

# National Allocation Plan for Austria pursuant to Art. 11 of the EZG

31 March 2004

with additions dated 7 April 2004



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Federal Ministry of Agriculture, Forestry,  
Environment and Water Management

## The development of the national allocation plan

In 2003, the Federal Environment Agency (UBA) and the Institute for Industrial Ecology (IIÖ) were commissioned by the Federal Ministry of Agriculture, Forestry, Environment and Water Management (BMLFUW), the Austrian Federal Economic Chamber (WKÖ) and the Austrian Association of Electricity Utilities (VEÖ) to prepare a study detailing the historical CO<sub>2</sub> emission situation of the installations covered by emissions trading.

The Austrian Institute of Economic Research (WIFO) and the consultancy agency KWI analysed the development of CO<sub>2</sub> emissions for the industries chiefly concerned over the 2005-2007 period; moreover, the Austrian Energy Agency (EVA) compiled an options study to take due account of the climate-related significance of co-generation and district heating for allocation purposes.

Joint working groups of BMLFUW, the Federal Ministry for Economic Affairs and Labour (BMWA), the Federal Ministry of Finance (BMF), WKÖ, the Federation of Austrian Industry (IV) and the Austrian Association of Electricity Utilities monitored the implementation process of the Emissions Trading Directive.

## The status quo of the national allocation plan

The present national allocation plan and the facts and figures contained therein represent the status as per 31 March 2004, with additions dated 7 April 2004 (tables providing an overview of industries and of allowances per installation).

A political agreement concerning the present allocation plan, which was established on the basis of both the draft national allocation plan submitted for public consultation and the statements by the installation operators, was finalised on 31 March 2004.

Between early and mid-March 2004, BMLFUW informed the installations concerned about their respective potential allowances. The undertakings were given a period of eight workdays to respond to the informative letter by BMLFUW; most installation operators in fact made use of this opportunity. On 24 March 2004, the draft national allocation plan was published on the Internet site of BMLFUW dedicated to emissions trading ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at)); this offered an occasion for all interested citizens to submit comments on this issue within a period of five workdays. Several persons and institutions made use of this possibility; their statements are likewise available on the Internet.

The undertakings' responses to the letter specifying their allowances, the public consultation comments as well as a number of applications for installation operation permits and installation registrations submitted within the set period entailed several modifications of the draft national allocation plan.

The structure of the national allocation plan for Austria corresponds to the requirements of the European Commission as laid down in its Guidance Paper. The national allocation plan is to be submitted to the European Commission for approval and published by 31 March 2004 at the latest.

## Preliminary remarks

Anthropogenic climate change is widely considered to be the most serious environmental problem of global importance. Only joint, responsible action on the part of the international community can alleviate the long-term effects of climate change.

In predominantly alpine Austria, too, the first effects of climate change have for some time become palpable as well. For example, the most obvious sign observed is the rapid glacier melting caused by an increase by 1 to 1.5 °C of mean Alpine temperatures over the past century. Extreme weather situations such as regional droughts, disastrous avalanches and floods are markedly on the rise.

Among the main triggers of climate change are continuously increasing emissions of greenhouse gases. With respect to sheer volume, the most important of these is carbon dioxide (CO<sub>2</sub>). The markedly increased concentration of CO<sub>2</sub> in the atmosphere is caused to an extent of roughly 75% by the incineration of fossil fuels, while the rest is mainly due to the destruction of (tropical) forests.

In December 1997, the international community agreed on the Kyoto Protocol to the United Nations Framework Convention on Climate Change. In this document, the industrialised nations undertake to reduce or limit their emissions of six greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulphur hexafluoride) in the 2008-2012 period as compared to the levels of 1990 (1995 for hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride). Under the Convention and in the context of burden sharing within the EU, Austria has undertaken to reduce its greenhouse gas emissions by 13% within this timeframe.

Austria is expressly committed to climate protection and the objectives of the Kyoto Protocol. Together with all other EU Member States, it ratified the Kyoto Protocol in May 2002 and thus pledged to comply with its targets. The Austrian climate strategy adopted in June 2002 by the federal government and confirmed by the governors of the federal provinces in October 2002 provides for a balanced set of measures designed to attain the Austrian Kyoto target. This includes flexible economic instruments such as the project-related mechanisms of the Kyoto Protocol and emissions trading.

Austria regards emissions trading at installation level as a suitable market-driven tool of climate policy for achieving cost-efficient reductions of greenhouse gas emissions in specific sectors and therefore has supported the Emissions Trading Directive within the EU from the very beginning.

## Content

PRELIMINARY REMARKS.....	3
CONTENT .....	4
SUMMARY .....	5
DOCUMENTS.....	6
INTRODUCTION .....	7
1 DETERMINATION OF THE TOTAL QUANTITY OF ALLOWANCES.....	8
2 DETERMINATION OF THE QUANTITY OF ALLOWANCES AT ACTIVITY LEVEL .....	15
3 DETERMINATION OF THE QUANTITY OF ALLOWANCES AT INSTALLATION LEVEL.....	19
4 TECHNICAL ASPECTS.....	21
4.1 <i>Potential, including technological potential</i> .....	21
4.2 <i>Early action</i> .....	22
4.3 <i>Clean technology</i> .....	22
5 COMMUNITY LEGISLATION AND POLICY.....	24
5.1 <i>Competition policy (Articles 81-82 and 87-88 of the EC Treaty)</i> .....	24
5.2 <i>Internal market policy – New market entrants (Article 43 of the EC Treaty)</i> .....	24
5.3 <i>Other legislation or policy instruments</i> .....	26
6 PUBLIC CONSULTATION .....	27
7 CRITERIA OTHER THAN THOSE IN ANNEX III TO THE DIRECTIVE.....	28
8 ANNEX I.....	29
8.1 <i>List of installations</i> .....	29
8.2 <i>Key elements of the UBA/IIÖ survey</i> .....	36
8.3 <i>Climate strategy</i> .....	38
8.4 <i>Trend analyses by WIFO/KWI</i> .....	39
8.5 <i>Evaluation of the reduction potential of installations: Potential factor</i> .....	40
8.6 <i>Criteria for the development of the national allocation plan laid down in the Emission Allowance Act</i> .....	43
9 ANNEX II: ACTIVITIES/INDIVIDUAL TECHNICAL MEASURES.....	45

## Summary

<b>Basic principles of the allocation plan</b>	
Total quantity	<p>For the first emissions trading period, 99.6 million allowances are allocated as total quantity. The total quantity is defined as the sum of allocation quantities for the industry and energy sectors. The total quantity is allocated free of charge.</p> <p>Total quantity = emission forecast<sub>05-07</sub> – <math>\sum_{\text{sectors}}</math> (climate protection contribution<sub>sector 05-07</sub>)</p>
Allocation at sector level	<p>The Austrian climate strategy defines the greenhouse gas emission objectives and the reduction potentials of the individual sectors for achieving the Kyoto targets. The energy sector offers a reduction potential of 2.1 million tonnes CO<sub>2</sub> equivalents, while that of the industry sector is 1.25 million tonnes CO<sub>2</sub> equivalents, both calculated on the basis of the estimated value based on trend analyses for 2010.</p> <p>The federal government has decided that these two sectors will have to achieve around 50% of this reduction potential in the first emissions trading period.</p> <p>Starting from the historical basic data compiled by UBA/IIÖ, WIFO/KWI have calculated business-as-usual (BaU) values of emission development for the individual industries of a sector by means of trend analyses for the 2005-2007 period.</p> <p>The quantity of allowances allocated to a sector results from the sum of the business-as-usual values of all industries of a sector, minus the climate protection contribution (<i>cp contribution</i>) of this sector. The quantity of allowances further available to the industries results from multiplication with the reserve factor.</p> <p>Allocation<sub>sector (05-07)</sub> = (<math>\sum_{\text{industries}}</math> BaU<sub>industry</sub> – <i>cp contribution</i><sub>sector</sub>) * reserve factor<sub>sector</sub></p>
Allocation at industry level	<p>Allocation at industry level was carried out on the basis of historical emission data and business-as-usual trend analyses (<i>WF<sub>i</sub></i>) of CO<sub>2</sub> emissions as well as taking account of a potential factor (<i>PF<sub>i</sub></i>) reflecting the inherent possibilities of the industry to reduce its CO<sub>2</sub> emissions. The compliance factor (<i>EF<sub>B</sub></i>) matches the quantity of allowances allocated at industry level to the allowances available to the sector and is the same for all industries of a given sector.</p> <p>Allocation<sub>(05-07)</sub> to industry <i>i</i> = allocation base<sub><i>i</i></sub> * <i>WF<sub>i</sub></i> * <i>PF<sub>i</sub></i> * <i>EF<sub>sector</sub></i></p>
Allocation at installation level	<p>For allocation at installation level, the same method was used for all installations.</p> <p>Allocation<sub>(05-07)</sub> to installation <i>A</i> = allocation base<sub><i>A</i></sub> * <i>PF<sub>A</sub></i> * <i>EF<sub>A</sub></i></p> <p>The allocation base of the installation corresponds to the emission average in the 1998-2001 period. If these figures are not representative, a different allocation base is used.</p> <p>The potential factor (<i>PF<sub>A</sub></i>) takes due account of process emissions, CO<sub>2</sub> intensity of fuel input, co-generation bonus, district heating bonus, waste heat bonus, and BAT penalty. The compliance factor (<i>EF<sub>A</sub></i>) matches the quantity of allowances allocated at installation level to the allowances available to the industry and is the same for all installations of a given industry.</p>
New entrants	<p>The Emission Allowance Act (<i>Emissionszertifikatengesetz – EZG</i>) stipulates that the reserve for new entrants in the 2005-2007 period must be at least 1% of the total quantity, which according to the currently available data corresponds to approx. 1 million allowances for the entire allocation period. The reserve is to be created by means of a deduction of 1% off the total quantity before distribution among the individual industries and installations. The reserve will be distributed according to the “first come, first served” principle.</p>
Early action; clean technology	<p>Early action and clean technology were taken due account of in the form of the potential factor for emission reduction.</p>

## Documents

The following documents were used for developing the national allocation plan:

- Federal Environment Agency/Institute for Industrial Ecology, 2003: *CO<sub>2</sub>-Emissionen von Anlagen und Branchen als fachliche Grundlage für den Emissionshandel (CO<sub>2</sub> Emissions of Installations and Industries as a Technical Basis for Emissions Trading)* ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at))
- Industry studies of the Austrian Institute of Economic Research and KWI, 2003 and 2004: *EU Emissionshandel – Auswirkungen auf den österreichischen Wirtschaftsstandort (EU Emissions Trading – Effects on Austria as a Business Location)*
- Austrian Energy Agency, 2003: *Berücksichtigung von KWK-Anlagen im Nationalen Zuteilungsplan (Consideration of Co-generation Plants in the National Allocation Plan)* ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at))
- Federal Ministry of Agriculture, Forestry, Environment and Water Management, 2002: *Strategie Österreichs zur Erreichung des Kyoto-Ziels (Austria's Strategy for Attaining the Kyoto Target)* (National Climate Strategy) ([www.lebensministerium.at](http://www.lebensministerium.at))
- Federal Ministry of Agriculture, Forestry, Environment and Water Management, 2001: *Third National Communication in Compliance with the Obligations under the Framework Convention on Climate Change* ([www.unfccc.int](http://www.unfccc.int))
- Federal Environment Agency, 2004: *National Greenhouse Gas Inventory on Emissions in Austria from 1990 to 2002 – Report submitted according to Council Decision 1999/296/EC* ([www.umweltbundesamt.at](http://www.umweltbundesamt.at))

The following further documents were consulted as well:

- European Commission: *Communication from the Commission on guidance to assist Member States in the implementation of the criteria listed in Annex III to the Directive* ([http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003\\_0830en01.pdf](http://europa.eu.int/eur-lex/en/com/cnc/2003/com2003_0830en01.pdf))
- 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 ([http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l\\_275/l\\_27520031025en00320046.pdf](http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_275/l_27520031025en00320046.pdf))
- Federal Ministry of Agriculture, Forestry, Environment and Water Management, 2004: *Entwurf zum Emissionszertifikatengesetz (Draft Emission Allowance Act)* ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at))

## Introduction

Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC was published on 25 October 2003 in the Official Journal of the European Communities.

All installations covered by the Directive require a greenhouse gas emissions permit and are allocated emission allowances. In the first period from 2005 to 2007, at least 95% of the allowances are to be allocated free of charge, while a maximum of 5% of allowances may be sold by auction. Austria did not make use of this possibility but rather distributes 100% of the allowances free of charge.

Article 9 of Directive 2003/87/EC provides that every Member State shall publish a national allocation plan for the 2005-2007 period and notify it to the European Commission by 31 March 2004 at the latest. The plan is to state the total quantity of emission allowances the Member State intends to allocate for that period and how these allowances are to be distributed among the installations; it is to be based on objective and transparent criteria, including those listed in Annex III to the Directive. In January 2004, the European Commission presented a guidance paper on the implementation of the criteria listed in Annex III.

After notification of the allocation plan to the European Commission by 31 March 2004, the Commission shall communicate within a period of three months whether it approves the allocation plan or stipulates amendments. Following this, the national allocation plan is to be adopted by ordinance, while the emission rights are to be allocated to the installation operators in legally binding fashion by administrative order.

## 1 Determination of the total quantity of allowances

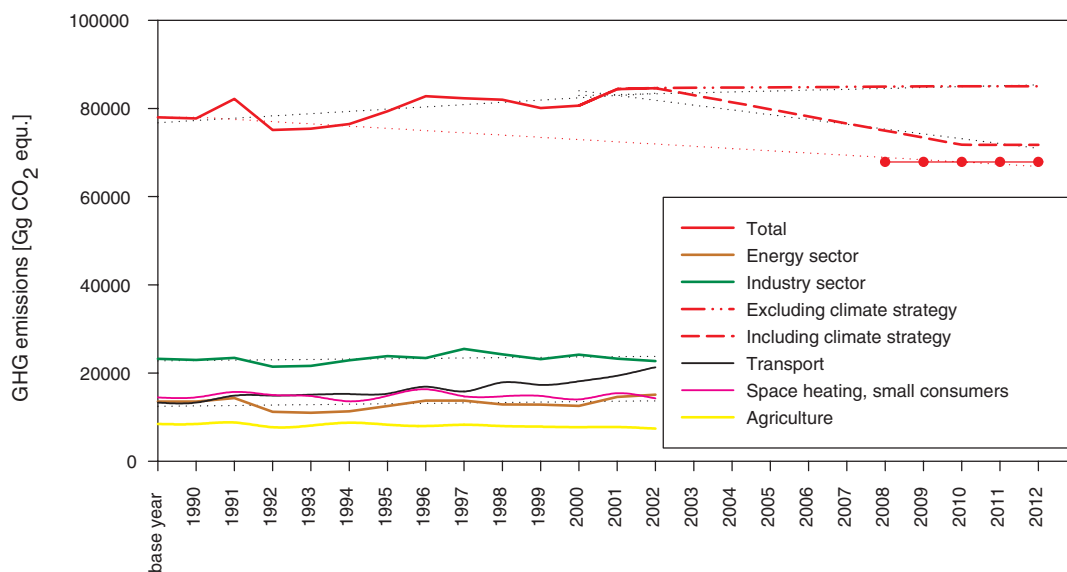
### 1.1 What is the Member State's emission limitation or reduction obligation under Decision 2002/358/EC or under the Kyoto Protocol (as applicable)?

In accordance with Council Decision 2002/358/EC 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, Austria set itself the goal of reducing the emissions of the greenhouse gases carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) by 13% in the 2008-2012 period as compared to the levels of 1990 (1995).

In the Kyoto baseline year 1990 (and 1995 for HFCs, PFCs and SF<sub>6</sub>), an emission volume of 78 million tonnes CO<sub>2</sub> equivalents was produced in Austria, according to the latest greenhouse gas inventory established by the Federal Environment Agency. This figure comprises all greenhouse gases coming under the scope of the Kyoto Protocol. For Austria, a 13% greenhouse gas reduction means that an objective of approx. 68 million tonnes CO<sub>2</sub> equivalents must be attained within the Kyoto commitment period of 2008-2012, corresponding to a reduction by 10 million tonnes CO<sub>2</sub> equivalents vis-à-vis 1990.

In 2002, greenhouse gas emissions amounted to 84.6 million tonnes CO<sub>2</sub> equivalents, which results in a current reduction requirement of 17 million tonnes CO<sub>2</sub> equivalents.

The trend scenario<sup>1</sup> used as a basis for the Austrian climate strategy shows a further emission increase to a



**Figure:** Development of greenhouse gas emissions in Austria and forecast of the total emission volume, including and excluding the measures under the climate strategy.

<sup>1</sup> The forecasts contained in the Third National Climate Report submitted by the Austrian federal government to UNFCCC (2001) are based on two different approaches which, however, produce highly similar results. On the one hand, forecasts taken from the draft climate strategy, based on expert estimates, are used. On the other hand, the forecasts are derived from the WIFO energy scenarios for 2020, which were complemented by additional calculations of the Austrian Research Center Seibersdorf with respect to gases other than CO<sub>2</sub> as well as by expert estimates.

1.2 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.

### **Determination of the contribution of installations to the emissions trading scheme**

The contribution of the installations covered by the Emissions Trading Directive to emission limitation and reduction was determined on the basis of the following approach:

1. The climate strategy of the Austrian federal government stipulates a reduction contribution in terms of absolute reduction, starting from an estimated value for 2010 based on trend analyses for the energy and industry sectors.
2. For the activities covered by the Directive, trend analyses were calculated by WIFO/KWI, which provide forecasts assuming a business-as-usual scenario (trend calculation "including existing measures") for the activities examined. The sum of the business-as-usual values is the emission forecast.
3. Due to various considerations, a decision regarding the share of the reduction contributions to be implemented during the first period was taken, thus determining the climate protection contribution of the sectors during the first trading period.

Hence, the total quantity is calculated as follows:

$$\text{Total quantity} = \text{emission forecast} - \sum_{\text{sectors}} (\text{climate protection contribution}_{\text{sector 05-07}})$$

### **The climate strategy of the Austrian federal government**

Austria's national climate strategy was adopted by the Austrian federal government in June 2002 and lays down the way in which Austria is to achieve the Kyoto target. The sectors of relevance for greenhouse gas reduction were assigned reduction potentials that can be attained by means of concrete measures.

For Austria's climate strategy, see [www.lebensministerium.at/umwelt](http://www.lebensministerium.at/umwelt).

The distribution of reduction contributions provides for a reduction by 1.25 million tonnes CO<sub>2</sub> equivalents in the industry sector and by 2.1 million tonnes CO<sub>2</sub> equivalents in the energy sector, both to be attained on the basis of the estimated trend value for 2010.

The reduction contributions provided for in the climate strategy for all sectors are listed in the Annex "Climate strategy".

### **Trend analyses by WIFO/KWI**

Since the trend estimates of the climate strategy as well as the available model calculations from the Third National Climate Report for Austria dated from as early as 2001, studies on the future production development and resulting CO<sub>2</sub> emissions in the 2005-2007 period were conducted for the industries concerned by the Austrian Institute of Economic Research (WIFO) and by the consultancy agency KWI from the autumn of 2003 to March 2004. These industries account for roughly 93% of the emissions of all activities and installations covered by the Emissions Trading Directive. With respect to industries for which no trend calculations were prepared by WIFO/KWI (industries with very low CO<sub>2</sub> emissions), an adequate development forecast of CO<sub>2</sub> emissions was carried out. Information regarding the trend calculation methodology is contained in the Annex "Trend analyses conducted by WIFO/KWI".

The sum of emission values (34.84 million tonnes) in the business-as-usual scenarios provides the initial value for determining the total quantity of allowances, from which the reduction contributions of the sectors are deducted.

### **Determination of the share of the first period from 2005 to 2007**

The share of reduction contributions that is to be achieved during the first emissions trading period was defined for both sectors (energy and industry) in a decision adopted by the federal government on 10 February 2004.

The share for the first period was fixed for the following reasons:

- In the 1998-2001 period, the emissions of the emissions trading installations in the industry sector equalled approx. 81% of the total greenhouse gas emissions of the industry sector. The predicted CO<sub>2</sub> emissions of the emissions trading installations show a marked increase for the years from 2005 to 2007.
- This motivated the federal government to decide that the emissions trading installations of the industry sector will have to achieve approx. 50% of the reduction contribution stipulated for the entire industry sector in the national climate strategy during the first trading period. This corresponds to a reduction by 0.6 million tonnes.
- In the 1998-2001 period, the emissions of the emissions trading installations in the energy sector equalled approx. 88% of the total greenhouse gas emissions of the energy sector. With respect to electricity and heat generation, the predicted CO<sub>2</sub> emissions of the emissions trading installations in the years from 2005 to 2007 depend strongly on the energy source mix in electricity production as well as on the development of energy consumption. On the production side, hydraulicity and fuel input in thermal power plants are the key factors influencing CO<sub>2</sub> emission development, while the key factors on the demand side are increasing electricity consumption and the growing share of district heating. Austria intends to further increase the share of renewable energy sources in electricity production, which is already above the European average, to 78% by 2010, in accordance with Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources. In the field of mineral oil refining, the 2005-2007 period will see increased CO<sub>2</sub> emissions due to capacity expansion and the anticipated voluntary improvement of fuel quality (nation-wide availability of sulphur-free fuels in Austria since 1 January 2004).

These aspects motivated the federal government to decide that the emissions trading installations of the energy sector will have to account for 50% of the reduction contribution stipulated for the entire energy sector in the national climate strategy during the first trading period. This corresponds to a reduction by 1.05 million tonnes.

Hence the total quantity of allowances in million tonnes, allocated per year in the first period, is as follows:

$$\text{Total quantity} = 34.84 - (0.60 + 1.05) = 33.19$$

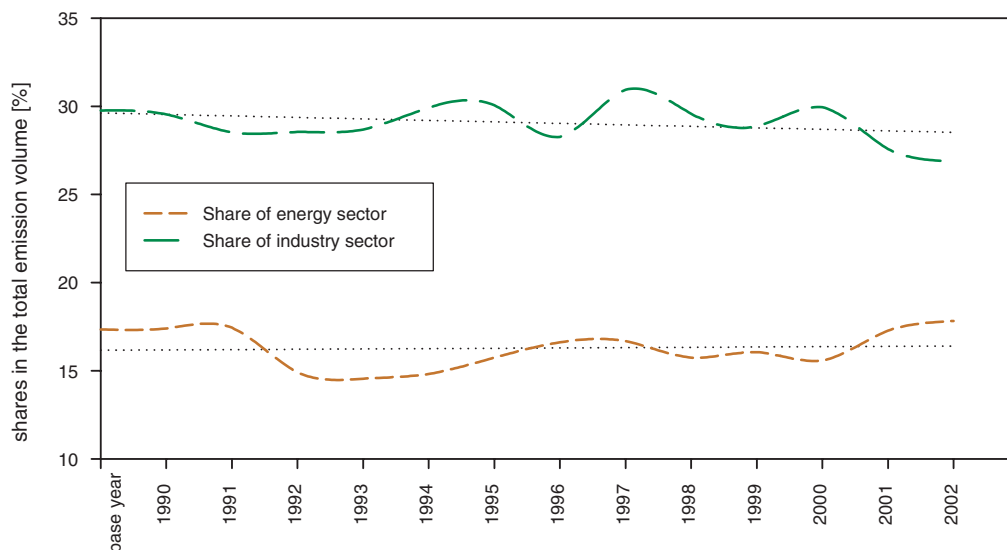
At this point, it should be emphasised that the above figure includes the 1% reserve specified below.

1.3 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 differ 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.

On the basis of the data collection results specified and the updating of the data base to include to new installations and additional registrations, the application of the principles laid down in the decision adopted by the federal government in accordance with the Austrian climate strategy and the criteria listed in Art. 11 of the Emission Allowance Act, the total quantity of allowances for the 2005-2007 allocation period is 99.6 million, or 33.2 million allowances for each year of this period.

99% of the total quantity will be assigned to the undertakings, while 1% will be kept as a reserve for new or expanded installations. Thus the reserve comprises approx. 1 million allowances for this three-year period.

Between 1998 and 2001, the installations covered by the Emissions Trading Directive (see Annex "Key elements of the UBA/IIÖ survey") accounted for a CO<sub>2</sub> emission volume amounting to roughly 35% of the co



**Fig.:** Development of the shares of the energy sector (electricity production by public utilities, district heating and mineral oil refining) and the industry sector in the total volume of greenhouse gas emissions in Austria (in percent).

1.4 What policies and measures will be applied to the sources not covered by the Emissions Trading Directive? 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)?

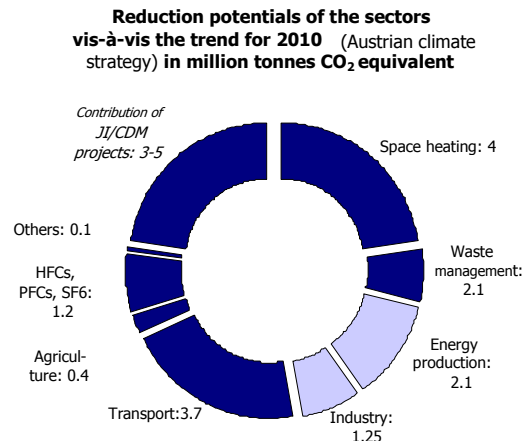
**Climate strategy – Measures with respect to other sources**

Austria’s climate policy is based on the national climate strategy, which was adopted by the Council of Federal Ministers on 18 June 2002 and approved by the Conference of Governors of the Federal Provinces in October 2002.

The national climate strategy lays down the fields of action and the activities to be taken in order to achieve the Austrian climate protection target. The sectors are assigned concrete reduction potentials that are to be attained by 2008-2012 by implementing the measures and activities of the climate strategy (see Annex).

Since the adoption of the climate strategy in June 2002, the following key measures have been implemented:

- **Eco-electricity Act** of 2002, which created a new basis for the objectives concerning renewable energy sources and the framework for their promotion
- **Feed-in Tariff Ordinance** of 2003 – introduction of nationally uniform feed-in tariffs for electricity from renewable energy sources (including small-scale hydropower stations) as well as support mechanisms for co-generated electricity from public utilities
- **HFC-PFC-SF<sub>6</sub> Ordinance** under the Chemicals Act
- **Contracting impulse programme** for buildings owned by the Federal Republic of Austria
- **JI/CDM programme:** with an amendment to the Environmental Support Act that entered into force in August 2003, a programme for the purchase of greenhouse gas reduction allowances from projects abroad was created
- **Road pricing for lorries:** since 1 January 2004, a mileage-dependent road toll is levied on the Austrian high-level road network for lorries with a laden weight exceeding 3.5 tonnes (i.e. mainly for heavy utility vehicles)
- **Ecological tax reform 2004:** higher tax rates for natural gas, fuel oils, gasoline and diesel as well as a new coal consumption tax as of 1 January 2004 (act adopted in the context of the Finance Act)



Moreover, the following measures are in a concrete planning stage or have already been adopted:

- **Redeployment of housing subsidy funds** of the federal provinces from the promotion of new construction projects to old-stock rehabilitation, amounting to up to € 290 million annually
- **Conclusion of an agreement** between BMLFUW and the governors of the federal provinces concerning quality standards in housing promotion
- **Biogenic fuels:** improved implementation of the EU Directive on biogenic fuels
- **Ecological orientation of the procurement guidelines for the federal administration**
- An accompanying **impulse programme for climate protection ("klima:aktiv")** as well as appropriate activities of BMLFUW to raise public awareness is under preparation.

The proportion of climate-relevant grants as compared to the total volume of environment subsidies granted by the Federal Republic at home and abroad nearly reached 80% on an average over the past few years. These government grants made it possible to reduce CO<sub>2</sub> emissions by approx. 2.46 million tonnes annually in the 1998-2003 period.

In order to implement the climate strategy, the federal government allocated additional budget funds to climate policy, i.e. + € 30 million for 2004, + € 60 million for 2005 and + € 90 million annually from 2006 onwards. These funds are distributed to measures at home and projects abroad in a 60/40 ratio.

The evaluation of the Austrian climate protection programme described in the climate strategy is laid down in Art. 1 (2) of the Emission Allowance Act. If this evaluation, which must be completed by mid-2005, should indicate that the measures provided for in the climate strategy are insufficient to achieve the necessary reduction of greenhouse gas emissions, the federal government will be obliged, in co-ordination with the Federal Minister of Agriculture, Forestry, Environment and Water Management, to complement the Austrian climate strategy with additional measures. Pursuant to the Emission Allowance Act, the new measures will have to focus on those areas and sectors where the deviation from the Kyoto targets is most marked and where the lowest external costs of emission avoidance may be expected. This also includes the intensified use of financial instruments.

### Flexible mechanisms of the Kyoto Protocol

The JI/CDM programme is the fourth pillar of Austria's environmental promotion system implemented by the Federal Republic (in addition to environmental support at home, abroad and in urban water management); the Environmental Support Act (UFG) was accordingly amended in 2003. 40% of the budget funds additionally approved by the Austrian federal government are used for the national JI/CDM programme, endowed with € 12 million for 2004 (of which € 1 million was anticipated to be spent in 2003), with € 24 million for 2005 and with € 36 million annually from 2006 onwards.

The potential of this programme was not quantified in detail in the climate strategy but should amount to at least 3 million and currently up to 5 million tonnes CO<sub>2</sub> equivalents annually throughout the commitment period. In December 2003, the first calls for proposals for JI and CDM projects were published by Kommunalkredit Public Consulting, which manages the JI/CDM programme on behalf of the Austrian government. The programme's homepage can be accessed at [www.ji-cdm-austria.at](http://www.ji-cdm-austria.at).

1.5 How has national energy policy been taken into account when establishing the total quantity of allowances to be allocated? 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 the Kyoto Protocol (as applicable)?

In the energy sector, increasing energy consumption might entail rising CO<sub>2</sub> emission levels in coming years if this additional demand is covered by increased electricity production by thermal power stations. On the production side, hydraulicity and fuel input in thermal power plants are the key factors influencing the development of CO<sub>2</sub> emissions.

In accordance with Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources, Austria intends to further increase the share of renewable energy sources in electricity production, which is already higher than the European average, to 78% by 2010. For this reason, Austria is championing the use of renewable energy sources by promoting green electricity as well as emissions trading and the limitation of free-of-charge allowances for CO<sub>2</sub> emissions.

Austria is committed to ensuring the security of supply. Accordingly, a future national energy concept must be discussed together with the stakeholders concerned before the second emissions trading period, also in view of the further implementation of the Water Framework Directive of the European Union and the related potential decrease of the possible electricity production by existing hydropower stations in Austria.

1.6 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?

The total quantity for the 2005-2007 period equals approx. 95% of the CO<sub>2</sub> emission forecasts for the installations covered by the Emissions Trading Directive. The CO<sub>2</sub> development forecast is subject to the assumption that the further decoupling of production from historical greenhouse gas and energy intensity will continue. Compatibility with Austria's Kyoto target is obvious, since this allocation corresponds to the climate strategy, which stipulates national burden sharing, i.e. the reduction contributions to be made by the individual sectors.

1.7 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.

See Section 4.1.

1.8 Please list in Section 5.3 below the Community legislation and policy instruments that were considered in determining the total quantity of allowances and state which ones have been taken into account and how.

See Section 5.3.

1.9 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.

No auction is planned.

## 2 Determination of the quantity of allowances at activity level

2.1 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 allowances at activity level were allocated in two tiers.

1. Allocation at the sectoral level
2. Allocation at the individual industry level

The activities covered by the Emissions Trading Directive are structured into two sectors: energy (electricity and heat production and mineral oil refining, Category **1A1** pursuant to the Revised IPCC GHG Inventory Guidelines) and industry (Categories **1A2+2**). The sectors are composed of the respective individual industries.

*Table: Sectors and industries.*

Sector	Industries
Energy	Electricity District heating Mineral oil refining
Industry	Iron and steel industry(voestalpine) Other iron and steel industries Cement industry Paper industry Chemicals industry Lime industry Refractory products Brick-making industry Food industry Glass industry Wood industry Mechanical and structural steel engineering, metal products, motor vehicle, nonferrous metal and electronics industries Other mineral products/construction industry Textile industry

### **Allocation at the sectoral level**

The emissions of all installations covered by the Emissions Trading Directive in the 1998-2001 period were registered and verified by the Federal Environment Agency in co-operation with the Institute for Industrial Ecology (see Annex "Key elements of the UBA/IIÖ survey").

Starting from this historical basis, the Austrian Institute of Economic Research (WIFO) and the consultancy agency KWI calculated trend analyses for the individual industries (see Annex "Trend analyses by WIFO/KWI"). In the course of these trend analyses, CO<sub>2</sub> emission trends were determined on the basis of the production volume, energy and CO<sub>2</sub> intensity. Assuming that these historical trends will continue (e.g. continuous increase of energy efficiency, production growth), values can be forecast for the emission allowance demand of a given industry in the 2005-2007 period. The values forecast are referred to as "business-as-usual (BaU) values" below.

Hence the quantity of allowances allocated to a sector results from the sum of the business-as-usual values of all individual industries of a sector, minus the climate protection contribution of the sector for achieving the Kyoto target as specified under 0. The quantity of allowances additionally available to the individual industries is obtained by multiplication with the reserve factor (0.99 for a reserve of 1% in each sector).

Calculation of the allowances available to a given sector:

$$\text{Allocation}_{(05-07)} = \left( \sum_{\text{industries}} \text{BaU}_{\text{industry}} - \text{climate protection contribution} \right) * \text{reserve factor}_{\text{sector}}$$

Table: Business-as-usual values of the sectors as well as reserve factor and climate protection contributions (in million tonnes of CO<sub>2</sub>).

Sector/individual industry	Business-as-usual value	Climate protection contribution 05-07	Reserve factor (-)	Sector number 05-07 incl. reserve	Allocation 05-07
<b>Energy</b>	<b>13.57</b>	<b>1.05</b>	<b>0.99</b>	<b>12.52</b>	<b>12.40</b>
<b>Industry</b>	<b>21.27</b>	<b>0.60</b>	<b>0.99</b>	<b>20.67</b>	<b>20.46</b>
- Iron and steel industry (voestalpine)		0.30	0.99		11.36
- Other industries		0.30	0.99		9.10
<b>Total</b>	<b>34.84</b>			<b>33.19</b>	<b>32.86</b>

#### Allocation at the individual industry level

Allocation at the individual industry level was carried out on the basis of data both from the historical emission survey described above and from the trend analyses of CO<sub>2</sub> emissions likewise described above, as well as taking account of a potential factor reflecting the possibilities of the industry to reduce its CO<sub>2</sub> emissions.

$$\text{Allocation}_{(05-07)} \text{ to the industry } i = \text{allocation base}_i * WF_i * PF_i * EF_{\text{sector}}$$

*Allocation base:* The allocation base for the industry essentially corresponds to the average of emissions in the 1998-2001 period in accordance with the results of the survey conducted by the Federal Environment Agency and the Institute for Industrial Ecology. If the allocation base differs from the baseline emissions, the period of time stated for individual installations was not representative (e.g. new installations constructed in the base period or afterwards).

*WF<sub>B</sub> (growth factor of the industry):* This results from the BaU scenario for the individual industry based on the WIFO/KWI study, if applicable; with respect to industries for which no such study is available, the factor is set at 1.051.

*PF<sub>B</sub> (potential factor of the industry):* This results from the sum of potential factors of installations, weighted by fossil CO<sub>2</sub> emissions (see Annex "Potential factor").

*EF<sub>sector</sub> (compliance factor of sectors):* In order to match the number of allowances allocated to individual industries to the number of allowances available to the entire sector, a compliance factor is used, which is the same for all industries within a given sector.

Calculation of compliance factor:

$$EF_{\text{sector}} = \text{sectoral allocation} / \sum_{\text{industries}} \text{allocation base}_{\text{industry}} * WF_{\text{industry}} * PF_{\text{industry}}$$

Table: Allocation base, BaU, growth factors, potential factors, compliance factors and allocation of sectors and individual industries (in tonnes of CO<sub>2</sub>).

Sector/individual industry	Allocation base	Business-as-usual value	Growth factor $WF_B$ (rounded) (-)	Potential factor $PF_B$ (-)	Compliance factor $EF_{sector}$ (-)	Allocation 05-07
<b>Energy</b>	<b>13,107,706</b>	<b>13,568,708</b>		<b>0.938</b>	<b>0.974</b>	
- Electricity	9,846,504	10,122,759	1.028	0.934		9,208,702
- District heating	408,514	441,432	1.081	0.970		417,137
- Mineral oil refining	2,852,689	3,004,518	1.053	0.946		2,767,682
<b>Total</b>						<b>12,393,521</b>
<b>Industry</b>	<b>17,800,540</b>	<b>21,271,982</b>		<b>0.983</b>	<b>0.979</b>	
- Iron and steel industry (voestalpine)	8,885,862	11,770,907	1.320	0.986		11,356,198
- Other iron and steel industries	63,745	66,974	1.051	0.977		64,031
- Cement industry	2,454,808	2,703,181	1.101	0.974		2,575,839
- Paper industry	2,422,531	2,456,900	1.014	0.985		2,368,791
- Chemicals industry	1,101,721	1,157,523	1.051	0.979		1,108,640
- Lime industry	766,985	857,055	1.117	0.990		830,197
- Refractory products	543,310	601,500	1.107	0.981		577,460
- Brick-making industry	329,955	350,093	1.061	0.978		334,968
- Food industry	341,848	359,163	1.051	0.971		341,135
- Glass industry	281,271	309,362	1.100	0.968		293,171
- Wood industry	237,405	249,430	1.051	0.999		243,787
- Mechanical and structural steel engineering, metal products, motor vehicle, nonferrous metal and electronics industries	103,095	108,317	1.051	0.972		103,017
- Other mineral products / construction industry	230,625	242,306	1.051	0.975		231,066
- Textile industry	37,379	39,273	1.051	0.962		36,964
<b>Total</b>						<b>20,465,262</b>

2.2 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.

The potential of activities to reduce emissions, including the technological potential, was taken into account by means of the potential factor described in Section 2.1 (see Annex "Potential factor").

2.3 If Community legislation 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.

See Section 5.3.

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

The competition aspect was taken into account to the necessary extent by reducing the forecast emission demand during the allocation period and forming a reserve for new entrants as well as expanded installations. Austria shares the view presented in the Guidance Paper of the European Commission that the issue of competition and possible distortions of competition with respect to installations outside the EU cannot be dealt with by emissions trading allocation, but must chiefly be addressed by means of other policy instruments.

### 3 Determination of the quantity of allowances at installation level

3.1 By what methodology has the allocation been determined at installation level? Has the same methodology been used for all installations? If no, 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.

For allocation at installation level (German "Anlage", hence subscript A), the same method was used for all installations.

Allocation was carried out according to the following formula:

$$\text{Allocation}_{(05-07)} = \text{allocation base}_A * PF_A * EF_A$$

*Allocation base:* The allocation base for the installation essentially corresponds to average emissions in the 1998-2001 period in accordance with the results of the survey conducted by the Federal Environment Agency and the Institute for Industrial Ecology. If these figures are not representative, a different allocation base is used.

*PF<sub>A</sub> (potential factor of the installation):* This takes account of process emissions, CO<sub>2</sub> intensity of fuel input, co-generation bonus, district heating bonus, waste heat bonus, BAT penalty (see Annex "Potential factor").

*EF<sub>A</sub> (compliance factor of the installation):* This factor matches the quantity of allowances allocated at installation level to the allowances available to the industry and is the same for all installations of a given industry.

Calculation of the compliance factor:

$$EF_A = \text{allocation of industry} / \sum_{\text{installations}} \text{allocation base}_{\text{installation}} * PF_A$$

3.2 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 survey made use of the Commission guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Article 14, to the extent to which these were already known at the time of survey – preliminary data collection was concluded in the autumn of 2003 (additional registrations and corrections are received on an ongoing basis), while the guidelines were only finalised in 2004. The data were checked for plausibility by UBA and IIÖ and compared with data reported for EPER, the Austrian Air Pollutant Inventory (OLI) and the Austrian energy statistics. The data were not subject to any further verification by independent experts.

3.3 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.

Allocation at installation level only takes implicit account of early action (via the potential factor). The use of clean technology was taken into account. See Sections 4.2 and 4.3.

3.4 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.

At the moment, it is not intended to extend emissions trading generally to installations below the listed capacity limits. Several installations carrying out activities of combustion plants and whose installed thermal output is below 20 MW have applied for participation in emissions trading in the 2005-2007 period; this was accepted by BMLFUW. These installations are marked with an asterisk (\*) in the list in the Annex.

3.5 If the Member State intends temporarily to exclude certain installations from the scheme until 31 December 2007 at the latest, please explain in detail how the requirements set out in Article 27(2)(a)-(c) of Directive 2003/87/EC are fulfilled.

Currently, Austria does not intend to temporarily exclude installations from the emissions trading scheme.

## 4 Technical Aspects

### 4.1 Potential, including technological potential

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

Criterion 3 (potential to reduce emissions) was also used for the distribution of allowances at activity level.

4.1.2 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?

The technical potential described is used to assess the potential, i.e. at sectoral level. It is derived from the climate strategy, while at installation and industry level, potentials are differentiated by means of the potential factor; the business-as-usual calculations for the individual industries, which are largely based on studies conducted by the Austrian Institute of Economic Research (WIFO) and the consultancy agency KWI, also serve to assess the economic potential at the levels of total quantity and industry allocation. The compliance factor safeguards that the allocated allowances will be consistent with the total quantity.

In the survey by UBA and IIÖ (see Annex "Key elements of the UBA/IIÖ survey"), the reported data were verified with respect to the compliance of the installation with the "best available technique" in accordance with the BREF documents and other relevant standards; for each installation, it was stated whether compliance was achieved or not, and whether non-compliance can be explained (see Section 4.1.4).

4.1.3 Please describe 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.

See Sections 2 and 3 and Annex "Potential factor".

4.1.4 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.

In the preparation of the allocation plan, benchmarking was not used as a separate allocation concept pursuant to Points 75ff of the Guidance Paper, but as an element of the potential factor.

In allocating emission allowances, the average specific greenhouse gas emissions of the respective fuel, energy efficiency and the progress achieved by these activities were used as a basis. Benchmarks resulting from BAT reference documents (BREFs) developed in the context of the exchange of information pursuant to Article 16 (2) of Directive 96/61/EC of the Council concerning integrated pollution prevention and control (OJ L 257 of 10 October 1996, p. 26) were used; where no such

documents exist for the respective activity, other objective and transparent standards of comparison were used.

## 4.2 Early action

4.2.1 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.

Early action, in the sense of measures reducing the specific emissions of the installations concerned by emissions trading, was not taken into account per se, but rather via the potential factor, which refers to the emission factors of the fuel input, the correspondence to BAT and the use of co-generation technology as well as the tapping of district heat (see Annex "Potential factor").

4.2.2 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.

See Section 4.1.4.

## 4.3 Clean technology

4.3.1 How has clean technology, including energy-efficient technologies, been taken into account in the allocation process?

The use of clean technology is taken into account by the potential factor at the level of both individual industries and installations. Thereby, the use of co-generation technology and the tapping of district heat and process heat are considered. As a result of the so-called "co-generation bonus", only half of the reduction calculated from fuel input according to the potential factor is prescribed, i.e. the reduction potential is halved. The district heating and waste heat bonuses decrease the reduction potential by one fourth. Only one bonus can be claimed in a single case. For further details, see the Annex "Potential factor".

4.3.2 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 96/61/EC, and explain in what way it is particularly performing in limiting emissions of covered greenhouse gases.

Due to the important role assigned to the intensification of co-generation and district heating for climate protection under Austrian climate strategy – which ascribes an annual reduction potential of

approx. 1.3 million tonnes CO<sub>2</sub> equivalents to this development –, it was already decided in an early phase of preparing the allocation plan to give special consideration to these technologies.

As early as in the spring of 2003, the Austrian Energy Agency (EVA; [www.eva.ac.at](http://www.eva.ac.at)) was commissioned to develop a study on options for taking into account the climate-related significance of co-generation and district heating in allocation. This study is available on the BMLFUW Web site ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at)). The suggestions submitted by EVA, in combination with further surveys at the installations concerned, made it possible to develop a method to take account of these technologies.

## 5 Community legislation and policy

### 5.1 Competition policy (Articles 81-82 and 87-88 of the EC Treaty)

5.1.1 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 draft Emission Allowance Act provides for the possibility of pooling (co-operation of installation operators and transfer of the allowances to a trustee). So far, however, no pooling application has been submitted to BMLFUW.

### 5.2 Internal market policy – New market entrants (Article 43 of the EC Treaty)

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

A reserve will be formed and allocated to new market entrants free of charge.

5.2.2 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?

The draft Emission Allowance Act (EZG) provides that a reserve of at least 1% of the total quantity of allowances be set aside as a reserve during each period and allocated free of charge to new entrants.

This quantity, which corresponds to roughly 0.3 million allowances annually for the 2005-2007 period, is not subdivided into annual quantities, but is available to the energy and industry sectors as a total quantity. The reserve is formed by deducting 1% from the total quantity before allocating it to the individual industries and installations.

The allowances are allocated to the installation operators, in keeping with the availability of the sectoral reserve and following a substantiated application; the applications thus submitted are processed in the order of the date of the first-instance permit granted for the operation of the installation. For this purpose, the installation operator shall submit, within a two-week period, the permit for the operation of the installation to BMLFUW. If possible, the permit pursuant to Art. 4 EZG shall be submitted together with the permit for the operation of the installation; where the permit for the operation of the installation is granted before 30 November 2004, the permit pursuant to Art. 4 EZG shall be submitted as soon as available.

The quantity of allowances allocated to each installation is calculated in line with the provisions of Art. 11 (7) EZG, exactly as for installations approved before the deadline pursuant to Art. 11 (7); i.e. the following factors are taken into account:

- the approved capacity of the installation;

- the average capacity utilisation compared to the industry average;
- the expected capacity utilisation of the installation during the period;
- the expected emissions of the installation assuming that the state of the art is used.

Pursuant to Art. 17 (3) EZG, the Federal Minister of Agriculture, Forestry, Environment and Water Management may, upon application by an installation operator, issue an administrative order to assign emission allowances that are not assigned to an installation for the remaining years of the respective period (because that installation has been closed down) to other installations of the same operator in order to achieve better capacity utilisation. Decisions concerning such applications in the electricity sector are taken with special consideration of Art. 11 (2) (2) and (5) EZG.

Allowances that due to installations closed down are no longer issued to the operators for the remaining years of the period after the year of close-down or have to be returned by the operators to the authority pursuant to Art. 17 (3) EZG become part of the reserve, i.e. that part of the reserve dedicated to the sector to which the installation closed down belongs. Thereby, the sectoral reserves can be replenished in the course of each period. The allowance quantities that have thus become available are allocated, likewise by order of the permit date, to those installation operators whose application for allowance allocation from the reserve was not met, or only met in part, due to a lack of available allowances. If there are no applications pending, the allowances remain in the reserve until a corresponding application is submitted.

*Example: Installation X that belongs to the industry sector and is licensed on 5 September 2006 is allocated 100,000 allowances; however, the reserve contains only 70,000 allowances, which are credited to the account of installation X. Installation Y that also belongs to the industry sector and is licensed on 27 November 2006 would receive 60,000 allowances according to the calculation; yet the application for allocation of allowances from the reserve cannot not be complied with because the reserve is depleted. Installation Z from the industry sector will close down by the end of 2006; the 200,000 allowances intended for installation Z in 2007 are not issued to it any more. Installation X receives the missing 30,000 allowances, installation Y duly receives 60,000 allowances, and 110,000 allowances remain in the reserve.*

Applications for allocations from the reserve may be submitted until 30 September 2007 at the latest. Applications that have been received by BMLFUW by that date must be finally dealt with by 20 November 2007 at the latest.

30 November 2007 is the deadline set for allocating the allowances remaining in the reserve pursuant to Art. 11 (4) EZG. If allowances remain in the reserve on that date, these will be auctioned. The procedures of this auction will be determined by the Federal Minister of Agriculture, Forestry, Environment and Water Management in an ordinance pursuant to Art. 14 EZG.

5.2.3 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 from 2005 to 2007?

So far, no information on the expected number of new entrants is available. Plants that have already been granted permits were included in the allocation plan with the reported and verified emission data.

### 5.3 Other legislation or policy instruments

5.3.1 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.

The following Community legislation was considered in the determination of allocation quantities with respect to their possible influence on carbon dioxide emissions of industries and installations covered by emissions trading:

- Directive 1996/61/EC concerning integrated pollution prevention and control
- Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC
- Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market
- Directive 2001/80/EC on the limitation of emissions of certain pollutants into the air from large combustion plants
- Directive 2001/81/EC on national emission ceilings for certain atmospheric pollutants
- Directive 2003/30/EC on the promotion of the use of biofuels or other renewable fuels for transport

5.3.2 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.

The implementation of Directive 1999/32/EC relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC and in particular the voluntarily anticipated production of sulphur-free fuel agreed between BMLFUW and the OMV refinery entails an unavoidable increase in CO<sub>2</sub> emissions of the refinery.

Apart from direct references to EU Directives, the Austrian allocation scheme provides for instances where an installation, due to environmental protection measures implemented pursuant to Austrian law or on a voluntary basis, produces more CO<sub>2</sub> emissions than this would be the case without these measures. Emissions due to such measures are treated like process emissions, i.e. calculated with a potential factor of 1.

## 6 Public consultation

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

The allocation formulae for the industry and installation levels listed in Sections 2.2. and 2.3. were presented to representatives of the industries concerned in the course of meetings held between 10 and 23 February 2004; relevant comments were received. These meetings were organised in co-operation with the Austrian Federal Economic Chamber; the participants were nominated by the individual industries.

The intended allocation quantities for the installations concerned were communicated to the installation operators in question by registered letter in mid-March 2004; the operators were given the opportunity to submit comments within a period of eight workdays.

The draft national allocation plan stating the total quantity and individual industry quantities was published on 23 March 2004 on the BMLFUW Web site ([www.eu-emissionshandel.at](http://www.eu-emissionshandel.at)). All citizens were free to submit comments within a period of five workdays.

### 6.1.2 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 received on the draft allocation plan were published and accordingly taken account of in the final version of the allocation plan.

### 6.1.3 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.

Comments were accordingly taken into account in the final version of the allocation plan.

## 7 Criteria other than those in Annex III to the Directive

7.1.1 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.

No criteria other than those listed in Annex III to the Directive were used.

7.1.2 Please also justify why any such criteria are not considered to be discriminatory.

See Section 7.1.1.

## 8 Annex I

### 8.1 List of installations

8.1.1 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 emission permits
- 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

The installations covered by the Emissions Trading Directive (as per 7 April 2004) and the planned allocation quantities are shown in the table below.

**Note:** The following table does not establish any legal title for the installations listed to obtain a permit pursuant to Art. 4 EZG or an allocation pursuant to Art. 13 EZG. Changes are still possible, in particular with respect to the deletion of installations from, and the inclusion of installations into, the list.

*Table: Planned allocation at installation level in Austria.*

Code	Installation	Installation operator	Allocation 2005 – 2007 (in tonnes of CO <sub>2</sub> )	Annual allocation (in tonnes of CO <sub>2</sub> )
<b>EEW</b>	<b>Electricity</b>		<b>27,626,107</b>	<b>9,208,702</b>
EEW 18-1	EVN BHKW Krankenhaus Mistelbach	EVN AG	9,948	3,316
EEW 20-1	EVN Cogen Salzer St. Pölten	EVN AG	131,118	43,706
EEW 19-1	EVN FHKW Mödling	EVN AG	67,163	22,388
EEW 4-1	EVN KW Dürnrohr Zwentendorf	EVN AG	2,172,104	724,035
EEW 5-1	EVN KW Korneuburg	EVN AG	371,089	123,696
EEW 6-1	EVN KW Theiss Gedersdorf	EVN AG	1,398,256	466,085
EEW 27-1	FHKW Klagenfurt Stadtwerke Klagenfurt	Stadtwerke Klagenfurt AG	493,051	164,350
EEW 28-1	FHKW WelsStrom Wels	Wels Strom GmbH	220,612	73,537
EEW 17-1	FW Kirchdorf	Energie AG Oberösterreich	41,624	13,875
EEW 1-1	KW Riedersbach	Energie AG Oberösterreich	1,604,752	534,917
EEW 2-1	KW Timelkam II	Energie AG Oberösterreich	808,930	269,643
EEW 3-1	KW Timelkam III	Energie AG Oberösterreich	12,026	4,009
EEW 16-1	KW Timelkam IV	Energie AG Oberösterreich	54,249	18,083
EEW 21-1	LS FHKW Mitte Linz Linie 1a	Linz Strom	777,888	259,296
EEW 22-1	LS FHKW Mitte Linz Linie 1b	Linz Strom	25,684	8,561

National Allocation Plan for Austria 2005 – 2007

EEW 23-1	LS FHKW Süd Linz	Linz Strom	789,736	263,245
EEW 24-1	Salzburg AG FHKW Mitte Salzburg	Salzburg AG	655,948	218,649
EEW 25-1	Salzburg AG FHKW Nord Salzburg	Salzburg AG	202,557	67,519
EEW 26-1	Salzburg AG FHKW West Salzburg	Salzburg AG	15,296	5,099
EEW 9-1	Verbund FHKW Mellach	Verbund Austria Thermal Power GmbH & Co KG	2,451,656	817,219
EEW 13-1	Verbund FHKW Werndorf 1 Wildon	Verbund Austria Thermal Power GmbH & Co KG	3	1
EEW 14-1	Verbund FHKW Werndorf 2 Wildon	Verbund Austria Thermal Power GmbH & Co KG	795,575	265,192
EEW 10-1	Verbund KW 2 Pernegg	Verbund Austria Thermal Power GmbH & Co KG	1,132	377
EEW 7-1	Verbund KW Dürnrohr Zwentendorf	Verbund Austria Thermal Power GmbH & Co KG	2,536,578	845,526
EEW 8-1	Verbund KW Korneuburg	Verbund Austria Thermal Power GmbH & Co KG	5,307	1,769
EEW 11-1	Verbund KW St. Andrä	Verbund Austria Thermal Power GmbH & Co KG	466,245	155,415
EEW 12-1	Verbund KW Voitsberg	Verbund Austria Thermal Power GmbH & Co KG	3,597,665	1,199,222
EEW 15-1	Verbund KW Zeltweg	Verbund Austria Thermal Power GmbH & Co KG	179,164	59,721
EEW 30-1	Wienstrom KW Donaustadt Wien	Wienstrom GmbH	2,854,456	951,485
EEW 29-1	Wienstrom KW Leopoldau Wien	Wienstrom GmbH	815,865	271,955
EEW 31-1	Wienstrom KW Simmering Wien	Wienstrom GmbH	4,070,429	1,356,810
<b>EFE</b>	<b>District heating</b>		<b>1,251,410</b>	<b>417,137</b>
EFE 34-1	EVN FHKW Wr. Neustadt	EVN AG	16,644	5,548
EFE 32-1	EVN FHW Baden	EVN AG	52,952	17,651
EFE 33-1	EVN FHW Palmers Wr. Neudorf	EVN AG	20,494	6,831
EFE 54-1	Fernheizwerk Scheydgasse Wien	Österr. Fernwärmegesellschaft m.b.H.	26,300	8,767
EFE 56-1	Fernwärme Linz/Bindermichl	Österr. Fernwärmegesellschaft m.b.H.	30,589	10,196
EFE 55-1	Fernwärme Pinkafeld	Österr. Fernwärmegesellschaft m.b.H.	38,358	12,786
EFE 46-1	FHKW Arsenal Fernwärme Wien	Fernwärme Wien GmbH	27,354	9,118
EFE 36-1	FHKW Dornach Linz AG Linz	Linz Strom	1,269	423
EFE 44-1	FHKW Kagran Fernwärme Wien	Fernwärme Wien GmbH	21,442	7,147
EFE 39-1	FHKW Kelag St. Magdalen	KELAG	77,374	25,791
EFE 40-1	FHKW Nord St. Pölten	Stadtwerke St. Pölten	182,393	60,798
EFE 42-1	FHKW Spittelau Fernwärme Wien	Fernwärme Wien GmbH	103,059	34,353
EFE 37-1	FHKW Steirische Gas-Wärme Graz	Steirische Gas-Wärme GmbH	60,117	20,039
EFE 43-1	FHKW Süd Inzersdorf	Fernwärme Wien GmbH	13,457	4,486
EFE 41-1	FHKW Süd StW St. Pölten	Stadtwerke St. Pölten	48,720	16,240
EFE 45-1	FW Leopoldau Fernwärme Wien	Fernwärme Wien GmbH	24,332	8,111
EFE 48-1	FW Voitsberg Bärnbach	Steirische Gas-Wärme GmbH	30,723	10,241
EFE 38-1	KW CMST Thondorf Graz	Cogeneration-Kraftwerke Management Steiermark	290,407	96,802
EFE 53-1	Fernheizwerk Grillgasse Wien	Österr. Fernwärmegesellschaft m.b.H.	20,792	6,931
EFE 35-1	Salzburg AG HW Süd Salzburg	Salzburg AG	5,251	1,750
EFE 49-1	Salzburg AG LKH Salzburg	Salzburg AG	19,920	6,640
EFE 58-1	Stadtwärme Lienz	Stadtwärme Lienz Produktions- und VertriebsGmbH	4,470	1,490
EFE 47-1	Stadtwerke Kufstein	Stadtwerke Kufstein GmbH	41,586	13,862
EFE 57-1	Stw Heizwerk Süd Klagenfurt	Stadtwerke Klagenfurt AG	3,423	1,141
EFE 50-1	Wärmebetrieb FHW Badgastein	Wärmebetriebe Ges.m.b.H. – Fernheizwerk Bad Gastein	40,343	13,448
EFE 51-1	Wärmebetriebe FHW Innrain Innsbruck TILAK	Tiroler Landeskrankenanstalten GmbH	45,899	15,300
EFE 52-1	Wärmebetriebe Lactoprot Hartberg	Wärmebetriebe Ges.m.b.H. – DKA Fa. Lactoprot	3,742	1,247

<b>EMV</b>	<b>Mineral oil refining</b>		<b>8,303,046</b>	<b>2,767,682</b>
EMV 60-1	OMV Gasstation Aderklaa I	OMV EPI Gänserndorf	95,124	31,708
EMV 59-1	OMV Gasstation Aderklaa II	OMV EPI Gänserndorf	44,647	14,882
EMV 61-1	Raffinerie Schwechat	OMV AG	8,163,274	2,721,091
<b>IVA</b>	<b>Voestalpine</b>		<b>34,068,594</b>	<b>11,356,198</b>
IVA 65-1	Sinteranl., Hochöfen, Stahlwerk Donawitz	voestalpine Stahl Donawitz GmbH	5,323,284	1,774,428
IVA 66-1	Steweg Energiepark Donawitz	Steweg-Steg GmbH	2,983,713	994,571
IVA 63-1	Voestalpine Kokerei Linz	voestalpine Stahl Linz GmbH	4,029,700	1,343,233
IVA 64-1	Voestalpine Kraftwerk Linz	voestalpine Stahl Linz GmbH	6,450,818	2,150,273
IVA 62-1	Voestalpine Stahl Linz	voestalpine Stahl Linz GmbH	15,281,079	5,093,693
<b>IES</b>	<b>Other iron and steel industries</b>		<b>192,094</b>	<b>64,031</b>
IES 69-1	Breitenfelder Edelstahl Mitterdorf	Breitenfeld Edelstahl AG	12,256	4,085
IES 67-1	Stahlproduktion Böhler Edelstahl Kapfenberg	Böhler Edelstahl GmbH & Co KG	82,665	27,555
IES 70-1	Stahlwerk Marienhütte GmbH	Stahl- und Walzwerk Marienhütte GmbH	62,378	20,793
IES 68-1	Verbrennungsanlagen Böhler Edelstahl Kapfenberg	Böhler Edelstahl GmbH & Co KG	34,795	11,598
<b>IZE</b>	<b>Cement industry</b>		<b>7,727,516</b>	<b>2,575,839</b>
IZE 77-1	Gmundner Zement Gmunden	Gmundner Zement Produktions- und HandelsGmbH	1,031,322	343,774
IZE 72-1	Lafarge Perlmooser Mannersdorf	Lafarge Perlmooser AG Wien	1,830,231	610,077
IZE 73-1	Lafarge Perlmooser Retznei	Lafarge Perlmooser AG Wien	950,352	316,784
IZE 71-1	Schretter & Cie (Zement) Vils	Schretter & Cie	624,915	208,305
IZE 75-1	Wietersdorfer & Peggauer Zement Peggau	Wietersdorfer & Peggauer Zementwerke GmbH	575,178	191,726
IZE 76-1	Wietersdorfer & Peggauer Zement Wietersdorf	Wietersdorfer & Peggauer Zementwerke GmbH	1,172,484	390,828
IZE 74-1	Zementwerk Hofmann Kirchdorf	Kirchdorfer Zementwerk Hofmann Ges.m.b.H.	720,111	240,037
IZE 78-1	Zementwerke Leube Gartenau	Zementwerk Leube GmbH	822,921	274,307
<b>IPA</b>	<b>Paper industry</b>		<b>7,106,372</b>	<b>2,368,791</b>
IPA 80-1	SCA Ortmann	SCA	221,975	73,992
IPA 94-1	Brigl & Bergmeister Niklasdorf	Brigl & Bergmeister Papierfabrik GmbH	14,562	4,854
IPA 102-1	CMOÖ GuD Anlage Laakirchen	Cogeneration-Kraftwerke Management OÖ	772,205	257,402
IPA 96-1	Feinpapier Feurstein Traun	Trierenberg Holding AG	104,216	34,739
IPA 86-1	Frantschach St. Gertraud	Frantschach Pulp & Paper Austria AG	152,308	50,769
IPA 92-1	Mayr-Melnhof Karton Frohnleiten	Mayr-Melnhof Karton GmbH & Co KG	446,399	148,800
IPA 95-1	Mayr-Melnhof Karton Hirschwang	Mayr-Melnhof Karton GmbH & Co KG	82,759	27,586
IPA 98-1	Merckens Schwertberg	Merckens Karton- und Pappenfabrik GmbH	14,402	4,801
IPA 89-1	M-real Hallein	M-real Hallein AG	353,282	117,761
IPA 90-1	Nettingsdorfer Ansfelden	Nettingsdorfer Papierfabrik AG & Co KG	334,418	111,473
IPA 83-1	Neusiedler Hausmening	Neusiedler Ybbstal AG	315,082	105,027
IPA 84-1	Neusiedler Kematen	Neusiedler Ybbstal AG	155,507	51,836
IPA 85-1	Neusiedler Zellstoff Kematen	Ybbstaler Zellstoff GmbH	13,031	4,344
IPA 91-1	Norske Skog Bruck an der Mur	Norske Skog Bruck GmbH	679,554	226,518

National Allocation Plan for Austria 2005 – 2007

IPA 82-1	Papierfabrik Hamburger Pitten	W. Hamburger AG	589,654	196,551
IPA 79-1	Papierfabrik Wattens	Trierenberg Holding Traun	77,429	25,810
IPA 97-1	Pappenfabrik Timmersdorf	Pappenfabrik Timmersdorf GmbH	20,925	6,975
IPA 100-1	Paul Hartmann GmbH Grimmenstein	Paul Hartmann GmbH	14,704	4,901
IPA 93-1	Roman Bauernfeind Frohnleiten	Roman Bauernfeind Papierfabrik Frohnleiten GmbH	134,263	44,754
IPA 81-1	Rondo Ganahl Frastanz	Ganahl AG	83,654	27,885
IPA 88-1	Sappi Gratkorn	Sappi Austria Produktions GmbH & Co KG	1,586,724	528,908
IPA 101-1	SCA Laakirchen	SCA Graphic Laakirchen AG	933	311
IPA 99-1	Spezialpapierfabrik Rosegg Koglhof	Spezialpappenfabrik Rosegg Betriebs GmbH	8,905	2,968
IPA 87-1	Steyrermühl AG Steyrermühl	Steyrermühl AG	782,784	260,928
IPA 103-1	Zellstoff Pöls	Zellstoff Pöls AG	146,697	48,899
<b>IKA</b>	<b>Lime industry</b>		<b>2,490,591</b>	<b>830,197</b>
IKA 119-1	Baumit Baustoffe Bad Ischl	Baumit Baustoffe	135,668	45,223
IKA 118-1	Ernstbrunner Kalktechnik Ernstbrunn	Ernstbrunner Kalktechnik GmbH	121,701	40,567
IKA 124-1	Kalkwerk Tagger (Leube) Golling	Zementwerk Leube GmbH	356,923	118,974
IKA 123-1	Schretter & Cie (Kalk) Vils	Schretter & Cie	120,562	40,187
IKA 120-1	VOEST-Alpine Stahl Linz (Kalk) Steyrling	voestalpine Stahl GmbH	1,028,055	342,685
IKA 122-1	Wietersdorfer & Peggauer (Kalk) Peggau	Wietersdorfer & Peggauer Zementwerke GmbH	195,190	65,063
IKA 121-1	Wopfinger Baustoffindustrie Waldegg	Wopfinger Baustoffindustrie GmbH	532,492	177,497
<b>IZI</b>	<b>Brick-making industry</b>		<b>1,004,903</b>	<b>334,968</b>
IZI 157-1	Comelli Ziegel Kirchbach Maxendorf	Comelli-Ziegel Ges.m.b.H.	21,988	7,329
IZI 146-1	Eichhorn Blindenmarkt	Eichhorn GmbH	24,940	8,313
IZI 137-1	Herbert Pexider GmbH Teufenbach	Herbert Pexider Ges.m.b.H.	36,271	12,090
IZI 147-1	Hilti Mettaufer Götzis	Mettauer GmbH	9,779	3,260
IZI 149-1	Leitl Spannton Eferding	Leitl Spannton GmbH	50,418	16,806
IZI 148-1	Salzburger Ziegelwerk Oberndorf	Salzburger Ziegelwerk GmbH & Co	39,315	13,105
IZI 131-1	Tondach Gleinstätten	Tondach Gleinstätten AG	58,687	19,562
IZI 139-1	Tondach Pinkafeld	Tondach Gleinstätten AG	38,182	12,727
IZI 135-1	Tondach Unterpremstätten	Tondach Gleinstätten AG	23,110	7,703
IZI 136-1	Wienerberger Fürstenfeld	Wienerberger Ziegelindustrie GmbH	20,492	6,831
IZI 138-1	Wienerberger Göllersdorf	Wienerberger Ziegelindustrie GmbH	48,723	16,241
IZI 140-1	Wienerberger Helpfau Uttendorf	Wienerberger Ziegelindustrie GmbH	23,407	7,802
IZI 132-1	Wienerberger Hennersdorf	Wienerberger Ziegelindustrie GmbH	73,679	24,560
IZI 134-1	Wienerberger Knittelfeld (Apfelberg)	Wienerberger Ziegelindustrie GmbH	25,486	8,495
IZI 133-1	Wienerberger Krengelbach Haiding	Wienerberger Ziegelindustrie GmbH	81,269	27,090
IZI 142-1	Wienerberger Laa Thaya	Wienerberger Ziegelindustrie GmbH	39,369	13,123
IZI 141-1	Wienerberger Rotenturm	Wienerberger Ziegelindustrie GmbH	12,409	4,136
IZI 151-1	Ziegelwerk Brenner Wirth St. Andrä	F. Wirth Ges.m.b.H.	29,687	9,896
IZI 155-1	Ziegelwerk Danreiter Ried Innkreis	Danreiter & Co	22,135	7,378
IZI 158-1	Ziegelwerk Eberschwang	Ziegelwerk Eberschwang GmbH	12,161	4,054
IZI 144-1	Ziegelwerk Eder Weibern	Ziegelwerk Eder GmbH & Co KG	59,209	19,736
IZI 143-1	Ziegelwerk Eder Peuerbach Bruck	Ziegelwerk Eder GmbH & Co KG	88,813	29,604
IZI 156-1	Ziegelwerk Frixeder Senftenbach	Ziegelwerk Senftenbach Frixeder & Co KG	40,132	13,377
IZI 152-1	Ziegelwerk Lizzi Erlach	Ziegelwerk Lizzi GmbH	6,740	2,247
IZI 150-1	Ziegelwerk Martin Pichler Aschach	Martin Pichler Ziegelwerk GmbH	19,617	6,539

National Allocation Plan for Austria 2005 – 2007

IZI 154-1	Ziegelwerk Nicoloso Pottenbrunn	Ziegelwerk Pottenbrunn	7,111	2,370
IZI 153-1	Ziegelwerk Obermair Neuhofen	K.F. u. DI H. Obermair GmbH & Co KG	6,979	2,326
IZI 145-1	Ziegelwerk Pichler Wels	Ziegelwerk Pichler Wels KG	62,627	20,876
IZI 159-1	Ziegelwerk Rhomberg – Dornbirn	J.N. Rhomberts Nfg. GmbH & Co KG	12,002	4,001
IZI 160-1	Ziegelwerk Weindl Steyr	Weindl Ges.m.b.H.	10,165	3,388
<b>IGL</b>	<b>Glass industry</b>		<b>879,514</b>	<b>293,171</b>
IGL 180-1	Euroglas Nickelsdorf	Glas Trösch Euroholding AG & Co KG	203,150	67,717
IGL 175-1	Inn Crystal Glass Braunau	Inn Crystal Glass Ges.m.b.H.	11,226	3,742
IGL 178-1	M. Swarovski Amstetten	M. Swarovski GmbH & Co KG	28,837	9,612
IGL 181-1	Saint-Gobain Isover Austria	Saint-Gobain Isover Austria	29,964	9,988
IGL 177-1	Stölzle-Oberglas Bärnbach	Stölzle Oberglas AG & Co KG	58,037	19,346
IGL 176-1	Stölzle-Oberglas Köflach	Stölzle Oberglas AG & Co KG	103,220	34,407
IGL 179-1	Swarovski Wattens	D. Swarovski & Co	81,821	27,274
IGL 174-1	Technoglas Voitsberg	Technoglas	26,348	8,783
IGL 172-1	Vetropack Kremsmünster	Vetropack Austria GmbH	180,439	60,146
IGL 173-1	Vetropack Pöchlarn	Vetropack Austria GmbH	156,471	52,157
<b>IFE</b>	<b>Refractory products</b>		<b>1,732,379</b>	<b>577,460</b>
IFE 129-1	Rath GmbH Krummnussbaum	Rath AG	33,454	11,151
IFE 130-1	Veitsch-Radex Breitenau	Veitsch-Radex GmbH & Co	865,745	288,582
IFE 126-1	Veitsch-Radex Hochfilzen	Veitsch-Radex GmbH & Co	457,390	152,463
IFE 125-1	Veitsch-Radex Radenthein	Veitsch-Radex GmbH & Co	257,626	85,875
IFE 127-1	Veitsch-Radex Trieben	Veitsch-Radex GmbH & Co	67,495	22,498
IFE 128-1	Veitsch-Radex Veitsch	Veitsch-Radex GmbH & Co	50,669	16,890
	<b>Combustion plants &gt; 20 MW</b>			
<b>ICH</b>	<b>Chemicals industry</b>		<b>3,325,920</b>	<b>1,108,640</b>
ICH 114-1	AMI Agrolinz Melamine International Linz	AMI Agrolinz Melamine Int.	261,929	87,310
ICH 109-1	Borealis Schwechat	Borealis GmbH	57,327	19,109
ICH 112-1	DSM Fine Chemicals Austria Linz	DSM Fine Chemicals Austria Nfg. GmbH & Co KG	338,198	112,733
ICH 108-1	Dynea Krems	Dynea Austria GmbH	42,866	14,289
ICH 116-1	Energie- und Medienzentrale Heiligenkreuz	Energie- und Medienzentrale Heiligenkreuz GmbH & Co KG	252,552	84,184
ICH 115-1	EVN Baxter Krems	EVN AG	9,380	3,127
ICH 105-1	Glanzstoff St. Pölten	Glanzstoff Austria GmbH & Co KG	182,724	60,908
ICH 113-1	Isomax Dekorative Laminare Wiener Neudorf	Isomax Dekorative Laminare AG	72,056	24,019
ICH 107-1	Jungbunzlauer Wulzeshofen	Jungbunzlauer GmbH	605,335	201,778
ICH 117-1	Lenzing AG Faser+Energie 1, Zellstoff, Papier	Lenzing AG	755,149	251,716
ICH 106-1	Novartis Biochemie Kundl	Novartis AG	220,885	73,628
ICH 111-1	Semperit Reifen Traiskirchen	Semperit Reifen GesmbH	142,770	47,590
ICH 104-1	Semperit Technische Produkte Wimpassing	Semperit Holding AG	54,235	18,078
ICH 110-1	Solvay Ebensee	Solvay Österreich GmbH	330,515	110,172

<b>ILE</b>	<b>Food industry</b>		<b>1,023,404</b>	<b>341,135</b>
ILE 165-1	Agrana Aschach	Agrana Zucker und Stärke AG	219,769	73,256
ILE 166-1	Agrana Gmünd	Agrana Zucker und Stärke AG	97,763	32,588
ILE 162-1	Agrana Hohenau	Agrana Zucker und Stärke AG	174,649	58,216
ILE 163-1	Agrana Leopoldsdorf	Agrana Zucker und Stärke AG	184,206	61,402
ILE 161-1	Agrana Tulln	Agrana Zucker und Stärke AG	227,676	75,892
ILE 170-1	Brau Union Göss Leoben	Brau Union Österreich AG	19,768	6,589
ILE 168-1	Brau Union Kaltenhausen	Brau Union Österreich AG	5,343	1,781
ILE 171-1	Brau Union Puntigam Graz	Brau Union Österreich AG	20,547	6,849
ILE 169-1	Brau Union Schwechat	Brau Union Österreich AG	13,193	4,398
ILE 164-1	OÖ Tierkörperverwertung Regau	OÖ Tierkörperverwertungs Ges.m.b.H.	41,853	13,951
ILE 167-1	Rauch Nüziders		18,638	6,213
<b>IHO</b>	<b>Wood industry</b>		<b>731,362</b>	<b>243,787</b>
IHO 184-1	Fritz Egger St. Johann Tirol	Fritz Egger GmbH & Co	68,685	22,895
IHO 186-1	Fritz Egger Unterradberg	Fritz Egger GmbH & Co	92,715	30,905
IHO 185-1	Fritz Egger Wörgl	Fritz Egger GmbH & Co	59,440	19,813
IHO 182-1	Funder Werk 1 St. Veit Glan	Constantia ISO Holding	129,983	43,328
IHO 183-1	Funder Werk 4 St. Veit Glan	Constantia ISO Holding	63,562	21,187
IHO 189-1	Homogenholz Neudörfel	Österr. Homogenholz GesmbH	81,231	27,077
IHO 192-1	Kaindl Holzindustrie Wals	M. Kaindl Holzindustrie	170,451	56,817
IHO 191-1	MDF (Binder) Hallein	Franz Binder Ges.m.b.H.	7,922	2,641
IHO 187-1	Novopan-Holzind Nachf. (Egger) Leoben	Österr. Novopan Holzindustrie GmbH Nfg.	33,649	11,216
IHO 188-1	Umdasch Amstetten	Umdasch AG	17,532	5,844
IHO 190-1	Wiesner-Hager Altheim	Wiesner-Hager Zentrale Dienste GmbH	6,194	2,065
<b>IMS</b>	<b>Mechanical and structural steel engineering, electronics industry</b>		<b>309,051</b>	<b>103,017</b>
IMS 193-1	AMAG Service Ranshofen	Austria Metall AG	28,903	9,634
IMS 195-1	Andritz Graz	Andritz AG	12,562	4,187
IMS 196-1	BMW Motoren Steyr	BMW Motoren GmbH	66,161	22,054
IMS 200-1	Energie-Contracting Steyr	Energie Contracting Steyr GmbH	73,673	24,558
IMS 197-1	Magna Steyr Werk 1 Graz	Magna Steyr Fahrzeugtechnik AG & Co KG	40,363	13,454
IMS 198-1	Magna Steyr Werk 2 Graz	Magna Steyr Fahrzeugbau GesmbH	51,196	17,065
IMS 199-1	Teich AG Weinburg	Teich AG	25,501	8,500
IMS 194-1	VA Bergtechnik (Sandvik) Zeltweg	Vöest Alpine Bergtechnik	10,692	3,564
<b>ISM</b>	<b>Other mineral products/construction industry</b>		<b>693,197</b>	<b>231,066</b>
ISM 201-1	Leca Fehring	Österr. Leca GmbH	35,981	11,994
ISM 202-1	Wopfinger Zement Waldegg	Wopfinger Baustoffindustrie GmbH	657,217	219,072

National Allocation Plan for Austria 2005 – 2007

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<b>ITE</b>	<b>Textile industry</b>		<b>110,891</b>	<b>36,964</b>
ITE 203-1	F.M. Hämmerle Dornbirn	F.M. Hämmerle Textilwerke GmbH	37,679	12,560
ITE 204-1	Getzner Textil Bludenz	Getzner Textil AG	36,673	12,224
ITE 205-1	Kunert Rankweil	Kunert Gesellschaft mbH	36,539	12,180
	<b>TOTAL</b>		<b>98,576,350</b>	<b>32,858,783</b>

## 8.2 Key elements of the UBA/IIÖ survey

The aggregated version of the UBA/IIÖ survey can be downloaded from [www.eu-emissionshandel.at](http://www.eu-emissionshandel.at). The UBA/IIÖ survey defined as installations pursuant to the Emissions Trading Directive all fixed technical installations that

- exist at the same site,
- are operated by the same operator and
- are needed for an activity (sum of all activities falling under the same subheading) pursuant to Annex I of the Emissions Trading Directive. If an activity at one site is covered by the Emissions Trading Directive (e.g. combustion plant > 20 MW), all activities conducted under the same subheading at this site are considered relevant. If different activities coming under the Emissions Trading Directive are carried out at one site, separate questionnaires must be filled in, unless the installations are closely connected, e.g. due to a common energy supply system, which does not allow for separate measurements of emissions. If an activity is needed in the context of another activity subject to emissions trading, the first activity is equally included in the survey.

In case of different activities that are not connected (by either material or energy supply), only those activities that are covered by the Emissions Trading Directive were taken into account. In this case, the decisive point is that the production lines of the activities must be separated and entail separate products.

The final report contains the following information:

### Information at installation level

- Specification of CO<sub>2</sub> emission volumes per installation for the 1998-2001 reference period (in some cases, the figures for 2002 were also reported) as well as for the 1990-1997 period, if this was reported
- Specification of expected trends until March 2004 in the form of information submitted by the undertakings on planned enlargement measures and related pending administrative procedures
- Determination of the specific characteristics of each installation that are necessary for establishing the emission profiles of the installations or industries concerned;
- Calculation of specific coefficients, if this was possible on the basis of the data received:
  - o "Distance to best practice" classification: Depending on availability, a comparison was made with the specific benchmarks laid down in the "best available technique" (BAT) documents or (if no BAT documents are available) with other reference data for industries
  - o Specification of the CO<sub>2</sub> intensity, i.e. the extent to which "low CO<sub>2</sub>" energy sources are used
  - o If applicable, determination of the efficiency of energy source conversion
- Specification of developments over time as well as of specific coefficients and measures related to these developments over time

### Information at individual industry level:

- Specification of the undertakings concerned
- Specification of CO<sub>2</sub> emissions of the sector for the 1998-2001 reference period as well as for 2002 and the 1990-1997 period, if these data are available in their entirety within the sector
- Subdivision within the sectors (only in the final report including detailed data)
- Specification of the reference base used to carry out the preliminary "distance to best practice" classification

The survey questionnaires were e-mailed on the basis of the feedback received on the preliminary installation list from the trade associations organised within the Austrian Federal Economic Chamber and the Austrian Association of Electricity Utilities. The number of questionnaires dispatched was considerably greater than the number of installations identified as potentially concerned. In all, questionnaires for 313 installations were issued. Additionally, five installations were identified as complex installations. The data collected by UBA and IIÖ were communicated to the installation operators for feedback; comments by the operators were integrated into the final report to BMLFUW.

*Total CO<sub>2</sub> emissions after classification by trade associations/VEÖ (as per 17 December 2003).*

Sector	CO <sub>2</sub> emissions (excluding biogenic emissions according to information supplied by operators) in million tonnes/year				
	1998	1999	2000	2001	Average in 98-01
Mining and iron-producing industry	Not released for publication <sup>a)</sup>				
Mineral oil industry	2.741	2.562	2.470	2.577	2.587
Cement <sup>b)</sup>	2.459	2.441	2.583	2.528	2.503
Lime <sup>b)</sup>	0.587	0.585	0.643	0.658	0.618
Bricks <sup>b)</sup>	0.379	0.338	0.320	0.322	0.340
Other mineral products <sup>b)</sup>	0.220	0.225	0.234	0.212	0.223
Glass industry	0.202	0.204	0.207	0.212	0.206
Chemicals industry <sup>c)</sup>	1.275	1.287	1.516	1.568	1.411
Paper industry <sup>c)</sup>	2.091	2.019	1.975	1.873	1.989
Wood-processing industry	0.183	0.188	0.203	0.192	0.192
Food, beverage and tobacco industry	0.316	0.341	0.294	0.290	0.310
Foundry industry <sup>d)</sup>	0.153	0.158	0.149	0.159	0.155
Nonferrous metal industry <sup>d)</sup>					
Mechanical and structural steel engineering <sup>d)</sup>					
Motor vehicle industry <sup>d)</sup>					
Hardware and metal goods industry <sup>d)</sup>					
Textile industry	0.030	0.026	0.026	0.025	0.027
District heating companies	Not released for publication <sup>a)</sup>				
Power stations	8.287	8.322	8.198	9.684	8.622
Waste incineration	<sup>e)</sup>				
<b>Sum total<sup>f)</sup></b>	<b>29.510</b>	<b>29.364</b>	<b>30.288</b>	<b>31.741</b>	<b>30.226</b>

<sup>a)</sup> Not released for publication, since it is unclear in individual cases to which sector emissions are to be attributed. If corresponding emission data were communicated, it would become possible to directly infer operating data.

<sup>b)</sup> The subdivision was carried out upon the express request of the trade association.

<sup>c)</sup> Undertakings belonging to both trade associations were classified as part of the chemicals industry.

<sup>d)</sup> Since in some cases only individual companies of these sectors were covered by the survey and their trade associations may be largely classified as belonging to the (metal) producing or processing industries, these sectors are presented in aggregate form.

<sup>e)</sup> As per 17 December 2003, these installations are not covered by the Emissions Trading Directive, although no final decision has been taken so far. Since the data base is largely incomplete and since due to the general technical context, part of the notified installations were classified as belonging to other sectors, the data were not evaluated any further.

<sup>f)</sup> The figures stated here comprise emissions from installations closed down in the 1998-2001 period. The volume of these emissions equals 0.008 to 0.022 million tonnes/year.

Regarding the classification of installations as belonging to the various industries, however, the data surveyed in the UBA/IIÖ study are not totally identical to the classifications used in the national allocation plan since some installations, for various reasons, had to be transferred to other industries (e.g. the allocation plan lists energy production exclusively destined for an industrial plant covered by emissions trading under to the corresponding industry sector). Moreover, the result is also based on a total installation number of 235 and contains numerous installations for which it was not yet clear at that date whether they are covered by the Directive or not. However, the data do provide reference figures on the distribution of emissions across sectors and industries.

In addition, the allocation base was modified as compared to the base period average due both to new installations and the fact that the 1998-2001 base period was not representative of some installations.

### 8.3 Climate strategy

*Sectoral emissions and reduction targets of the Austrian climate strategy  
(in million tonnes of carbon dioxide equivalents).*

MEASURES TAKEN AT HOME	Current inventory		Reduction contribution as compared to trend estimates for 2010
	1990	2002	
Small-scale consumption (space heating and other small-scale consumption <sup>1</sup> ; CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> )	14.48	14.24	4.0
Transport (CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> )	13.34	21.37	3.7
Energy supply (energy production and volatile emissions; CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> ) of which:	13.91	15.55	-
- Energy production (in particular electricity and heat production, refineries; CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> )	13.53	15.08	2.1
- Volatile emissions <sup>2</sup> (energy generation and distribution; CO <sub>2</sub> +CH <sub>4</sub> )	0.38	0.47	-
Industry including fluorinated gases (CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> +HFCs, FCs, SF <sub>6</sub> ) of which:	23.21	22.71	-
- Industry and manufacturing sectors (CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> ) (including processes, excluding electricity supply)	21.47	20.97	1.25
- Fluorinated gases (HFCs, FCs, SF <sub>6</sub> )	1.74 <sup>3</sup>	1.74	1.2
Agriculture, in particular enteric fermentation and manure management (N <sub>2</sub> O+CH <sub>4</sub> )	8.44	7.40	0.4
Other emissions (CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> ) of which:	4.61	3.34	-
Waste management, in particular landfills (CO <sub>2</sub> +N <sub>2</sub> O+CH <sub>4</sub> )	4.10	2.92	1.1
Solvent use (CO <sub>2</sub> +N <sub>2</sub> O)	0.52	0.43	0.1
Volatile emissions <sup>2</sup> (energy generation and distribution; CO <sub>2</sub> +CH <sub>4</sub> )	[0.38]	[0.47]	
Total for Austria <sup>3</sup>	78.00 <sup>4</sup>	84.62	13.85
<b>PROJECTS ABROAD</b>			not quantified
<b>TARGET VALUE</b> in accordance with EU burden sharing agreement with respect to the Kyoto Protocol (climate strategy)		<b>67.55</b>	

1) In this category, the official emission inventory compiled by UBA, in addition to heating-related emissions from households, undertakings and service facilities, also lists small-scale consumption caused by the use of agricultural and forestry equipment.

2) In the 2004 inventory, volatile emissions were classified as belonging to the energy supply sector; in the climate strategy, they were summarised under the "Other emissions" heading.

3) 1995 data.

4) It should be borne in mind that the emissions of the base year in the current inventory are slightly higher than the values of the climate strategy (increase from 77.64 to 78.00 million tonnes).

#### **8.4 Trend analyses by WIFO/KWI**

In the context of the preparation of the national allocation plan, studies were conducted by the Austrian Institute of Economic Research ([www.wifo.at](http://www.wifo.at)) and the consultancy agency KWI ([www.kwi.at](http://www.kwi.at)) from the autumn of 2003 to March 2004 to assess the future developments of production and the resulting CO<sub>2</sub> emissions of the industries concerned. These studies were partly commissioned by BMLFUW, BMWA, IV and WKÖ together with the industries concerned and partly commissioned independently by individual industries. For industries with very low CO<sub>2</sub> emissions (a total of less than 5% of the CO<sub>2</sub> emissions covered by the EU Emissions Trading Directive), for which no WIFO/KWI trend analysis was compiled, an adequate forecast of CO<sub>2</sub> emissions was carried out.

The WIFO/KWI studies prepared a trend analysis to assess the likely scope of CO<sub>2</sub> emissions necessitated by the production volume, energy and CO<sub>2</sub> intensity as well as based on historical data. The trend values of CO<sub>2</sub> emissions are specified in annual rates of change and approximately correspond to the sum total of the trend values obtained for production, energy and CO<sub>2</sub> intensity.

The business-as-usual scenarios extrapolate past trends to the future. This also means that the CO<sub>2</sub> emission forecasts already comprise production efficiency increases, i.e. it is assumed that the progress in efficiency made so far will continue in the future.

The business-as-usual scenarios correspond to the mean forecast of the development of CO<sub>2</sub> emissions; they were used by BMLFUW to calculate the trend value for the emissions in the allocation period that are to serve as the basis for the climate protection contribution.

The major finding and result of the WIFO/KWI studies prepared for the national allocation plan lies in the significant difference to the trend value for greenhouse gas emissions of the industry sector assumed in the climate strategy.

Trend analyses were developed for the following industries:

- Electricity
- Cement industry
- Steel industry (voestalpine)
- Paper industry
- Lime industry
- Brick-making industry
- Refractory industry
- Glass industry
- Mineral oil refining

These industries account for roughly 93% of the emissions caused by all the activities and installations under the Emissions Trading Directive.

## 8.5 Evaluation of the reduction potential of installations: Potential factor

The potential factor taking account of the reduction potential combines the following parameters:

- *Process emissions*: Emissions originating from a process are assigned a potential factor of 1 (corresponds to no reduction). Reburn emissions are treated like process emissions.
- *Fuel emissions*: The higher the CO<sub>2</sub> intensity of the fuel input (in tonnes of CO<sub>2</sub>/TJ), the higher is the standard reduction potential. In case of a CO<sub>2</sub> emission factor of 110, a potential factor of 0.88 (corresponds to a reduction by 12%) is used; for an emission factor of 55 (natural gas), the potential factor is 0.96 (-4 %), and for 0 (biomass), it is 1.04 (+4 %). Linear interpolation is implemented between the individual values.
- *Co-generation bonus*: If an installation qualifies for the co-generation bonus, the necessary reduction is halved (e.g. -2% instead of -4%) for the relevant emissions (in line with the CO<sub>2</sub> intensity of the fuel input). If a primary energy input reduction by at least 5% as compared to the separate production of electricity and heat was achieved, the part of the emissions which was attributable to the co-generation of electricity and heat during the base period is eligible for a bonus. For each installation, only one bonus may be claimed, i.e. either co-generation, district heat or waste heat.
- *District heating bonus*: If an installation qualifies for the district heating bonus, the necessary reduction is decreased by one fourth (e.g. -3% instead of -4%) for the corresponding emissions (in line with the CO<sub>2</sub> intensity of the fuel input). In this case, the benchmark used is a minimum efficiency of the installation of 90% (or 85% for installations < 50 MW) in accordance with the applicable BAT reference document. For each installation, only one bonus may be claimed, i.e. either co-generation, district heat or waste heat.
- *Waste heat bonus*: If an installation feeds waste heat from process facilities into a public district heating network, the necessary reduction is decreased by one fourth (e.g. -3% instead of -4%) for the corresponding emissions (in line with the CO<sub>2</sub> intensity of the fuel input). To determine the emissions eligible for this bonus, it is assumed that the tapped heat was produced alternatively using natural gas. For each installation, only one bonus may be claimed, i.e. either co-generation, district heat or waste heat.
- *BAT penalty*: If an installation comes under the BAT penalty (i.e. if it does not meet the BAT ("best available technique") criterion), the necessary reduction is increased by one fourth (e.g. -5% instead of -4%).

### a) Differentiation by fuel input:

The assumption that a fuel CO<sub>2</sub> intensity of 55 entails a reduction by 4% (potential factor 0.96) and a CO<sub>2</sub> intensity of 110, a reduction by 12% (potential factor 0.88), results in a straight line expressed by means of the following function:

$$y = k \cdot x + d$$

k = slope = -0.00145

d = distance from zero = 1.04

**Example 1 – Installation without bonus:**

Fuel oil fired incineration plant (without co-generation): average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>, CO<sub>2</sub> intensity: 78 tonnes of CO<sub>2</sub>/TJ

**Calculation:**

Potential factor =  $(78 * -0.00145) + 1.04 = 0.927$

Potential of installation:  $10,000 * 0.927 = 9,269$  tonnes of CO<sub>2</sub>

**b) Co-generation bonus**

The part of the emissions resulting from the co-generation of electricity and heat is assigned the co-generation bonus if a primary energy input reduction by at least 5% as compared to the separate production of electricity and heat was achieved. Due to the co-generation bonus, the standard reduction after fuel differentiation is halved.

**Example 2 – Installation with co-generation bonus:**

Co-generation plant using natural gas as fuel: average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>, co-generation share (calculation base for co-generation bonus) = 8,000 tonnes of CO<sub>2</sub>, calculation base without co-generation bonus: 2,000 tonnes of CO<sub>2</sub>, CO<sub>2</sub> intensity: 55 tonnes of CO<sub>2</sub>/TJ

**Calculation:**

Potential factor without co-generation bonus:  $= (55 * -0.00145) + 1.04 = 0.96$   
(PF of 0.96 to be applied to 2,000 tonnes of CO<sub>2</sub>)

Potential factor with co-generation bonus:  $= 0.96 + ((1 - 0.96)/2) = 0.98$   
(PF of 0.98 to be applied to 8,000 tonnes of CO<sub>2</sub>)

Potential factor of the installation weighted by the different emission shares:  
PF =  $(0.96 * 0.2) + (0.98 * 0.8) = 0.976$

Potential of installation:  
 $10,000 * 0.976 = 9,760$  tonnes of CO<sub>2</sub>

**c) District heating bonus**

District heating installations are granted a district heating bonus if the efficiency of the installation is at least 90% (or 85% for installations < 50 MW). The district heating bonus decreases the reduction potential resulting from the CO<sub>2</sub> intensity of the fuel input of the installation by one fourth.

**Example 3 – Installation with district heating bonus:**

District heating boiler plant using natural gas as fuel with an efficiency of 92%: average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>, calculation base of district heating bonus: 10,000 tonnes of CO<sub>2</sub>, CO<sub>2</sub> intensity: 55 tonnes of CO<sub>2</sub>/TJ

**Calculation:**

Potential factor without district heating bonus:  $= (55 * -0.00145) + 1.04 = 0.96$

Potential factor with district heating bonus:  $= 0.96 + ((1 - 0.96)/4) = 0.97$

Potential of installation:  
 $10,000 * 0.97 = 9,700$  tonnes of CO<sub>2</sub>

**d) Waste heat bonus**

Installations that serve different purposes (e.g. industrial processes, condensation power) but feed waste heat into a public district heating network are granted a waste heat bonus; for determining the calculation base of the waste heat bonus, it is assumed that the heat fed into the network was produced alternatively from natural gas. The waste heat bonus decreases the reduction potential resulting from the CO<sub>2</sub> intensity of the fuel input of the installation by one fourth.

**Example 4 – Installation with waste heat bonus:**

Industrial plant with fuel oil firing: average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>, CO<sub>2</sub> intensity: 78 tonnes of CO<sub>2</sub>/TJ, waste heat tapped: 7,000 MWh/year, CO<sub>2</sub> emissions assuming alternative energy production from natural gas: 7,000 \* 0.198 = 1,368 tonnes of CO<sub>2</sub>, calculation base for waste heat bonus = 1,368 tonnes of CO<sub>2</sub>, calculation base for other emissions = 10,000 – 1,368 = 8,632 tonnes of CO<sub>2</sub>

**Calculation:**

Potential factor without waste heat bonus: =  $(78 * -0.00145) + 1.04 = 0.927$   
(PF of 0.927 to be applied to 8,632 tonnes of CO<sub>2</sub>)

Potential factor with waste heat bonus: =  $0.927 + ((1 - 0.927)/4) = 0.94525$   
(PF of 0.94525 to be applied to 1,368 tonnes of CO<sub>2</sub>)

Potential factor of the installation weighted by the different emission shares:  
PF =  $(0.927 * 0.8632) + (0.94525 * 0.1368) = 0.9295$

Potential of installation:  
 $10,000 * 0.9295 = 9,295$  tonnes of CO<sub>2</sub>

**5. Process emissions**

A potential factor of 1.0 is applied to the process share of the total emission volume of an installation.

**Example 5 – Installation with fuel and process emissions**

Average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>, fuel share: 2,000 tonnes of CO<sub>2</sub>, process share: 8,000 tonnes of CO<sub>2</sub>, CO<sub>2</sub> intensity of fuel input: 95 tonnes of CO<sub>2</sub>/TJ

**Calculation:**

Potential factor/fuel =  $(95 * -0.00145) + 1.04 = 0.90225$   
(PF of 0.90225 to be applied to 2,000 tonnes of CO<sub>2</sub>)

Potential factor/process = 1.0  
(PF of 1.0 to be applied to 8,000 tonnes of CO<sub>2</sub>)

Potential factor of the installation weighted by the different emission shares:  
PF =  $(0.90225 * 0.2) + (1.0 * 0.8) = 0.98045$

Potential of installation:  
 $10,000 * 0.98045 = 9,805$  tonnes of CO<sub>2</sub>

**6. Biomass installation with co-firing of fossil fuels**

The differentiation of the potential factors by CO<sub>2</sub> intensity (as shown under Point 1 above) entails a (theoretical) potential factor of 1.04 for installations with 100% biomass input, since biomass is assessed with a CO<sub>2</sub> intensity of 0. As a result, installations with multiple-fuel firing that combine biomass and fossil fuels are "rewarded".

**Example 6 – Biomass installation with co-firing of fossil fuels**

Average historical emissions 1998-2001 (allocation base) = 10,000 tonnes of CO<sub>2</sub>/fossil, CO<sub>2</sub> intensity: 20 tonnes of CO<sub>2</sub>/TJ (e.g. mix of natural gas and biomass)

**Calculation:**

Potential factor =  $(20 * -0.00145) + 1.04 = 1.011$

Potential of installation:  
 $10,000 * 1.011 = 10,110$  tonnes of CO<sub>2</sub>/fossil

## **8.6 Criteria for the development of the national allocation plan laid down in the Emission Allowance Act**

With the Emission Allowance Act (Emissionszertifikatengesetz, EZG), Austria implements Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowance trading within the Community. The EZG was adopted by the federal government on 10 February 2004 and discussed by the National Council on 24 March 2004.

Art. 11 EZG stipulates the criteria for the national allocation plan in general terms, while Art. 12 specifies additional provisions for the first allocation plan covering the period from 2005 to 2007:

### **Allocation of Emission Allowances**

#### **National Allocation Plan**

**Article 11.** (1) In agreement with the Federal Minister for Economic Affairs and Labour and the Federal Minister of Finance, the Federal Minister of Agriculture, Forestry, Environment and Water Management shall, in an objective and transparent fashion in keeping with the criteria listed in paragraphs 2 to 5, establish a national plan for the period from 2005 to 2007 and, starting in 2008, for periods of five years each, which national plan is to show the total quantity of emission allowances for the period, the ratio of this total quantity to the emissions of all other sectors and the allocation of the emission allowances to the operators with respect to the installations in which an activity pursuant to Annex 1 or an ordinance under Article 2 (2) is carried out or which are included in the allocation plan pursuant to Article 2 (3).

(2) The following criteria shall apply for the development of the allocation plan:

1. The number of emission allowances to be allocated shall be in line with the potential, including the technical potential, of the activities covered by the present Federal Act pursuant to Annex 1 for emission reduction. The allocation shall take account of the expected trend values of production, energy intensity and carbon dioxide intensity of the activity ("business as usual"). In the allocation of emission allowances, the average specific greenhouse gas emissions of the fuel, the energy efficiency and the progress achievable in these activities shall be used as a basis. Benchmarks resulting from BAT reference documents (BREFs) developed in the context of the exchange of information pursuant to Article 16 (2) of Directive 96/61/EC of the Council concerning integrated pollution prevention and control, OJ. L 257 of 10 October 1996, p. 26, shall be used; where no such documents exist for the respective activity, other objective and transparent standards of comparison shall be used. The allocation shall take account of the fact that process-related emissions cannot be influenced to the same degree as energy-related emissions and for this reason shall use a calculation method for allocation with respect to process-related emissions differing from the one for energy-related emissions. Emissions of greenhouse gases resulting from the implementation of voluntary environmental protection measures shall be treated as process-related emissions.
2. Allocation shall take account of the climate-relevant significance of efficient co-generation and efficient district heating and their further development provided for in the climate policy. Moreover, other emission-free or low-emission technologies, including energy-efficient technologies, may be taken into account.
3. Allocation shall be in line with other legislation and policy instruments of the Community and Austria. Any significant change in emissions unavoidable as a result of the new legal requirements shall be taken into account.
4. Allocation shall not treat undertakings or sectors differently so as to favour certain undertakings or activities in an unjustified manner, in particular with a view to the requirements laid down in Articles 87 and 88 of the Treaty establishing the European Community.
5. The quantity of emission allowances allocated to the industry and energy sectors shall be compatible with the national climate policy. Security of electricity supply shall also be taken into account.

6. The quantity of emission allowances allocated in the respective period shall be in line with Austria's commitment pursuant to the Decision of 25 April 2002 concerning the approval, on behalf of the European Community, of the Kyoto Protocol, OJ. No. L 130/1 of 15 May 2002, and its commitments under the Kyoto Protocol to reduce its greenhouse gas emissions in the period from 2008 to 2012 as compared to the level of 1990. The share of the total emissions to which these emission allowances correspond as compared to emissions from sources not covered by this Directive as well as the measures of national energy and climate policy shall be taken into account. The quantity of the emission allowances to be allocated shall not be greater than the probable demand given a strict application of the criteria.
7. The actual and expected progress regarding Austria's contribution to the Community commitment shall be evaluated pursuant to Decision 93/389/EEC for a monitoring mechanism of Community CO<sub>2</sub> and other greenhouse gas emissions, OJ. No. L 167 of 9 July 1993, p. 31; it shall be ensured that the quantity of emission allowances to be allocated under the respective national allocation plan is compatible with this evaluation.

(3) For determining the total quantity, the criteria listed in paragraph 2 (1), (3), (4), (5), (6) and (7) shall be used. For allocation at activity level, the criteria listed in paragraph 2 (1), (2), (3) and (4) shall be used; for allocation at installation level, the criteria listed in paragraph 2 (1) and (2) shall apply.

(4) The national allocation plan shall provide for a reserve for installations granted an operation permit after the deadline specified in paragraph 7. At least 1% of the total quantity shall be set aside as a reserve. The allocation plan shall stipulate more detailed provisions for the assignment of these emission allowances to new entrants, taking account of the fact that those new entrants which are granted a permit pursuant to Article 4 or 6 at the beginning of the respective period have a greater demand for free emission allowances. The allocation plan shall provide at least for one deadline when the remaining allowances are to be sold in the market. The revenue shall accrue to the Austrian JI/CDM programme in accordance with the Environmental Support Act (*Umweltförderungsgesetz*).

(5) The plan may contain indications on how to address competition with countries and/or installations outside the European Union.

(6) The national allocation plan shall contain a list of installations covered by the present Federal Act, stating the quantity of emission allowances allocated to the individual installations.

(7) All installations pursuant to Annex 1 or an ordinance under Article 2 (2) as well as installations included in the allocation plan pursuant to Article 2 (3), which were granted a first-instance operation permit pursuant to Article 13 (3) not later than one week before the date of the submission of the allocation plan to the European Commission, shall be taken account of in the national allocation plan. For allocation to installations for which no emission reports are available or for which the emission reports are insufficient – this comprises installations taken into operation during or after the respective baseline period – the following factors shall in any case be taken into account:

1. the approved capacity of the installation;
2. the average capacity utilisation compared to the industry average;
3. the expected capacity utilisation of the installation during the period;
4. the expected emissions of the installation assuming that the state of the art is used.

#### **First National Allocation Plan**

**Article 12.** In the development of the first national allocation plan for the period from 2005 to 2007, the Federal Minister of Agriculture, Forestry, Environment and Water Management shall take into account the emissions of the installations pursuant to Annex 1 or Article 2 (3) in the period from 1998 to 2001 as reported by the operators and checked for plausibility by the Federal Ministry of Agriculture, Forestry, Environment and Water Management. Where such emission reports are not available, the Federal Minister of Agriculture, Forestry, Environment and Water Management shall request the installation operator to report by administrative order. If the baseline period of 1998 to 2001 is not representative of the installation, a different baseline period may be used where justified.

9 ANNEX II: Activities/Individual technical measures<sup>2</sup>

Activity/Measure	Reduction effect in million tonnes CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments <sup>3</sup>	Remarks
<b>1. Space heating / small-scale consumption</b>					
<b>1.1 Programme of measures "Space heating"</b>					
Building rehabilitation/housing with improved thermal energy efficiency	1.6	Federal Republic/ federal provinces	Redeployment of funds from construction subsidies to old building stock rehabilitation with systematic re-orientation of old building stock subsidies Minimum requirements for thermal insulation Building passport Fund redeployment to favour emission-reducing measures in new building construction	Up to € 220-255 million (WBF; as compared to 1999), but demand dependent on future legal requirements and other measures designed to achieve a higher rehabilitation rate	Assumption of approx. 30% eligible costs; to be financed by means of funds re-deployed from construction subsidies or within the scope of rehabilitation promotion (so far, approx. € 200-300 million were used for "energy-relevant" rehabilitation projects)

<sup>2</sup> Measures and potential assessments based on the Kyoto Options Analysis by Kommunalkredit Austria, 1999

<sup>3</sup> UFI = Environmental support in Austria (BMLFUW)

LWF = Agricultural promotion/biomass (BMLFUW + co-financing by federal provinces)

WFL = Economic promotion by the federal provinces

WBF = Housing promotion (federal provinces)

Activity/Measure	Reduction effect in million tonnes CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments <sup>3</sup>	Remarks
Improvement of the energy efficiency of private and public service facilities	0.3 <sup>4</sup>	Federal Republic/ federal provinces/ local authorities	Impulse programme "Energy-saving contracting" Co-financing of contracting projects eligible for subsidies	€ 15 million (UFI, WFL)	Current subsidy volume: approx. € 1.8 million (UFI) WFL n.q.
Optimisation of heating systems (process control technology)	0.15	Federal Republic/ federal provinces/ local authorities	Regular obligatory checks by chimney-sweeper or plumber Training programmes by Federal Republic/ federal provinces	None; but cost of training programmes to be considered	
Utilisation of existing district heating potentials	0.6	Federal provinces/ local authorities	Incentive scheme Priority regions (zoning) with incentive schemes	Approx. € 7.3 million (WBF, WFL)	Only secondary network intensification Current subsidy volume: n.q.
Utilisation of existing industrial waste heat	0.2	Industry/heat utilities/Federal Republic/federal provinces/local authorities	Incentive schemes Priority regions (zoning) with incentive schemes	Approx. € 3 million (UFI, WFL)	Current subsidy volume: € 1.5 million (UFI)
District heating from renewable energy sources (biomass, biogas, geothermal energy)	0.7 <sup>5</sup>	Federal provinces/ local authorities/ heat utilities	Incentive schemes Priority regions (zoning) with incentive schemes	Covered by programme of measures 2.1	
BTPP in housing compounds	Covered in 2.2	Federal Republic/ federal provinces/ local authorities/ housing co-operatives	Contracting (inclusion in impulse programme)		
Efficiency improvement of gas heating	0.3	Federal Republic/ local authorities	Regular, obligatory	None	

<sup>4</sup> A further 0.3 million tonnes are included under "Electricity consumption" (assessed under 2.3)

<sup>5</sup> Biomass (0.4); biomass co-generation (0.1); industrial/commercial biogas installations (0.05)

Activity/Measure	Reduction effect in million tonnes CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments <sup>3</sup>	Remarks
systems		federal provinces	checks Technical adaptation		
Efficiency improvement of fuel oil heating systems	0.4	Federal Republic/ federal provinces	Regular, obligatory checks Technical adaptation	None	
Switch from direct electric heating systems to heating systems with lower specific CO <sub>2</sub> emissions	Assessed in 2.3	Federal provinces	Provincial incentive schemes, possibly in co-operation with energy utilities	Approx. € 1.6 million (WBF)	Current subsidy volume: n.q.
Individual biomass heating systems	1.1	Federal provinces / Federal Republic	Exchange impulse programme (biomass for fossil, new timber boilers for old ones) Incentive system for construction projects Impulse programme: "Switch away from electric heating systems"	€ 8.7 million (WBF) € 0.9 million (LWF) € 1.3 million (UFI)	Current subsidy volume: € 1.1 million (LWF) € 0.7 million (UFI) WBF n.q.
Heat pumps	0.1	Federal provinces	Incentive schemes, in particular for switch from electric heating	Approx. € 7.6 million (WBF)	Current subsidy volume: n.q.
Industrial heat recovery	0.1	Federal Republic/ federal provinces	Incentive schemes	Approx. € 3.3 million additionally (UFI)	Current subsidy volume: approx. € 3.6 million
Solar energy/water heating	0.4	Federal provinces	Incentive schemes Incentive system for construction projects	Approx. € 15 million (WBF), approx. € 2.2 million (UFI)	Current subsidy volume: approx. € 1.1 million (UFI) WBF n.q.
<b>1.2 Programme of measures "Efficient electricity utilisation (small-scale consumers)"</b>					
Implementation of energy-saving potentials in households and in the	Assessed in	Federal Republic/	Maximum consumption	None	

Activity/Measure	Reduction effect in million tonnes CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments <sup>3</sup>	Remarks
services sector	2.3	federal provinces	standards Energy saving in public buildings Contracts awarded to ecological projects Voluntary commitment Energy counselling Subsidy criteria (e.g. WBF) Impulse programme for contracting		
<b>Total for space heating / small-scale consumption</b>	<b>5.95</b>				
<b>Minus approx. 20% of overlaps</b>	<b>4.8</b>				
<b>Minus already effective measures</b>	<b>4.0</b>				

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments. <sup>6</sup>	Remarks
<b>2. Electricity and heat production</b>					
<b>2.1 Programme of measures "Electricity and heat production with renewable energy sources"</b>					
Capacity boost of hydropower	0.2	Federal Republic/ federal provinces/ energy utilities/VEÖ	Evaluation of "ecologically acceptable" enlargement potentials	None; investment volume approx. € 180 million	
Revitalisation of small-scale hydropower stations	0.25	BMWA/federal provinces	Allowance trading pursuant to EIWOG Simplification and harmonisation of the permit procedures under water law	None (allowance trading pursuant to EIWOG); investment volume approx. € 145 million	Current subsidy volume: € 3.6 million (UFI)
Co-firing of biomass in thermal power stations	0.35	BMWA/BMLFUW/ federal provinces	Feed-in tariffs pursuant to EIWOG Logistics support	No investment subsidies necessary with sufficient support via feed-in tariffs (EIWOG)	Lack of clarity regarding the closure of installations
Wind energy	0.4	BMWA/federal provinces	Feed-in tariffs pursuant to EIWOG Check of system utilisation fees	No investment subsidies necessary with sufficient support via feed-in tariffs (EIWOG)	Current subsidy volume: € 2.2 million (UFI)

<sup>6</sup> UFI = Environmental support in Austria (BMLFUW)

LWF = Agricultural promotion/biomass (BMLFUW + co-financing by federal provinces)

SWW = Urban water management

EIWOG = Electricity Management and Organisation Act

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments. <sup>6</sup>	Remarks
Optimisation of sewage treatment plants	0.1	Federal Republic/ federal provinces/ local authorities	Incentive schemes Feed-in tariffs pursuant to EIWOG	Approx. € 2.9 million (UFI, SWW)	In parallel, biological optimisation should be pursued

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; in € million/year; financing instruments <sup>15</sup>	Remarks
Biogas co-generation (agricultural installations)	0.04 <sup>7</sup>	Federal Republic/federal provinces	Incentive schemes Feed-in tariffs pursuant to EIWOG Check of system utilisation fees Improvement of competitive situation (also in medium term by means of ecological taxes) District heating priority regions (zoning plans) Publication of "manuals" for project promoters Training for installation operators	No investment subsidies necessary with sufficient support via feed-in tariffs (EIWOG)	Current subsidy volume: € 1.3 million (LWF)
Biogas co-generation (non-agricultural installations, municipal and industrial installations)	0.1	Federal Republic/federal provinces	See above	No investment subsidies necessary with sufficient support via feed-in tariffs (EIWOG)	Current subsidy volume: € 0.2 million (UFI)
Biomass (co-generation)	0.1 <sup>8</sup>	Federal Republic/federal provinces	See above	€ 6.5 million (UFI, LWF); only heat-relevant cost; subsidisation of electricity under EIWOG	Current subsidy volume: € 0.7 million (UFI)

<sup>7</sup> Only CO<sub>2</sub> reduction for electricity; additional reduction effects: approx. 0.06 million tonnes of CO<sub>2</sub> equiv. for methane (see agriculture)

<sup>8</sup> Only electricity; heat potential (approx. 0.2) assessed in 1. (space heating)

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>15</sup>	Remarks
Biomass-based district heating	Assessed in 1.1	Federal Republic/ federal provinces	Incentive schemes Improvement of competitive situation (also in medium term by means of ecological taxes) District heating priority regions (zoning plans) Publication of "manuals" for project promoters Training for installation operators	€ 18.5 million (UFI, LWF)	Current subsidy volume: € 21 million (UFI, LWF)
Geothermal energy	Assessed in 1.	Federal Republic/ federal provinces	Incentive schemes Priority regions (zoning plans)	€ 1.6 million (UFI)	Current subsidy volume: € 1.1 million
Photovoltaics	n.q.	Federal Republic/ federal provinces	EIWOOG (feed-in tariffs)	n.q.	Currently still unfavourable cost-benefit ratio, but interesting alternative in the medium to long term
<b>2.2 Programme of measures "Electricity and heat production with fossil energy sources"</b>					
District heating via co-generation and BTTP (new installations and optimised power tapping)	0.5	Federal Republic/ federal provinces/ energy utilities	Creation of favourable frame conditions through EIWOOG Incentive schemes	No investment funding necessary if favourable frame conditions are created through EIWOOG; BTTP also fundable via	

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>15</sup>	Remarks
				contracting	

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority / management	Instruments	Annual funding input; financing instruments <sup>15</sup>	Remarks
<b>2.3 Cross-sectoral measures</b>					
Implementation of energy-saving potentials in households and in the service sector	0.4	Federal Republic, federal provinces, local authorities			Measure described under 1.2 "Small-scale consumption"
Switch from direct electric heating systems to heating systems with lower specific CO <sub>2</sub> emissions	0.3	Federal provinces		Covered under 1.1	Measure described under 1.1 "Space heating"
Optimisation of mechanical systems/industry	0.15	Federal Republic, industry		Covered under 5.	Measure described under 5 "Industry"
<b>Total for electricity and heat production</b>	<b>2.9</b>				
<b>Effect expected due to current objectives of EIWOG</b>	<b>-0.75</b>				
<b>Sum minus minimal overlaps</b>	<b>2.1</b>				

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>9</sup>	Remarks
<b>3. Programme of measures "Waste management"</b>					
Municipal waste treatment (residual waste treated biologically and thermally)	0.3	Federal Republic/ federal provinces	Intensified application of Landfill Ordinance Packages of measures by federal provinces and local authorities Development of district heating networks Incentive schemes for energy-efficient thermal treatment facilities and utilisation of landfill gases Evolution of waste avoidance strategies Support of research projects/new technologies	Approx. € 10 million annually (UFI) for thermal utilisation of municipal and industrial waste	Reduction potential in addition to expected reduction by 0.84 million tonnes CO <sub>2</sub> equivalents
Industrial and commercial waste, bulk waste	0.8	Federal Republic/ federal provinces	See above	Included above	
Optimisation of sewage treatment plants (see action programme 2.1)	Assessed in 2.2				
<b>Total for waste management</b>	<b>1.1</b>				

<sup>9</sup> UFI = Environment promotion at home (BMLFUW)

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
<b>4. Programme of measures "Transport"</b>					
Reduction of fuel consumption by vehicle fleet	0.3	EU/manufacturers' associations/Federal Republic (BMLFUW, BMVIT)/federal provinces	a) Agreements with manufacturers' associations at EU level  b) Guidelines in public procurement for low-emission and low-consumption motor vehicles  c) Encouragement of the use of econometers in vehicles		Agreement with ACEA, JAMA & KAMA already concluded and included in the trend scenario. Thus the reduction potential comprises only additional measures (e.g. further agreements with manufacturers' associations, above all for further groups of vehicles)  Adaptation to public contract Directives and Federal Public Contracts Act  See (b)

<sup>10</sup> All reduction potentials should be understood as additional potentials with respect to existing measures or measures currently under implementation (e.g. agreements concluded with manufacturers) taken account of in the scenario of trends in the transport sector.

The reduction potentials derived from measures are based on the Kyoto Options Analysis by Kommunalkredit Austria (1999), which in its turn is backed up by numerous study results and expert interviews. However, on the basis of current developments, adaptations were introduced in some respects.

<sup>11</sup> UFI = Environment promotion at home (BMLFUW)

BMVIT = Federal Ministry for Transport, Innovation and Technology (in particular ITF – Innovation and Technology Fund)

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		provinces EU/Federal Republic (BMF, BMVIT, BMLFUW)/federal provinces	d) EU initiatives for measures to accompany the agreements concluded with the manufacturers' associations (ACEA, JAMA, KAMA)		E.g. pilot activities together with fleet operators for low-consumption driving
Promotion of the development, testing and widespread use of alternative and energy-efficient vehicles and engine concepts (e-vehicles, fuel cells, CNG, LPG, biodiesel, bioalcohol, hydrogen, hybrid concepts, etc.)	0.1	Federal Republic (BMLFUW, BMVIT, BMWA)/federal provinces/local authorities/industry/undertakings (e.g. postal services, railways)  EU, Federal Republic (BMLFUW, BMVIT)  EU, Federal Republic (BMVIT)	a) Pilot actions, mainly in cities and ecologically sensitive regions (tourist regions, cities, big fleet operators, public services)  b) Tighter emission standards and improvement of fuel quality, in particular by further reducing the maximum admissible sulphur content of gasoline and diesel  c) Focusing of existing research and technology promotion (e.g. BMVIT, UFI) in the field of transport to climate-relevant objectives – research co-operation	BMVIT UFI (BMLFUW), federal provinces, local authorities, EU regional development funds        BMVIT, BMLFUW EU research programmes, national programmes	Co-operation between Federal Republic, federal provinces and local authorities to extend this approach to the regional level (co-operation with undertakings and big fleet operators)  Initiatives at EU level  Using climate protection as an important and equivalent quality criterion for research and technology projects. Suitable framework for rapid take-up of technologies. In particular also orientation of the 6 <sup>th</sup> R&D Framework Programme, of the

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
Awareness-building measures	0.3	Federal Republic (BMLFUW, BMVIT)/EU/car importers/WKÖ/IV/companies/automobile clubs	with other Member States	BMLFUW first-year start-up funding	European Research Area and the 6 <sup>th</sup> Environmental Action Programme to climate issues related to transport
		Federal Republic (BMLFUW, BMVIT)/provinces/local authorities/WKÖ/AK/IV/companies	<p>a) Consumer information: obligatory identification of new passenger vehicles by kilometre-specific CO<sub>2</sub> emissions (Directive 1999/94/EC already implemented) to support the fleet consumption agreements</p> <p>b) Mobility management; widespread encouragement of companies' mobility management; development of service offices and networks</p>	<p>BMLFUW – UFI (focus activity, 40 companies, approx. € 3 million annually)</p> <p>Co-operation between Federal Republic and federal provinces</p> <p>BMVIT &amp; BMLFUW – participation in European Platform for Mobility Management (EPOMM); impulse programme "MOVE"</p> <p>Local transport promotion by Federal Republic</p>	<p>Implement consumption information together with car dealers; implementation of EU Directive at national level</p> <p>UFG amendment: promote corporate transport and mobility measures; adapt Directives; start in 2001; service office for companies already in autumn 2000; taking account of companies' mobility measures in the context of EMAS (and ISO 14000)</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		Federal Republic (BMLFUW, BMVIT), federal provinces, local authorities	c) Promotion of regional mobility centres	and federal provinces, transport providers Co-operation between Federal Republic and federal provinces	Model project Pongau launched, extension to other regions
		Federal Republic (BMLFUW, BMBWK, BMVIT), federal provinces	d) Traffic education: integration of environmental and climate protection; improvement of training possibilities for mobility counselling and mobility management		Adaptation of the Driving License Act (examination questions should address safe, economical and ecological driving behaviour)
		Federal Republic (BMVIT), federal provinces, driving schools, automobile clubs	e) Training of driving instructors and learners regarding low-consumption driving (eco-driving and alternative vehicles and means of transport)		Initiate pilot projects and competitions
		Federal Republic (BMLFUW, BMVIT) / federal provinces/ local authorities	f) Pilot projects for climate-friendly mobility (e.g. leisure traffic, commuter traffic, urban planning with minimal land consumption, low-traffic municipalities)		Voluntary agreements
		Federal Republic (BMLFUW, BMWA)/ federal provinces/ local authorities/	g) Indication of the	Co-operation of Federal Republic,	

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
Improvements of freight traffic	0.7	companies  Federal Republic (BMVIT)/federal provinces  Federal Republic (BMVIT)	transport intensity of products by the food retail industry  a) Intensified promotion of feeder railway lines  b) Stepping-up and more flexible design of combined transport and improvement of framework conditions  c) Adaptation of EU Directive on infrastructure charging (inclusion of environmental and healthcare spending)  d) Transport management for freight traffic in sensitive regions with promotion of economic instruments  e) Urban, regional and supra-regional logistics concepts (e.g. bulk goods	federal provinces and local authorities EU Funding Programmes  BMVIT (new subsidy programme planned - € 9.5 million/year)  BMVIT (current subsidy programmes amounting to € 2.9 million/year; new 5-year programme for combined transport/Danube in preparation); pilot projects underway  Subsidy programme for feeder railway lines  Subsidy programmes for combined transport  "via donau" – Danube development company established to render inland navigation in Austria more attractive  Promote initiatives at EU level (ECOFIN, Council of Transport Ministers)  Follow-up schemes for ecopoint and quota schemes; initiative in EU context  Subsidy programme BMVIT (in "MOVE" context, first call for tenders for "Green	

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		companies/WKÖ/IV  Federal Republic (BMLFUW, BMWA)/federal provinces/companies	logistics, "Green Logistics", avoidance of empty return trips by means of telematics  f) Economic logistics concepts to rationalise transport  g) Promotion of research and technological development in the logistics sector	Logistics" launched) Federal provinces (e.g. Lower Austria Objective 2 regional subsidies € 4.4+4.4 million 2000-2006)  BMVIT, federal provinces  E.g. programme "Logistik AUSTRIA plus"	Counselling office (co-operation between Federal Republic and federal provinces), see also "Awareness-building measures" b & c
Promotion of pedestrian and bicycle traffic	0.3	Federal Republic (BMVIT)/federal provinces/local authorities  Federal Republic (BMVIT, BMF)/federal provinces  Federal Republic	a) Adaptation of road network, infrastructure development, traffic organisation and re-orientation of urban planning to favour mixed use and short distances  b) Promotion of cycling tracks at the federal and provincial levels  c) Re-structuring of contracting system for	Promote subsidies for cycling tracks at	Evaluation and adaptation of land zoning and development plans; adaptation of housing promotion; pilot project "Minimise land consumption in urban planning"  Make also applicable to footpaths  Improvement of

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
Upgrading and extension of railway and local public transport systems	0.3	<p>(BMVIT)/federal provinces/local authorities</p> <p>Federal Republic (BMVIT)</p>	<p>road construction within town limits</p> <p>d) Amendment and revision of legal framework conditions favouring cyclists and pedestrians (e.g. road traffic regulations, CNDS guidelines, etc.)</p>	the federal (BMVIT) and provincial levels	<p>funding base, e.g. use of federal road funds for the construction of cycling tracks and footpaths (in particular within town limits)</p> <p>Road traffic regulations &amp; CNDS: standard cross-section should become pedestrian- and cyclist-friendly</p>
		<p>Federal Republic (BMVIT), federal provinces, local authorities</p> <p>Federal Republic (BMVIT)</p>	<p>a) Specific orientation of traffic concepts and traffic-relevant catalogues of objectives and infrastructure plans (e.g. transport master plan) to reduce CO<sub>2</sub> emissions</p> <p>b) Increase and safeguarding of investment funds (Railway Infrastructure Financing Act, SCHIG) and urban transport funding (Public Urban and Regional Transport Act, ÖPNRV-G) with improved incentives and intensified quality assurance in</p>	<p>Current funding of public urban and regional transport (annual)<sup>12</sup>:</p> <p>Federal Republic approx. € 800 million, federal provinces approx. € 95 million (ÖPNRV-G, Art. 20 (4))</p>	<p>Not only improve stock but expand network as well. The funding listed does not comprise expenses for other services by the federal provinces and local authorities in the field of public urban and regional</p>

<sup>12</sup> According to information by BMVIT; comprises only existing transport service agreements

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		<p>Federal Republic (BMVIT, BMLFUW), transport providers, integrated transport systems</p> <p>Federal Republic (BMVIT), federal provinces, local authorities, transport providers, integrated transport systems</p>	<p>public transport</p> <p>c) Development of nation-wide mobility counselling and travel information systems</p> <p>d) Creation of an optimised, customer-friendly range of bus and train services with a focus on work and leisure traffic, in particular development of regional, user-optimised high-</p>	<p>Financial Equalisation Act – FAG; provincial funds approx. € 22 million), local authorities approx. € 414 million (Art. 20 (3) FAG approx. € 29 million)</p> <p>According to the multi-tier proposal for the necessary expansion and upgrading of public urban and regional transport, additional funds are required; rapid re-evaluation of the additionally required funding in the context of SCHIG and ÖPNRV-G</p> <p>BMVIT, federal provinces</p> <p>BMVIT, federal provinces, local authorities</p>	<p>transport, e.g. for integrated transport systems or for municipal transport companies. These expenses account for a multiple of the stated amount of € 95 million</p> <p>Current pilot project in federal province of Salzburg, extension to federal territory desirable (new PT information system)</p> <p>Give priority to reform of integrated transport systems, development of high-frequency regional connections (models: Vorarlberg, regions of Salzburg)</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		<p>Federal Republic (BMF)</p> <p>Federal Republic (BMVIT), federal provinces, local authorities, transport providers, integrated transport systems</p> <p>Federal Republic (BMVIT), federal provinces, local authorities, transport providers</p> <p>Federal Republic (BMVIT), federal provinces, local authorities, transport providers, integrated transport systems</p> <p>Federal Republic, federal provinces, local authorities</p>	<p>frequency systems and conclusion of urban-transport service contracts between federal provinces, regional associations of local authorities and transport providers</p> <p>e) Upgrading of public transport use for work traffic</p> <p>f) Upgrading and user-friendly optimisation of public transport stops and junctions</p> <p>g) Incentives for intensified competition between transport service providers</p> <p>h) Intensified implementation of flexible operating methods</p> <p>i) Fine-tuning of opening hours of companies,</p>	<p>BMVIT, integration into SCHIG, federal road construction, federal provinces</p> <p>(Necessary according to multi-tier proposal: Federal Republic € 15 million, federal provinces, local authorities, transport providers € 15 million/year)</p> <p>ÖPNRV-G, public transport promotion</p>	<p>E.g. also amendment of construction regulations, subsidy regulations</p> <p>Railway stations upgrading initiative</p> <p>ÖPNRV-G</p> <p>Comprehensive integration of taxis into public transport system (e.g. collective taxis on call)</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
Adaptation of spatial and regional planning	0.3	<p>Federal Republic (Federal Chancellery – BKA)/federal provinces</p> <p>Federal Republic (BKA, BMF), federal provinces</p> <p>Federal Republic (BMLFUW)</p> <p>Federal provinces/local authorities</p> <p>Federal provinces/local authorities</p>	<p>schools and shops with public transport</p> <p>a) Embodiment of environmental and climate protection objectives as priorities in the revised Austrian Regional Planning Concept (ÖRK 2001) and in the provincial regional planning laws and plans</p> <p>b) Creation of the legal preconditions for a supra-local equalisation of burdens and benefits (e.g. in location policy)</p> <p>c) Implementation of EU Directive on environmental impact assessment</p> <p>d) Avoidance of urban sprawl and further traffic creation on greenfield sites</p> <p>e) Encouragement of condensed construction styles and mixed-use approaches as well as</p>	<p>Cost cuts possible</p>	<p>Co-ordination of local authorities and consideration of the situation of individual municipalities (e.g. in issuing operation permits for shopping malls to protect local shops)</p> <p>Evaluation and adaptation of regional and local planning concepts as well as of land zoning and development plans</p> <p>E.g. pilot project on</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		Federal provinces	<p>urban expansion only along existing settlement axes and PT lines</p> <p>f) Amendment of parking lot regulations</p> <p>g) Avoid construction of shopping malls and leisure centres on greenfield sites and integrate them into urban areas to ensure easy accessibility with public transport, by foot or bike</p> <p>h) Evaluation of existing land zoning and development plans</p>	<p>Adapt subsidy instruments</p> <p>Above all WBF</p> <p>Obligatory provincial local-traffic tax</p> <p>Other example: Lower Austrian subsidy programme for local shops (NAVES), max € 100,000 per case, in all € 3.5-4.5 million, all-round</p>	<p>urban planning with minimal land consumption</p> <p>Instead of a minimum number, there should be maximum limits for parking lots in housing and commercial projects; the duty to provide for a lot should be shifted from developer to car owner; pilot projects for car-free housing</p> <p>Commercial operation permits, Shopping Mall Ordinance, ÖPNRV-G</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
Parking space management	0.3	Federal provinces/ local authorities	a) Extension of parking space management  b) Introduction of parking space management also for private "traffic creators"	cost cuts	Existing successful examples indicate a vast synergy potential if combined with PT upgrading and line extension  Trade regulations, Operations Permit Ordinance
Traffic management to optimise the use of existing infrastructure	n.q.	Federal Republic (BMWA), federal provinces, local authorities	Further traffic automation (telematics, "e-transport") to optimise existing infrastructure use (multimodal)	Underway: BMVIT strategy concept "Intelligent transport systems and services" with programme lines on "Multimodal integration of traffic data", "Multimodal traffic information", "Test-bed for telematics applications in traffic"	
Speed limits	0.3	Federal Republic (BMI, BMVIT)/federal provinces	Intensified speed control as well as selective and temporary introduction of speed limits on federal roads and motorways with special account taken of noise protection and road safety as well as avoidance of traffic jams		(Flexible) speed limits also serve to optimise the traffic flow, help to avoid traffic jams and protect against traffic noise
Encouragement of biodiesel use	0.1	Federal Republic (BMLFUW, BMöLS)	a) Use of pure biodiesel		E.g. use in areas with delicate groundwater

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		federal provinces/ chambers of agriculture (LWK) Federal Republic (BMLFUW, BMöLS)/ federal provinces/ LWK/petroleum industry Federal Republic (BMöLS)/federal provinces	b) Admixture of biodiesel  c) Guidelines for public procurement to ensure suitability for biodiesel  d) Intensified use of biodiesel from waste oil and waste fat  e) For tractors and heavy-duty machinery		balance  Up to 3% possible according to Fuel Ordinance  Involvement of big fleet operators  Tests in co-operation with vehicle manufacturers (clearance for use)  In particular in areas with delicate groundwater balance
Gradual adaptation and reform of mineral oil tax	0.7	EU/Federal Republic (BMF)	Further development of mineral oil tax in the context of a revenue-neutral ecological tax reform taking account of the minimum EU tax rates and the tax rates in the neighbouring countries		
Introduction of mileage-dependent toll	0.5	Federal Republic (BMVIT)	a) For lorries in the high-level road network		The general long-term goal should be to restructure traffic taxation to favour

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
		Federal Republic (BMVIT, BMF)/EU	<p>b) Active participation at EU level to re-orient the infrastructure charging directive, with special attention paid to the concept of external costs</p> <p>Further steps must be prepared in connection with developments in Europe and overall technical implementation</p>		mileage- and consumption-dependent taxes in order to permit an internalisation of external traffic costs in line with actual consumption and use
Adaptation of fuel consumption tax	0.3	Federal Republic (BMF)	Stronger differentiation of fuel consumption tax, without creating additional strain on vehicles with particularly low fuel consumption		
Public subsidy system	0.1	Federal Republic (BMF)/federal provinces/local authorities  Federal provinces  Federal Republic (BMLFUW)	<p>a) Adaptation and orientation of the federal, provincial and local subsidies of relevance for traffic along the requirements of climate protection</p> <p>b) Using EU regional development funds for climate protection purposes</p> <p>c) Environmental funding instruments to be made eligible for companies' mobility and transport</p>	<p>Adapt subsidy guidelines and create new subsidy instruments</p> <p>BMLFUW (UFI), focal activities (see "Awareness-building measures")</p>	<p>Evaluation criterion: accessibility by bike, by foot and by public transport E.g. housing promotion</p> <p>Already implemented by BMLFUW, funding regulation underway, launched in 2001</p>

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv. <sup>10</sup>	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>11</sup>	Remarks
			measures		
<b>Total for transport</b>	<b>4.5</b>				
<b>Minus 20% of overlaps</b>	<b>3.7</b>				

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>13</sup>	Remarks
<b>5. Programme of measures "Industry"</b>					
Industrial co-generation installations	0.2	Federal Republic/WKÖ/IV	Incentive schemes Voluntary agreements	€ 1.3 million (UFI)	Current subsidy volume: approx. € 0.4 million
Internal optimisation within companies	0.85	Federal Republic/WKÖ/IV	Incentive schemes Voluntary agreements Energy efficiency programme	€ 12 million (UFI)	
Replacement of fossil fuels by renewable energy sources	0.5	Federal Republic/WKÖ/IV	Incentive schemes Voluntary agreements	€ 7.5 million (UFI)	Current subsidy volume: approx. € 3.6 million
				Up to approx. € 21 million for overall programme if implemented at home	
<i>Supporting measures</i>					
Creation of a national scheme for emissions trading					
"Revenue-neutral" ecological tax reform					
<b>Total for industry</b>	<b>1.55</b>				

<sup>13</sup> UFI = Environment promotion at home (BMLFUW)

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>1,3</sup>	Remarks
<b>Minus 20% of overlaps</b>	<b>1.25</b>				

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>14</sup>	Remarks
<b>6. Programme of measures "Agriculture and Forestry"</b>					
Use of biogas in energy production to avoid methane formation	0.06			EIWOOG	See details of programme of measures 2.1
Reduction of nitrous oxide (N <sub>2</sub> O)	0.12	Federal Republic/ federal provinces/EU	Intensification of ÖPUL lines Training programmes Regional marketing of biological produce Co-operation of ecological farmers/ trade/tourism industry Biological produce used in canteens of public enterprises	ÖPUL No additional strain on public budgets - focusing of existing funds	
Reduction of CH <sub>4</sub> emissions from cattle breeding	0.12	Federal Republic/ federal provinces/EU	Encouragement of ÖPUL programme lines Cattle stock to be tied to forage crop area Training programmes CH <sub>4</sub> -reducing storage systems for animal excrement	ÖPUL No additional strain on public budgets - focusing of existing funds	
Treatment of agricultural waste	0.12	Federal Republic/ legal	Clear-cut		

<sup>14</sup> UFI = Environmental support in Austria (BMLFUW)

LWF = Agricultural promotion/biomass (BMLFUW + co-financing by federal provinces)

ÖPUL = Austrian Programme for ecologically oriented, extensive agriculture

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>1,4</sup>	Remarks
		federal provinces	regulations for the use of organic substances of agricultural and non-agricultural origin		
Protection and intensification of the natural sink function of forests and soil	Currently n.q.	Federal Republic/ federal provinces/EU	Forest land-use planning (forest development plan) Sustainable forest management and conservation and development of biodiversity Improvement of legal regulations to combat atmospheric pollution detrimental to forests Reduction of game, pasture and forest damage Research and training Counselling on farming methods to increase the humus content in soil Increased use of renewable biological resources	ÖPUL/forestry management subsidies No additional strain on public budgets - focusing of existing funds	
<b>Total for agriculture (without sink function)</b>	<b>0.42</b>				
<b>Minus 10% of overlaps</b>	<b>0.4</b>				

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>15</sup>	Remarks
<b>7. Programme of measures "Other gases"</b>					
Substitutes, process modifications for areas of application of HFCs, PFCs and SF <sub>6</sub>	1.2	Federal Republic/ federal provinces/ local authorities	Regulatory policy measures (including bans) Adaptation of key provisions of construction and procurement law as well as of housing promotion Information measures Accompanying funding measures Adaptation of substance-related legislation Evaluation of consumption status in all areas/monitoring Possibly introduction of a deposit system	No additional strain on public budgets; continuation or modification of existing UFI subsidy schemes	Current subsidy volume: approx. € 0.2 million (UFI)
<b>Total for other gases</b>	<b>1.2</b>				

<sup>15</sup> UFI = Environmental support in Austria (BMLFUW)

Activity/Measure	Reduction effect in million tonnes of CO <sub>2</sub> equiv.	Competent authority/management	Instruments	Annual funding input; financing instruments <sup>1,5</sup>	Remarks
<b>TOTAL, OVERALL PROGRAMME</b>	<b>13.75</b>				