknowledged as being top performers from the environmental point of view. The granting of a number of allowances corresponding to emission forecasts thus recognises the absence of any further potential, which is linked to the results already achieved by those installations;

- Installations burning iron & steel gases: these installations have also been allocated a number of allowances based on their emission projections. This method of allocation is justified by the fact that (i) the use of latent energy potential of these gases is the best solution from the environmental point of view and that (ii) iron & steel gas emissions are fatal, in the sense that they are intimately associated with the manufacturing process itself and as such cannot therefore be prevented.

Consistency of the allocation to installations that do not belong to the electricity sector with their potential for reduction – emission rates

As mentioned in section 3, the granting of allowances has been based primarily on data produced in SAs. The prime purpose of these SAs was to determine the potential for improvements in the energy efficiency of their installations in association with those sectors.

The elaboration of SAs, by making use of installation energy audits and using their results to settle an action plan, has made it possible to identify the technological potential of those installations. This is converted into a GHG emission factor, also known as the $GGEI^{ET}$. Since the $GGEI^{ET}$ has been used for the purposes of granting allowances to installations covered by an SA, taking into account the potential for reductions when granting allowances to installations is thereby safeguarded.

A full description of SAs and all relevant information regarding the SAs is available at website: http://energie.wallonie.be.

Consistency of the allocation to installations that do not belong to the electricity sector with their potential for reduction – forecasts and validating production levels

As mentioned in section 3, the method of allocation used requires knowing, apart from $GGEI^{ET}$, the future production level of installations. Those production levels are defined as the relationship between actual CO_2 emissions and maximum CO_2 emissions, excluding efficiency improvements and increases in production capacity for the 3 years surveyed by the e-questionnaire.

These production forecasts have been collected using the e-questionnaire for all the installations covered by the ET Directive, and then validated by the GDNRE in the following way:

1. Sending historic and future production rates to the GDNRE, by the installation responsible managers, using the e-questionnaire;

2. Comparative analysis of the data by GDNRE, based in particular on studies carried out when preparing the Walloon Air Plan, some of which give details of expected growth in terms of GHG emissions for the large Walloon industrial sectors;

3. If need be, amending growth figures thought to be faulty, together with operators, following the previous analysis in order to verify the accuracy of the information supplied. In rare cases, on finding unsupported growth figures, amendments have been required by the GDNRE based on their own estimates;

4. Lastly, the reconciliation of forecasts of the total number of allowances to be granted and allowances already granted to installations makes it possible to ensure the consistency of the data used, particularly production level forecasts.

5. Legislation and community policy

5.1 Competition policy (treaty articles 81, 82, 87 and 88)

Under Article 28 of the ET Directive, « *Member States may allow operators of installations carrying out one of the activities listed in Annex I to form a pool of installations from the same activity […]* ».

In order to simplify the implementation of the ET Directive, the Walloon Region has decided as a matter of principle not to promote this type of installation-pooling.

Moreover, as the Walloon Region did not ultimately receive any requests for installation-pooling, the Walloon Region has formally decided not to avail itself of this facility.

5.2 Internal market policy

The Walloon Region has decided to grant allowances free of charge to new entrants over the period 2005-2007, subject to the conditions set out below. In order to have allowances available for allocation to new entrants, the Walloon Region has decided to set up a reserve of allowances for new entrants, rather than making provision for purchasing allowances on the exchange market.

Furthermore, as mentioned in section 2, two special reserves for iron & steel installations have also been set up. The modalities on the allocation of allowances from these reserves is also presented below.

Information on managing the reserve of allowances for new entrants

The Walloon Region has set up a reserve for new entrants and envisages using the allowances from the reserve for new entrants on the following bases:

- **Size of the reserve**: operators currently affected by ET Directive were questioned about their capacity-expansion plans in the e-questionnaire (including any new installations) until 2007 in order by so doing to get an indication of the size of the reserve for new entrants. Projects for which an environmental permit had already been obtained by the installations concerned have not been taken into account for the purposes of this exercise; however, those projects have been taken into account when settling individual quota grants to the installations concerned.

  On the strength of the information collected, emissions associated with such capacity increases come to 1,183.70 $ktCO_2$ in additional emissions for the three years in the period 2005-2007.

  Given that the volume of extra emissions covers only increases in capacity associated with operators that currently have installations covered by the ET Directive, the Walloon Region has decided to increase the reserve by about 2.0% of the ET bubble (excluding the special reserve for iron & steel), i.e. to **1.500 $MtCO_2$** for the whole of the period 2005-2007 (**0.500 $MtCO_2$ a year on average**).

- **Installations affected by the reserve**: the project for a *« Decree instituting a greenhouse-gas emission quota exchange system»* defines new entrants as follows (Article 2, 4°) :

« 4th new entrant : is a new entrant into the greenhouse-gas emission allowances exchange system for a given reference period :

a) any establishment that commences operations in one or more activities or installations producing specified greenhouse-gas emissions, not provided for in the Walloon Regional allocation plan notified to the European Commission in accordance with article 3, §7 which has obtained an environmental permit regarding specified greenhouse-gas emissions subsequent to the aforementioned notification to the Commission.

b) any establishment that commences operations in one or more activities or installations producing specified greenhouse-gas emissions, provided for in the allocation plan notified to the European Commission in accordance with article 3, §7, which has either obtained an environmental permit relating to those specified greenhouse-gas emissions in view of an intervening change in its nature or method of functioning, or an extension to the installation or installation that significantly increases its specified greenhouse-gas emissions by comparison with those that served as the basis for determining the initial allocation, subsequent to the aforementioned notification to the Commission, for which either a conversion or extension, recorded by the operator on the register provided under article 10, §2 of the decree of 11 March 1999 relating to environmental permits, results in a significant increase in those specified greenhouse-gas emissions by comparison with those that served as the basis for determining the initial allocation, subsequent to the aforementioned notification to the Commission. »

The « significant » nature of the increase in greenhouse-gas emissions can be among others appreciated in connection with the emissions by the installation in question. For the present allocation plan, an increase in CO_2 emissions is considered « significant » if it is at least 10% compared with the emissions that originally served as the basis for determining the initial allocation, or if it is associated with an increase in emissions due to a new cogeneration installation.

- **Granting allowances from the reserve**: the Walloon Region will allocate allowances from the reserve on the following bases:

  - Granting free of charge, based on a first come, first served rule up to total amount of the reserve for the period 2005-2007;

  - Granting a number of allowances based on benchmarks or specific emissions associated with best available technologies (BAT) for the installations in question. The Walloon Government will settle the criteria to be used for this reserve of allowances more precisely, dealing in particular with new cogenerations;

  - Moreover, if an iron & steel operator should decide to generate heat or electricity, it may call on the reserve of allowances for new entrants for the portion of additional fuel that is technically essential for burning fatal gases, subject to the following conditions:

    - the number of allowances that may be granted will be based on the priority use of the fatal gases that it produces;
    - the number of allowances that may be granted for extra fuels will be based on extra fuels that are technically essential for burning fatal gases on the basis of benchmarks;
    - general conditions of access to the reserve of allowances for new entrants;

  - Granting a number of allowances based on an expected production level. The issue of allowances to the operator of the installations in question will be settled annually, taking particular account of having achieved previous production plans;

  - Checking for compliance with environmental legislation for the installations in question;

  - Exclusion from the scope of application:

- A change of fuel at a installation provided for in the WAP, except if such change of fuel is required under environmental legislation or by the local authority, or if it results from a supply shortage;
- Emissions already taken into account under an initial allocation covered by the WAP.

- **Allowances left over at the end of period**: in the event that, at the end of the 2005-2007 period, not all allowances set aside by the Walloon Region for new entrants have been distributed to new entrants, surplus allowances may be put up for sale by the Walloon Region on the community emission quota exchange market, and the proceeds of that sell-off will be transferred to the Walloon Kyoto Fund, set up under article 13 of the draft « Decree instituting a greenhouse-gas emission quota exchange system ».
- **Insufficient allowances**: since allowances are granted on a first come, first served basis, in the event that there are insufficient allowances left in the reserve, « further » new entrants will not be able to make use of the reserve for new entrants.

Information regarding managing special reserves of allowances for iron & steel

Special Arcelor reserve

The agreement of 19 December 2003 between Arcelor's general management, the Walloon Government and the public partners provides the first step towards ending operations at the two blast furnaces run by Arcelor at Liège. This agreement involves « mothballing » blast furnace 6 (HF6) at Seraing from July 2005. This scheduled closure has been incorporated into the projection scenarios produced to estimate the size of the Walloon ET bubble.

The agreement mentioned above thus makes it possible to maintain this blast furnace in operation.

In order to ensure a free allocation of allowances similar to that enjoyed by other Walloon installations covered by the ET Directive in the event of continuation of operations, but without however allocating those allowances to this installation as of now, the Walloon Region has decided to set up a « special iron & steel reserve », linked to the operations at HF6. The Walloon Region has made an estimate and plan to allocate allowances from this reserve on the following bases:

- **Size of the reserve**: the size of this reserve has been fixed at 4.926 $MtCO_2$ for each of the three years in the period 2005-2007. This amount corresponds to the number of extra allowances required in the event that operations are continued at HF6 up till the end of 2007.
- **Installations affected by the reserve**: allowances under this reserve can be allocated only to the operator of the following installations: ID7, ID8, ID10, ID11, ID12 and ID13.
- **Granting allowances from the reserve**: the Walloon Region will allocate allowances from the reserve on the following bases:
  - Granting free of charge up to the total amount of the reserve reserve;
  - Granting a number of allowances based on expected production levels. The issue of allowances to the operator of the installations affected will be settled annually, taking particular account of having achieved previous production plans;

- Excluded from the scope of application: allowances from this reserve cannot be allocated in the event of HF6 being returned to or kept in operation in order to compensate for the possible non-availability of Arcelor's HFB at Ougrée, whose allowances are fully subsumed within the WAP.

- **Allowances left over at the end of the period**: in view of the large size of this reserve, also the uncertainty regarding its use, the Walloon Region has decided that a maximum of 25% of surplus allowances in this reserve may be put up for sale, and the proceeds of such sales will be transferred to the Walloon Kyoto Fund set up under article 13 of the draft « Decree instituting a greenhouse-gas quota exchange system ».

- **Insufficient allowances**: since allowances are granted on a first come, first served basis, in the event that there are insufficient allowances in the reserve, the operator(s) of installations ID8, ID10, ID11, ID12 and ID13 will not be able to benefit from the special iron & steel reserve for such « surplus » emissions.

Special Carsid reserve

The Carsid electric steelworks (ID 28) is currently mothballed due to the high price of grapeshot on the international market. However, this recently-modernised installation is in a state of readiness to restart if and when prices on the international market return to normal.

- **Size of the reserve**: the size of this reserve has been fixed at 0.435 $MtCO_2$ for all three years in the period 2005-2007. This amount corresponds to the number of extra allowances required to use this installation at its nominal capacity.

- **Installations affected by the reserve**: the allowances in this reserve can be allocated only to the operator of the following installation: ID28.

- **Granting allowances from this reserve, surplus allowances at the end of the period, insufficient allowances**: the methods of managing this special Carsid reserve will be similar to the methods of managing the special Arcelor reserve.

5.3 Other legislative and political instruments

The various legislative and political instruments that the Walloon Region proposes to implement as part of its policy of controlling atmospheric emissions are set out in the Walloon Air Plan (see section 1.3).

6. Public consultation

The WAP project adopted by the Walloon Government on 29 April 2004 was published from **3 May 2004** on the GDRNE website (http://environnement.wallonie.be)

The WAP project remained available on this website for thirty days from the date of its publication on the site. In addition, during this period, the GDNRE has:

- arranged for a hard-copy version of the WAP project to be sent to anyone who has made a request in writing;
- collected comments made in writing.

Secondly, the Walloon Government has invited the WEBSD (Walloon Environmental Board for Sustainable Development – www.cwedd.be) and the ESBWR (Economic and Social Board of the Walloon Region – www.cesrw.be) to put forward their views on the draft WAP within thirty days, counted from the day the request for opinions is received.

As part of the public consultation, the GDNRE has received:

- 17 comments made by, respectively: 5 professional associations (UWE, Fedichem Wallonie, Cobelpa, FPE, Subel) ; 8 installation operators covered by the ET Directive (SPE, Electrabel, UCL, Carsid/Duferco, Ulg, Marichal Ketin, Magolux, Depoortere); 2 associations (Cogensud, Interenvironnement Wallonie) and 2 private individuals.
- the views of WEBSD and ESBWR.

The comments issued regarding the allocation plan project relate primarily to the following points:

- the sharing of the burden between the trading sector and other sectors;
- the absence of any allocation for two electricity-generating installations;
- discrimination in the treatment of some electricity generating installations;
- a lack of clarity, readability and structure of the document;
- inadequate development of the criteria for use of the reserve for new entrants, in particular for installing new cogeneration units;
- failure to take account of new federal measures to reduce greenhouse gases in the projections;
- the transparency of projections used and their consistency vis-à-vis other plans;
- consistency with the Walloon Air Plan;
- the need to set up a mechanism to deal with any instance of overallocation;

- a request to withdraw an installation from the non-ferrous sector due to the fact that it does not reach the threshold of 20 MW and the withdrawal of 3 installations due to the fact that the type of activity for which they are included in the ET Directive does not produce any greenhouse-gas emissions;
- a request by the tertiary sector to take account of the impact of daily temperatures in their allocations;
- delay in completing the work compared with the time-scales set under the ET Directive;
- various incidental remarks about the proposed allocations, errors, etc.

After considering these comments, various amendments were made to the allocation plan, of which the most notable are:

- reorganising the document;
- producing information about the management of allowances reserves, and taking account of the special characteristics of new cogeneration units in this context;
- including an initial allocation for the two installations in the electricity sector that had received no allowances, following a more meticulous study of emissions related to iron & steel gases, and remarks made by the various parties;
- remedying the discrimination introduced between some installations, mainly in the electricity sector;
- withdrawal of 4 installations from the non-ferrous sector and metal manufacture and adjusting the limits of the ET sector;
- using actual GGEIs for certain installations in the steel-manufacturing sector, and reassessing the expected changes in production for certain installations in the steel-manufacturing sector;
- correcting various incidental errors; etc.

The comment regarding the correction of initial allocations depending on daily temperatures made by the tertiary sector has not been taken up.

7. Criteria falling outside Appendix III to the Directive

Section inserted as a reminder in order to comply with the framework proposed by the European Commission.

Appendix I – List of existing installations covered by the ET Directive and allowances provisionally allocated to those installations (initial allocation), apart from the reserve for new entrants and from the special reserves for the iron & steel industry

Initial allocations per installation shown in the table below must be treated as being provisional and may be subject to slight adjustment when preparing the final version of the WAP, expected in October 2004, after receipt of the views of the European Commission.

Id	Sector	Installation	Allocations provisionally proposed **Allowances / year**	Allocations provisionally proposed **Allowances/ period**
1	Paper	Ahlstrom_Malmedy	26,651	79,953
2	Chemicals	AKZO Nobel_Ghlin	19,710	59,131
3	Agoria	Aleurope_Ghlin	14,189	42,566
5	Iron & steel	Arcelor - Cockerill Sambre_Cokerie_Seraing	122,174	366,522
7	Iron & steel	Arcelor - Cockerill Sambre_Aciérie LD+CC_Chertal	(1)	997,460
8	Iron & steel	Arcelor - Cockerill Sambre_Train à bandes_Chertal	(1)	469,428
9	Iron & steel	Arcelor - Cockerill Sambre_HFB_Ougrée	672,954	2,018,862
10	Electricity	Arcelor - Cockerill Sambre_Centrale Energie_Ougrée	(1)	1,642,470
11	Iron & steel	Arcelor - Cockerill Sambre_HF6_Seraing	(1)	311,196
12	Electricity	Arcelor - Cockerill Sambre_Centrale Energie_Seraing	(1)	3,739,095
13	Iron & steel	Arcelor - Cockerill Sambre_Agglomération_Seraing	(1)	1,777,724
14	Paper	Arjo Wiggins_Nivelles	11,883	35,649
15	Paper	Arjo Wiggins_Virginal	68,068	204,204
16	Chemicals	Atofina_Feluy	98,725	296,174
17	Chemicals	BASF_Feluy	153,210	459,629
20	Chemicals	BP-Chembel_Feluy	141,144	423,433
21	Paper	Burgo Ardennes_Harnoncourt	154,683	464,049
23	Chalk	Carmeuse_Four à chaux_Aisemont	583,393	1,750,178
24	Chalk	Carmeuse_Four à chaux_Moha	318,505	955,516
25	Chalk	Carmeuse_Four à chaux_Seilles	161,840	485,520
26	Iron & steel	Carsid_Agglomération_Marcinelle	666,420	1,999,260
27	Iron & steel	Carsid_Aciérie_Marcinelle	411,624	1,234,872
28	Iron & steel	Carsid_Aciérie électrique_Marcinelle	0	0
29	Iron & steel	Carsid_HF4_Marcinelle	927,660	2,782,980
30	Agoria	Caterpillar_Gosselies	55,505	166,515
31	Cement	CBR_Cimenterie_Antoing	930,933	2,792,799
32	Cement	CBR_Cimenterie_Harmignies	263,464	790,391
33	Cement	CBR_Cimenterie_Lixhe	1,304,487	3,913,461
34	Cement	CCB_Cimenterie_Gaurain	1,490,571	4,471,713
35	Chemicals	Chemviron carbon_Feluy	23,408	70,225
36	Agoria	CMP (CMI)_Seraing	4,498	13,495
37	Other	De Poortere Freres SA_Mouscron	13,000	39,000
39	Bricks	Desimpel-Terca_Peruwelz	21,468	64,405
40	Bricks	Desimpel-Terca_Wanlin	5,468	16,404
41	Chalk	Dolomies de Marche les Dames_Namêche	581,334	1,744,002
42	Iron & steel	Duferco_Aciérie électrique_La Louvière	162,500	487,500
43	Iron & steel	Duferco_Divers fours_La Louvière	284,302	852,905
44	Iron & steel	Duferco_Clabecq	141,360	424,080
45	Chalk	Dumont Wauthier_Four à chaux_St Georges	1,517,861	4,553,583
46	Glass	Durobor_Verre creux_Soignies	42,185	126,556
47	Food	Edel_Grâce Hollogne	19,673	59,019
48	Electricity	Electrabel_Amercoeur-Roux	623,143	1,869,429
49	Electricity	Electrabel_Baudour	680,028	2,040,083
50	Electricity	Electrabel_Flemalle	808,262	2,424,785
51	Electricity	Electrabel_Bressoux	9,678	29,035
52	Electricity	Electrabel_Turbo Jet back up_Turon	1,702	5,107
53	Electricity	Electrabel_Turbo Jet back up_Cierreux	1,722	5,166
54	Electricity	Electrabel_Turbo Jet back up_Deux Acren	1,676	5,028

55	Electricity	Electrabel_Monceau	220,000	220,000
58	Iron & steel	Elwood Steel_Seraing	11,090	33,270
59	Chemicals	Exxonmobil_Virton	20,976	62,929
60	Food	Ferrero_Arlon	9,285	27,856
61	Agoria	FN Herstal_Herstal	7,410	22,230
62	Glass	Glaverbel_Verre plat_Moustier	541,948	1,625,844
63	Glass	Glaverbel_Verre plat_Roux	80,093	240,280
65	Paper	Gruppo Cordenons_Malmedy	47,952	143,855
66	Chemicals	GSK_Rixensart	27,084	81,253
67	Cement	Holcim_Cimenterie_Obourg	1,526,152	4,578,455
68	Iron & steel	Industeel_Acierie Electrique	212,172	636,515
69	Food	Interbrew_Jupille	28,587	85,760
70	Chemicals	Kemira_Tertre	322,830	968,490
71	Glass	Knauf_Visé	57,186	171,557
74	Chalk	Lhoist_Four à chaux_Jemelle	513,459	1,540,377
75	Food	Lutosa_Leuze-en-Hainaut	60,100	180,299
76	Other	Mactac_Soignies	13,792	41,375
77	Agoria	Magotteaux_Vaux-sur-Chevremont	9,262	27,785
78	Glass	Manufacture de verre_Verre creux_Ghlin	69,754	209,263
80	Food	Mydibel_Mouscron	17,339	52,017
82	Glass	Nouvelles verreries_Momignies	25,991	77,972
83	Paper	Onduline_Petit Rechain	5,735	17,205
84	Glass	Owens corning_Battice	111,955	335,864
85	Downstream	Arcelor - Cockerill Sambre_Galva_Flemalle	55,301	165,903
86	Bricks	Ploegsteert_Barry	10,201	30,603
87	Bricks	Ploegsteert_Site Afma_Ploegsteert	11,048	33,144
88	Bricks	Ploegsteert_Site Bristal_Ploegsteert	8,222	24,666
89	Bricks	Ploegsteert_Warneton (La Lys)	5,279	15,837
90	Chemicals	Prayon_Engis	163,78	491,335
91	Bricks	Premier refractories_St Ghislain	11,718	35,154
92	Food	Raf notre Dame Orafti_Oreye	145,350	436,050
94	Iron & steel	Riva_Aciérie électrique_Thy Marcinelle	173,957	521,872
96	Iron & steel	Ruau_Laminoir à chaud_Monceau	22,429	67,287
97	Glass	St Gobain_Verre plat_Auvelais	242,503	727,509
99	Paper	SCA hygiene products_Stembert	36,721	110,163
100	Downstream	Segal_Ivoz Ramet	43,947	131,841
103	Food	Solarec_Recogne	39,063	117,190
104	Chemicals	Solvay_Jemeppe	79,963	239,889
106	Agoria	Sonaca_Gosselies	14,738	44,213
107	Food	Spa monopole_Spa	10,702	32,106
108	Other	Spanolux_Vielsam	37,907	113,720
109	Electricity	SPE_Seraing	893,751	2,681,252
110	Electricity	SPE_Angleur_TGV1	174,510	523,531
111	Electricity	SPE Moncin_Seraing	5,657	16,972
113	Food	Sucrerie de fontenoy_Fontenoy	49,242	147,725
114	Bricks	Terca_Warneton	11,937	35,811
115	Bricks	Terca_Ghlin	3,635	10,906
117	Food	Raffinerie Tirlemontoise_Brugelette	46,573	139,719
118	Food	Raffinerie Tirlemontoise_Hollogne	33,653	100,959
120	Food	Raffinerie Tirlemontoise_Longchamps	26,205	78,615
121	Food	Raffinerie Tirlemontoise_Wanze	73,876	221,628
123	Chemicals	UCB Pharma_Braine L'Alleud	12,567	37,702
124	Tertiary	UCL_Louvain-la-Neuve	6,173	18,518
125	Tertiary	Université Liège_Liège	14,660	43,981
126	Food	Walhorn_Walhorn	38,024	114,071
127	Food	Warcoing industrie_Warcoing	67,945	203,835
129	Gas	Fluxys_Berneau	Opt-out	Opt-out
132	Bricks	Tuileries du Hainaut_Mouscron	13,434	40,303
133	Downstream	Arcelor_Usine ALZ Aciérie Electrique Carinox_Châtelineau	61,947	185,840
137	Electricity	SEDILEC_UCL	19,481	58,442
138	Electricity	Solvay/Electrabel_Cogénération_Jemeppe	404,000	1,212,000
140	Chemicals	GSK_Wavre	18,830	56,489
141	Downstream	Arcelor - Usine ALZ - TLB Carlam_Châtelineau	317,513	952,538
142	Iron & steel	Carsid_Cokerie_Charleroi_Rectif	135,714	407,142
143	Electricity	Carsid_Autoproduction_Charleroi_Rectif	1,643,835	4,931,505
145	Agoria	Techspace Aéro_Milmort	4,234	12,701
146	Downstream	Arcelor - Cockerill Sambre - Ferblatil Recuit_Tilleur	15,620	46,860

147	Downstream	Arcelor - Cockerill Sambre - Recuit de Kessales_Jemeppe sur Meuse	35,746	107,237
148	Downstream	Arcelor - Cockerill Sambre - Galvanisation (Galva VII)_Ivoz Ramet	16,708	50,125
149	Downstream	Arcelor - Cockerill Sambre - Revêtement organique_Ivoz Ramet	27,651	82,953
150	Downstream	Arcelor - Cockerill Sambre - Eurogal galva_Ivoz Ramet	34,010	102,031
166	Chemicals	Phibro AH S.A._Rixensart	8,631	25,892
169	Agoria	Cockerill Forges & Ringmill, CFR, SA_Seraing	9,225	27,674
170	Agoria	Kabelwerk Eupen, AG_Eupen	9,185	27,555
171	Agoria	SOLAR Turbines	4,731	14,194
172	Food	Gramybel_Mouscron	10,904	32,712
173	Military	Military sites	Opt-out	Opt-out

Tot	**125 sites**	**25,822,969**	**77,468,907**

(1) The annual allocation of allowances to installations ID 7,8,10,11,12,13 will be made in accordance with scheduled installation closures and not following the 1/3 key per year.

Addendum to the Flemish allocation plan 2005-2007:

The text below has to be added to chapter 3 under title 3.2.3. "Explanation of the calculation rules":

3.2.3.5. Conditional provision of allowances

The annual amount of allowances allocated for a certain year in the trading period will not be provided entirely to the operator of a GHG installation if:

a) the amount of allowances, according to the expected growth for the stated year in the trading period in respect to the reference year, is larger than 1Mton CO_2 eq

and

b) the emission report for this year states that less than 50% of the expected growth was realised.

In that case the amount of allowances according to the growth that wasn't realised will be subtracted from the amount of allowances to be provided for the actual year. The part of the annual amount of allowances that will not be provided, will be cancelled.