

# Procedure file

Basic information	
COD - Ordinary legislative procedure (ex-codecision procedure) Decision	2003/0029(COD) Procedure completed
Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol Repealed by <a href="#">2011/0372(COD)</a>	
Subject 3.70.02 Atmospheric pollution, motor vehicle pollution 3.70.03 Climate policy, climate change, ozone layer 3.70.18 International and regional environment protection measures and agreements	

Key players			
European Parliament	Committee responsible	Rapporteur	Appointed
	<b>ENVI</b> Environment, Public Health, Consumer Policy		19/03/2003
		PSE <a href="#">SACCONI Guido</a>	
	Committee for opinion	Rapporteur for opinion	Appointed
	<b>ITRE</b> Industry, External Trade, Research, Energy		24/04/2003
		PPE-DE <a href="#">VLASTO Dominique</a>	
Council of the European Union	Council configuration	Meeting	Date
	<a href="#">General Affairs</a>	<a href="#">2558</a>	26/01/2004
	<a href="#">Environment</a>	<a href="#">2517</a>	13/06/2003
	<a href="#">Environment</a>	<a href="#">2491</a>	04/03/2003
European Commission	Commission DG <a href="#">Environment</a>	Commissioner	

Key events			
05/02/2003	Legislative proposal published	<a href="#">COM(2003)0051</a>	Summary
10/02/2003	Committee referral announced in Parliament, 1st reading		
04/03/2003	Debate in Council	<a href="#">2491</a>	
13/06/2003	Debate in Council	<a href="#">2517</a>	Summary
09/09/2003	Vote in committee, 1st reading		Summary
09/09/2003	Committee report tabled for plenary, 1st reading	<a href="#">A5-0290/2003</a>	

20/10/2003	Debate in Parliament		
21/10/2003	Decision by Parliament, 1st reading	<a href="#">T5-0443/2003</a>	Summary
26/01/2004	Act adopted by Council after Parliament's 1st reading		
11/02/2004	End of procedure in Parliament		
12/02/2004	Final act signed		
19/02/2004	Final act published in Official Journal		

### Technical information

Procedure reference	2003/0029(COD)
Procedure type	COD - Ordinary legislative procedure (ex-codecision procedure)
Procedure subtype	Legislation
Legislative instrument	Decision
	Repealed by <a href="#">2011/0372(COD)</a>
Legal basis	EC Treaty (after Amsterdam) EC 175-p1
Stage reached in procedure	Procedure completed

### Documentation gateway

Legislative proposal	<a href="#">COM(2003)0051</a>	05/02/2003	EC	Summary
Economic and Social Committee: opinion, report	<a href="#">CES0931/2003</a>	16/07/2003	ESC	
Economic and Social Committee: opinion, report	<a href="#">CES0955/2003</a> <a href="#">OJ C 234 30.09.2003, p. 0051-0054</a>	16/07/2003	ESC	
Committee report tabled for plenary, 1st reading/single reading	<a href="#">A5-0290/2003</a>	09/09/2003	EP	
Text adopted by Parliament, 1st reading/single reading	<a href="#">T5-0443/2003</a> <a href="#">OJ C 082 01.04.2004, p. 0027-0132 E</a>	21/10/2003	EP	Summary
Follow-up document	<a href="#">COM(2004)0818</a>	20/12/2004	EC	Summary
Implementing legislative act	<a href="#">32005D0166</a> <a href="#">OJ L 055 01.03.2005, p. 0057-0091</a>	10/02/2005	EU	Summary
Follow-up document	<a href="#">COM(2005)0615</a>	01/12/2005	EC	Summary
Follow-up document	<a href="#">COM(2005)0655</a>	15/12/2005	EC	Summary
Follow-up document	<a href="#">COM(2006)0658</a>	27/10/2006	EC	Summary
Follow-up document	<a href="#">COM(2006)0799</a>	15/12/2006	EC	Summary
Follow-up document	<a href="#">COM(2007)0757</a>	27/11/2007	EC	Summary
Follow-up document	<a href="#">SEC(2007)1576</a>	27/11/2007	EC	
Follow-up document	<a href="#">COM(2008)0651</a>	15/10/2008	EC	Summary
Follow-up document	<a href="#">SEC(2008)2636</a>	15/10/2008	EC	Summary

Follow-up document		<a href="#">SEC(2009)1581</a>	12/11/2009	EC	
Follow-up document		<a href="#">COM(2009)0630</a>	12/11/2009	EC	Summary
Follow-up document		<a href="#">COM(2010)0569</a>	12/10/2010	EC	Summary
Follow-up document		SEC(2010)1204	12/10/2010	EC	
Follow-up document		<a href="#">COM(2011)0624</a>	07/10/2011	EC	Summary
Follow-up document		<a href="#">SEC(2011)1151</a>	07/10/2011	EC	
Follow-up document		<a href="#">COM(2012)0626</a>	24/10/2012	EC	Summary
Follow-up document		SWD(2012)0353	24/10/2012	EC	

#### Additional information

European Commission

[EUR-Lex](#)

#### Final act

[Decision 2004/280](#)  
[OJ L 049 19.02.2004, p. 0001-0010](#) Summary

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

**PURPOSE** : to replace Council Decision 93/389/EEC and to establish a monitoring mechanism for Community Greenhouse gas emissions and the implementation of the Kyoto Protocol. **CONTENT** : the aims of the proposed revision of Decision 93/389/EEC are to: - reflect in the monitoring mechanism reporting obligations and guidelines for the implementation of the UN Framework convention on Climate Change ("UNFCCC") and the Kyoto Protocol, on which the political agreements and legal decisions were taken at the seventh Conference of the Parties ("COP7") in Marrakech; - provide for further information on emission forecasts at Member State and Community-level, and harmonisation of these emission forecasts, in the light of experience with the current Monitoring Mechanism; - address reporting requirements and implementation relating to the burden-sharing between the Community and its Member States. The European Community ratified the Kyoto Protocol on 31 May 2002. This proposal will help the Community and the Member States comply with reporting requirements under both the UNFCCC and the Kyoto Protocol and in general enhance the timeliness, consistency, accuracy, completeness, transparency and comparability of reported information. The Monitoring Mechanism Decision 93/389/EEC provides for the detail of obligations to be implemented through guidelines adopted by comitology, taking account of the rather technical nature of the agreed UNFCCC guidelines. This proposal makes similar provision, although it is considered appropriate to provide for a number of more important provisions in the decision itself. In order to limit the reporting tasks of Member States, under the new reporting requirements, only data that is of interest at Community level will have to be provided. In addition, adjustments will be made to the frequency of data submission. Following the structure of the Kyoto Protocol and the related UNFCCC guidelines, different reporting requirements will be addressed by distinguishing annual and periodical reporting obligations. Member States' Climate Change programmes and projections do not change on an annual basis and it is therefore proposed to shift the annual reporting to periodical reporting. However, more detailed provisions are included on the type of projections because experience with the current provisions has shown the need for more comprehensive and detailed data in this area. The due date for the annual data submission by Member States to the Commission is changed from 31 December to the following 15 January. Decision 93/389/EEC has already been substantially amended by Decision 99/296/EC. The extensive further amendments proposed to Decision 93/389/EEC widen its scope to cover areas including registries, flexible mechanisms and co-operation in procedures under the Kyoto Protocol. For these reasons it is considered appropriate to replace it, rather than to amend it. A correlation table is annexed to the proposal.?

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

The Council held a policy debate on a proposal for a Decision for a monitoring mechanism of Community greenhouse emissions and the implementation of the Kyoto Protocol. Ministers were asked by the Presidency to focus their interventions on the following issues: - Time-plan : all delegations expressed their wish for the Council to reach political agreement on a common position at its next meeting (Environment) in October 2003; - Base year : the Kyoto Protocol allows a choice between 1990 and 1995 as base year for the calculation of the initial assigned amount of a Party, for the three groups of fluorinated gases that are part of its scope. The majority of Member States showed a preference for 1995 as base year. Some delegations wished to keep the flexibility provided in the Kyoto Protocol for choosing the base year; - European Climate Change Programme (ECCP) : although this was not included in the initial Commission's proposal, the majority of delegations have considered positively the possibility of making the ECCP a national programme for the Community. A small group of delegations, as well as the Commission, expressed their doubts on the benefits of its inclusion in the proposed Decision. A number of Acceding States took the floor to express their wish that the possible inclusion of the Programme in the proposal should be done taking into account their particular needs and individual status vis-à-vis the Kyoto Protocol.?

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The committee adopted the report by Guido SACCONI (PES, I) amending the proposal under the 1st reading of the codecision procedure. The key amendment adopted would allow Member States to opt for 1990 or 1995 as the base year for measuring emission reductions, whereas the Commission was proposing 1995 only as the compulsory base year. The committee argued that this flexibility in choosing the base year was provided for in the Kyoto Protocol and that it would give due credit to those sectors that had undertaken early action to reduce emissions before 1995. Other amendments stipulated that: - Member States should submit progress reports to the Commission on an annual rather than two-yearly basis; - the names of Member States which fail to fulfil their reporting obligations as regards emissions and projections should be published on the Internet; - the Commission should likewise publish a guide to good practice, mentioning those Member States which observe the legislation most scrupulously; - Member States should designate a specific authority to be responsible for gathering and reporting information; - Member States should inform the Commission of the instruments, units of measurements and methods of calculation used so that it can gauge the extent of their accuracy and adopt a body of minimum standards with a view to laying down a Community legal framework; - in the light of its 2005 review, the Commission should make proposals "as quickly as possible" (rather than merely "as appropriate") to ensure that the Community and its Member States meet all their commitments under the Kyoto Protocol.?

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The European Parliament adopted a resolution drafted by Guido SACCONI (PES, Italy) making several amendments to the Commission's proposals. Parliament has deleted the provision stating that 1995 will be the base year for measuring emissions reduction. A number of other amendments were adopted on monitoring and measurement. In addition: - the Community's national registry may be used to hold ERUs and CERs generated by projects funded by the Community, thereby providing a stimulus for Community action in third countries to address climate change more widely, and may be maintained in a consolidated system together with Member States' registries; - each Member State must prepare a report on the demonstration of progress achieved by 2005, and submit this to UNFCCC Secretariat by 1 January 2006; - the Community and each Member State must submit a report on the additional period for fulfilling commitments upon the expiry of that period. Parliament did not vote through several committee amendments, notably those relating to Member States that fail to fulfil reporting obligations as well and the need for a guide to good practice. Progress reports will be made on a two yearly basis, as originally required in the Commission proposal.?

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

**PURPOSE:** to establish a monitoring mechanism for Community Greenhouse gas emissions and the implementation of the Kyoto Protocol. **LEGISLATIVE ACT:** Decision No 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol. **CONTENT:** This Decision seeks to enable the Community and the Member States to better comply with obligations in relation to monitoring, evaluation and the preparation of reports laid down in the United Nations Framework Convention on Climate Change, as well as the Kyoto Protocol, each of which seeks to reduce greenhouse gas emissions to sustainable levels. This Decision establishes a mechanism for: - monitoring all anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol on substances that deplete the ozone layer in the Member States; - evaluating progress towards meeting commitments in respect of these emissions by sources and removals by sinks; - implementing the UNFCCC and the Kyoto Protocol, as regards national programmes, greenhouse gas inventories, national systems and registries of the Community and its Member States, and the relevant procedures under the Kyoto Protocol; and - ensuring the timeliness, completeness, accuracy, consistency, comparability and transparency of reporting by the Community and its Member States to the UNFCCC Secretariat. Member States and the Commission shall devise and implement national programmes and a Community programme respectively, in order to contribute to the fulfilment of the Community's and its Member States' commitments relating to the limitation and/or reduction of all greenhouse gas emissions under the UNFCCC and the Kyoto Protocol; and the transparent and accurate monitoring of the actual and projected progress made by Member States, including the contribution made by Community measures, in meeting the Community's and its Member States' commitments. To this effect, the use of joint implementation, the clean development mechanism and international emissions trading shall be supplemental to domestic action, in accordance with the relevant provisions of the Kyoto Protocol and the Marrakech Accords. Member States shall make national programmes and updates thereof available to the public, and within three months of their adoption shall inform the Commission.?

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The Commission has presented the fifth progress report for monitoring Community greenhouse gas emissions and the first report under Decision 280/2004/EC concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol (280/2004/EC).

After accession of the new Member States, this year's report contains for the first time

emissions data from 25 Member States. The report states that in 2002, the greenhouse gas emissions of the 25 Member States (EU-25) decreased slightly compared to 2001. However, compared to the base year<sup>3</sup> they were estimated to be 9.0 % lower.

After two consecutive years of increase, the greenhouse gas emissions of the EU-15 Member States have declined slightly compared to 2001. Emissions were 0.5 % lower in 2002 compared to 2001 thus reaching 2.9% below base year emissions. The distance above the linear Kyoto target path was reduced by 0.2 % to 1.9 %. In order to achieve the further reductions necessary for reaching the Kyoto target effective implementation of existing and additional policies and measures is required.

Aggregate projections for the EU-25 with existing domestic policies and measures show that the following Member States expect to reach their Kyoto targets: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Sweden and the United Kingdom. Similarly, aggregate EU-15 projections suggest that with additional policies and measures, the projected use of the Kyoto mechanisms will be sufficient to reach the collective EU-15 Kyoto target. However, it should be noted that projections do not yet include some important measures that will soon start to deliver, like for instance the EU Emissions Trading Scheme which will take effect on 1 January 2005. Similarly, projections do not yet include emissions and removals from land use, land use change and forestry (LULUCF).

Still, performance among Member States remains variable. 11 Member States are on track to achieve their emissions reduction commitments. Of these, France, Germany, Sweden and the United Kingdom are the EU-15 Member States on track to achieve their commitments under the burden sharing agreement (Council Decision 2002/358/EC). However, 12 Member States are still above their target paths: Ireland, Portugal and Spain by more than 20 %. For five Member States, the gap has even widened, for three (Finland, Portugal and Spain) by more than 1 % compared to 2001.

As regards the emissions of the main economic sectors, the report shows the changes since 1990 for the EU-15. When looking at the country-by-country statistics, the most striking result is that contrary to the general trend transport emissions in the United Kingdom and Germany have been declining - indeed for the third consecutive year in Germany. This would seem to reflect the combined effects of improved fuel efficiency, higher fuel prices and broader transport policies.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

ACT : Commission Decision 2005/166/EC laying down rules implementing Decision 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

CONTENT : this Decision establishes rules implementing Decision 280/2004/EC as regards the following:

- the reporting of information referred to in Article 3(1) and (2) of Decision 280/2004/EC, in accordance with Article 3(3) of that Decision;
- the establishment of a Community inventory system in accordance with Article 4(2) of Decision 280/2004/EC;
- the requirements for reporting on the demonstration of progress as required by Article 3(2) of the Kyoto Protocol and for reporting in relation to the additional period set in the Marrakech Accords for fulfilling commitments in accordance with Article 5(6) of Decision 280/2004/EC;
- the procedures and timescales for the cooperation and coordination of the obligations listed in Article 8(1) of Decision 280/2004/EC, in accordance with Article 8(3) of that Decision.

ENTRY INTO FORCE : 02/03/2005.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

This Report has been prepared by the Commission in accordance with provisions spelt out in Decision 280/2004 on a mechanism for monitoring Community greenhouse gas emissions and the implementation of the Kyoto Protocol. It focuses on the level of Community progress to date and is based on information submitted by the Member States in June 2005.

The Kyoto Protocol acts as an international agreement and sets legally binding targets for industrialised countries to reduce their greenhouse-gas emissions relative to a base year by 2008-2012. The first five years are known as the first commitment period. The Protocol has a flexible approach vis-à-vis implementation, leaving the Member States to decide how best to achieve the targets set. For example, some Countries may wish to increase 'sinks' (forests, which remove carbon dioxide from the atmosphere) or pay for foreign projects that result in greenhouse-gas cuts.

As far as EU obligations are concerned, the EU committed itself to reducing its greenhouse gas emissions by 8% compared to the base year, 1990, during its first commitment period (2008-2012). Of the ten new Member States (who acceded following ratification of the Kyoto Protocol), eight have individual reduction targets under the Kyoto Protocol of 6 or 8%, which they will need to honour separately from the collective EU-15. Cyprus and Malta are not parties and thus do not have set targets under the Protocol.

In terms of overall progress, the Commission reports that the EU is making considerable efforts to tackle climate change, despite being responsible for only 14% of global greenhouse gas emissions. Each Member State has put in place a series of domestic actions. Many of the actions are introduced and enacted through the European Climate Change Programme (ECCP). Measures under this scheme include, inter alia, the Greenhouse Gas Emission Allowance Trading Scheme, allowing operators to use credits obtained through Kyoto mechanisms (the Linking Directive), the Renewable Energy Directive and the Bio-fuels Directive. In addition, the Commission points to initiatives such as the second phase of the European Climate Change Programme, which has been prepared for the second phase of the Kyoto implementation, post 2012. Planned projects include carbon capture and storage, reducing emissions from road vehicles and strategies to adapt to the effects of climate change.

As well as overseeing implementation of the Kyoto targets, the Commission is committed to working internationally in helping countries outside of the Union to reduce their greenhouse gas emissions. For example, it is currently working with 140 countries in six regions of the world to assist in the implementation of renewable energy sources and energy efficiency. The EU provides financial support to programmes such as using solar energy to provide clean drinking water in the Sahel, improved energy efficiency and the use of renewable in China, forest-planting projects to generate clean development mechanisms in South America and strengthening institutional capacity on climate change in India.

The Report also considers the impact of transport on greenhouse gas emissions. It notes that this sector is responsible for 20% of the EU-25 emissions ? and is an area where emissions are rising. Although the EU has tried to reduce emissions through measures such as an agreement to limit the average emissions of new cars and a directive to encourage the use of bio fuels, the growth in the number of vehicles and vehicle kilometres has outweighed these reductions. As a result, emissions continue to rise ? albeit at a lower rate than in the past year.

As far as concrete figures are concerned, the Report notes the following:

- EU policies have contributed to a reduction of annual carbon dioxide emissions of some 350 million tonnes (5.5%) across the EU-25 by 2003.
- In the EU-15, projected figures indicate that by 2010 greenhouse emissions are expected to be 1.6% below base year levels.
- Savings from domestic policies and measures being planned by the EU-15 could result in emission reductions of 6.8%.
- The inclusion of Kyoto mechanisms will lower projected emissions in 2010 to 9.3% below base year levels.
- In the EU-25, based on aggregate projections, total emissions of greenhouse gases without LULUCF will be 5% below base year levels in 2010 as a result of measures already implemented.
- The implementation of additional measures is projected to reduce EU-25 emissions to 9.3% below 1990 levels by 2010 and the use of Kyoto mechanisms to 11.3%.

To conclude, the Commission states that the EU has made significant progress in achieving its commitments. Further progress depends on the speed and thoroughness of Member State implementation programmes. The Report suggests that if measures are properly implemented the -8% Kyoto target can be met. However, delivering on the Kyoto commitments does not mark the end of the EU's efforts. As such, the EU is advocating deeper cuts in greenhouse gas emissions in a bid to halt climate warming all together.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The European Commission presents the sixth annual progress report for monitoring Community greenhouse gas emissions and the second report under of Council Decision 280/2004/EC concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

This report analyses actual emissions data from 2003, together with projections of emissions assuming scenarios ?with existing measures? and ?with additional measures?. These projections are aggregated Member States projections that will be analysed in depth in the future as not all Member States provided updated projections. The projections include the use of flexible mechanisms under the Kyoto Protocol, i.e., Joint Implementation, the Clean Development Mechanism and international emissions trading.

By 2003, EU-15 GHG emissions had decreased by 1.7% from the base year level and reached 4180 million tonnes CO<sub>2</sub>-equivalents. This reduction is a little more than one fifth of the EC's Kyoto target. Without Kyoto mechanisms, the distance to the target has doubled from 2002, to 3.5 index points. Including Kyoto mechanisms, total GHG emissions were still 1.9 index points above the linear target path in 2003. The projections show that the EU-15 will meet their Kyoto Protocol emission reduction commitment of -8% when additional measures are implemented along with the use of flexible mechanisms. Those Member States that are above their targets urgently need to take additional measures and use the Kyoto flexible mechanisms in order to ensure that they will meet their Kyoto target.

The EU is also determined to take further action. The second phase of the European Climate Change Programme (ECCP) started in 2005. The Commission plans to review progress and explore new actions to exploit cost effective emission reduction options. ECCP II will include carbon capture and storage, emissions from road vehicles, aviation and strategies to adapt to the effects of climate change. The role of the EU in reducing vulnerability and promoting adaptation will also be explored. In addition, further policy initiatives in the field of energy efficiency and renewable energy are foreseen.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

Under the Kyoto Protocol, the European Community (EC) has agreed to reduce its greenhouse gas (GHG) emissions by 8% by 2008<sup>12</sup>, from base year levels. Based on the latest (2004) available inventory data, total GHG emissions in the EU-15, without Land Use, Land Use Change and Forestry (LULUCF) were 0.9% lower, and with LULUCF 3.0% lower, than the base year. Compared to 2003, EU-15 GHG emissions increased by 0.3% in 2004. Projections data based on Member State submissions, indicate that the EC will reach its Kyoto target, but only under the conditions that:

- all additional measures currently under discussion at a European or at a national level are fully put into force in time to influence the emissions during the commitment period;
- Kyoto mechanisms will be used to the full extent planned;
- removals from Article 3.3 and 3.4 activities (carbon sinks) contribute to the extent projected by Member States.

The divergence between projected and actual emissions clearly indicates that Member States need to accelerate their efforts in implementing policies and measures as planned. One of the cornerstones of EU climate change policy is the EU Emissions Trading Scheme. Member States are currently in the process of submitting their 2nd National Allocation Plans (NAPs) which will cover the period 2008-2012. Less than two years ahead of the start of the Kyoto's 1st commitment period, it is of crucial importance that MS use their NAPs to ensure that they will meet their reduction obligations.

This report gives the following key figures:

-Total EU-25 GHG emissions were, in 2004, 7.3% below base year levels without emissions and removals by LULUCF. EU-25 greenhouse gas emissions rose in 2004 for the second consecutive year by 0.4% compared to 2003 - and are now on the highest level since 1997, when the Kyoto Protocol was adopted.

-By 2010, total EU-25 GHG emissions are projected to be about 4.6% below base-year levels taking into account all existing domestic policies and measures that have already been agreed. The projected reduction is 8.1% with additional domestic policies and measures which are already under discussion and 10.8% when the Kyoto mechanisms and carbon sinks are accounted for.

-By 2010, two Member States out of the EU-15, Sweden and the United Kingdom, are on track to achieve their targets in 2010 using only existing domestic policies and measures. In addition, 6 Member States are projected to reach their targets with the additional domestic policies and measures that are already being discussed, the use of the Kyoto mechanisms and carbon sinks. Seven Member States (Austria, Belgium, Denmark, Ireland, Italy, Portugal and Spain) foresee that they will not reach their targets employing all measures included. They will have to identify further emission reduction policies and measures.

-By 2010, all eight new Member States are projected to meet or even over-comply with their Kyoto targets with existing domestic policies and measures. However, in most countries emissions will increase between 2004 and 2010. Slovenia projects that it will meet its Kyoto target with additional policies and measures discussed and carbon sinks.

GHG emissions in 2004 compared to 2003: the increase in GHG emissions 2003-2004 was mainly due to: a) higher CO<sub>2</sub> emissions from road transport (+1.5%), iron and steel production (+5.4%), and oil refining (+3.3%), and b) higher hydrofluorocarbons (HFCs) emissions from refrigeration and air conditioning (+12.1%). In road transportation the substantial increase of CO<sub>2</sub> from diesel consumption (+5%) was only partly offset by the decrease of CO<sub>2</sub> from gasoline consumption (-3.2%).

Substantial decreases in GHG between 2003- 2004 were noted among other in: a) CO<sub>2</sub> emissions from households and services (-1.4%), and electricity and heat production (-0.3%) and b) CH<sub>4</sub> emissions from landfills (-4.3%), coal mining and handling (-16.5%).

Energy: between 1990 and 2004, the rise in energy demand exceeded the increase in emissions in all EU-15 Member States. Sweden, France and the UK were most successful at accomplishing a decoupling of emission levels and demand. In Germany and the United Kingdom, emission decreases were mainly due to improved efficiency in Germany's coal-fired power plants and to the fuel switch from coal to gas in power production in the United Kingdom. The remarkable decoupling between thermal power production and CO<sub>2</sub> emissions in Sweden was mainly due to a shift towards biomass.

On current trends, electricity from renewable energy sources will probably achieve a share of 19 % by 2010. The renewable energy target for the EU-15 is 22% of gross electricity consumption, and for the EU-25, 21% of gross electricity consumption. CO<sub>2</sub> emissions from households increased by 3% from 1990 to 2004, while the number of dwellings increased by 12% up till 2000. This shows some decoupling. Remarkably, Denmark, Finland and Sweden reduced their household fuel use as a result of the increase of district heating. In Germany, efficiency improvements through thermal insulation of buildings and fuel switch in particular in eastern German households, solar thermal energy production and biomass district heating were largely responsible for CO<sub>2</sub> reductions from households.

Transport: between 1990 and 2004, EU-15 GHG emissions from domestic transport increased by 26% with emissions from transport by road increasing also by 26% over the same period. Only, Finland, Germany, Sweden and the UK saw a small increase of their transport emissions. EU-15 CO<sub>2</sub> emissions from international aviation and maritime transport (not addressed under the Kyoto Protocol) have increased by 59% between 1990 and 2004.

The projected use of carbon sinks for achieving the EU-15 Kyoto target is so far relatively small, however it is important for reaching the Kyoto target. For the EU-15, so far, there are plans to remove, by 2008-2012, a net amount of about 18 million tonnes CO<sub>2</sub> per year through afforestation and reforestation. These estimates are relatively uncertain also because details on the types of carbon sinks included are missing. This figure has decreased by around 13 Mt CO<sub>2</sub> per year since last year's estimate due to corrections by Ireland and the UK. Additional reductions of GHG emissions from activities in forest management are projected to amount to around 14.2 million tonnes CO<sub>2</sub> per year. Additionally, Portugal projects to achieve 0.5 Mt/yr removals through cropland and grazing land management. Hence the total removal due to activities under Articles 3.3 and 3.4 of the Kyoto Protocol during the Kyoto commitment period is estimated at 32.6 Mt CO<sub>2</sub> per year, or in total at about 0.8% in relation to the EU-15 target of 78%.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

This report is a summary of the technical report prepared by the European Environment Agency (EEA) to be submitted on behalf of the EC to the Secretariat of the United Nations Framework Convention on Climate Change, to facilitate the calculation of the assigned amount pursuant to Art. 7 and 8 of the Kyoto Protocol (KP), and demonstrate the EC's capacity to account for its emissions and assigned amount for the first commitment period under the KP (the 'assigned amount' report).

The KP was ratified by the EC and its Member States (MS) on 31 May 2002. At this ratification, the Community declared that it and its MS would fulfil their respective emission limitation and reduction commitments under Art. 3(1) of the Protocol jointly in accordance with Art. 4. At the time of ratification, there were 15 Member States. The accession of 10 additional MS after the adoption of the Protocol does not affect the Community's commitments under the Protocol. For this reason, the Community's calculation of its assigned amount refers to the 15 MS listed above (EU-15). The assigned amount report also presents information for the eight new MS that have quantified emission limitation or reduction obligations under the KP (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovenia and Slovakia). Cyprus and Malta do not have a quantified emission limitation or reduction obligation under the KP and are therefore not included in this report.

According to UNFCCC Decision 13/CMP.1, the assigned amount report should consist of two parts:

### Part 1

- **Complete inventories of anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHG):** these are included in the EC 'assigned amount' report as prepared by the EEA. The information included in these GHG inventories is the basis for the calculation of the assigned amount of the EC as presented in this Communication.

- **Identification of the EC's selected base year for HFCs, PFCs and SF in accordance with Art. 3(8):** Austria, France and Italy selected 1990 as the base year for hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and sulphur hexafluoride (SF). All other MS chose 1995. The base year for all other GHG emissions under the KP is 1990 for the EU-15. The base year for HFCs, PFCs and SF6 for the new MS with commitments under the KP is 1995, except for Slovakia which chose 1990 as base year for fluorinated gases. The base year for all other GHG emissions under the KP is 1990, except for Poland (1988), Slovenia (1986) and Hungary (1985-87).

- **The agreement under Article 4, where the Party has reached such an agreement to fulfil the commitment under Article 3 jointly with other Parties:** the agreement of the EC and its MS to fulfill the respective commitments under Art. 3(1) of the KP jointly (the joint fulfilment agreement) established quantified emission limitation and reduction commitments for the Community and its MS for the first commitment period, from 2008 to 2012.

- **Calculation of its assigned amount pursuant to Art. 3(7) and 3(8) on the basis of the inventory of anthropogenic emissions by sources and removals by sinks of greenhouse gases not controlled by the Montreal Protocol:** the EC's assigned amount pursuant to Art. 3(7) and 3(8) is equal to the percentage inscribed for the Community in Annex B of the KP (92 %) of its base year emissions multiplied by five. The Community base year emissions are **4,276,359,577 tonnes of carbon dioxide equivalent (CO<sub>2</sub> eq.)** and are equal to the sum of base year emissions of greenhouse gases for EU-15.

The Community's assigned amount is **19,682,555,325 tonnes of CO<sub>2</sub> eq.** The calculations of the Community's assigned amount and the respective assigned amounts of each MS are set out in Table 1 of this report. The assigned amounts for the new MS are set out in Table 2. The revision of MS emissions data for the base-year under the KP results in an arithmetic difference of **11,403,608 tonnes of CO<sub>2</sub> eq.** between the assigned amount for the EC and the sum of the assigned amounts of each of the EU-15 MS.

## Part 2

- **Calculation of the commitment period reserve in accordance with decision 11/CMP.1:** the Commitment Period Reserve (CPR) is the lowest of either 90 per cent of a Party's assigned amount calculated pursuant to Art. 3(7) and 3(8), of the KP, or 100 per cent of five times the most recently reviewed inventory. This report shows both the CPRs for the EU-15 MS and the EC and the commitment period reserves for new MS with quantified emission limitation or reduction commitments under Art. 3 of the KP.

- **Identification of the selection of single minimum values for tree crown cover, land area and tree height for use in accounting under Art. 3(3) and 3(4):** MS have selected threshold values for the forest definition for reporting on the activities afforestation, reforestation and deforestation under Art. 3(3) of the KP. The document presents an overview on MS' selections to facilitate the calculation of the assigned amount.

- **Identification of the election of activities under Art. 3(4) for inclusion in the accounting for the first commitment period:** Art. 3(4) of the KP provides the option of including the activities forest management, cropland management, grazing land management and revegetation in the accounting of emissions and removals for the first commitment period. MS decided on the election of these activities in their national reporting under the KP. The EC's inventory and assigned amount calculation is based on the election of activities by the EU-15. The report presents an overview of the EU-15 MS' elections of activities under Art. 3(4) to facilitate the calculation of the assigned amount.

- **Identification of frequency of accounting for each activity under Art. 3(3) and 3(4):** MS identify the accounting frequency for the activities under Art. 3(3) and 3(4) in their respective reports to facilitate the calculation of the assigned amount. Each MS will account for net emissions and removals for each activity under Art. 3(3), and Art. 3(4) if elected, by issuing RMUs or cancelling KP units based on the corresponding reported emissions and removals from these activities and the specific accounting rules. The EC will neither issue, nor cancel units based on the reported emissions and removals from activities under Art. 3(3) and 3(4). The EC will report the sum of MS' cumulative accounting quantities for these activities at the end of the commitment period, representing the MS' cumulative additions to or subtractions from their assigned amount at the end of the commitment period.

- **A description of the national system in accordance with Art. 5(1) reported in accordance with the guidelines for the preparation of the information required under Article 7 of the KP:** the objectives of the EC's inventory system are to ensure accuracy, comparability, consistency, completeness, transparency and timeliness of the inventories submitted by the MS and the Community to the UNFCCC in accordance with the UNFCCC Guidelines for annual inventories. The inventory stem is illustrated in the report. The EC's inventory is based on the inventories supplied by the MS. The total estimate of the Community's GHG emissions should accurately reflect the sum of MS' national GHG inventories. MS are responsible for choosing activity data, emission factors and other parameters used for their national inventories as well as the correct application of methodologies. The report also describes the annual process of compilation of the Community's inventory.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

Under the Kyoto Protocol, the European Community (EC) has agreed to reduce its greenhouse gas (GHG) emissions by 8% by 2008<sup>12</sup> compared to base year levels.

Based on the latest available inventory data of 2005, total GHG emissions in the EU-15 were 2% below base year 3 levels when excluding Land Use, Land Use Change and Forestry (LULUCF). In 2005, EU-15 GHG emissions decreased by 0.8% compared to 2004, while the EU-15 economy grew by 1.6%.

This report gives the following key figures:

- by 2010, three out of the EU-15 Member States, Germany, Sweden and the United Kingdom, are projected to be on track to achieve their targets using only existing domestic policies and measures.
- in addition, 8 Member States are projected to reach their targets when the effect of the Kyoto mechanisms, carbon sinks and additional domestic policies and measures, that are already being discussed, are accounted for. According to this analysis, Denmark, Italy, and Spain appear not to be able to achieve their Kyoto target.
- Total EU-27 GHG emissions, in 2005, were 11% below base year level without emissions and removals by LULUCF and 0.7% lower compared to 2004. The economy of the EU-27 grew by 1.8% in 2005.
- Despite the fact that in most of the EU-12 MS, emissions are projected to increase between 2005 and 2010, 9 of them that have a Kyoto target but are not part of the EU-15 bubble are projected to meet or even over-comply with their Kyoto targets using only existing domestic policies and measures. Slovenia projects that it will meet its Kyoto target with planned additional policies and measures, the use of Kyoto mechanisms and carbon sinks.
- In spring 2007, the European Council endorsed the EU's independent commitment to reduce GHG emissions by at least 20% by 2020 compared to 1990 levels even if no international agreement is reached. The EU would be prepared to increase this reduction to 30%,



provided that such an agreement would indeed materialise.

GHG emission trends: The overall EC GHG emission trend is dominated by the two largest emitters. Germany and the United Kingdom account for about one-third of the total EU-27 GHG emissions. These 2 Member States have achieved total GHG emission reductions of 340 million tonnes CO<sub>2</sub> eq. compared to 1990. The main reasons for the favourable trend in Germany are increasing efficiency in power and heating plants and the economic restructuring of the five new Länder after the German reunification. The reductions of GHG emissions in the United Kingdom are primarily the result of liberalising energy markets and the subsequent fuel switches from oil and coal to gas in electricity production and N<sub>2</sub>O emission reduction measures in the adipic acid production.

For the EU-27 as a whole, per capita emissions declined by 11.7 % (1.4 tonne per capita) between 1990 and 2005, mainly due to a strong decrease in the early 1990s. Compared to 2004, EU-15 GHG emissions decreased by 0.8 % or 35.2 million tonnes CO<sub>2</sub> eq. in 2005 and EU-27 emissions decreased by 0.7% or 37.9 million tonnes. The overall decrease in 2005 of EU-15 emissions was due mainly to lower CO<sub>2</sub> emissions from public electricity and heat production, households and services, and road transport. CO<sub>2</sub> emissions from public electricity and heat production fell by 0.9% mainly due to a reduction in the use of coal. CO<sub>2</sub> emissions from households and services decreased by 1.7% with substantial falls in Germany, UK and the Netherlands. In Germany and the Netherlands, this might be due to a milder than usual winter. As in previous years, Germany also achieved significant reductions in methane emissions from the waste sector due to innovative policies and measures. Remarkably, CO<sub>2</sub> emissions from road transport dropped by 0.8% in the EU-15, largely due to a significant fall in Germany.

Emission trends in the main economic sectors: The most important sector is energy which accounted in 2005 for 80% of total EU-15 emissions, a 3% increase of energy GHG emissions compared to base year. The energy sector also covers transport which is responsible for 26% of the emissions of this sector. Agriculture is responsible for 9% of the overall GHG emissions while industrial processes are responsible for 8% and waste for 3%.

Projections by Member States: By 2010, total EU-27 GHG emissions are projected to be about 10.7% below base-year levels. This projection is based on MS' own estimates which take into account all existing domestic policies and measures. The projected decline is 13.2% when the effect of the Kyoto mechanisms and carbon sinks are accounted for and it could reach 16.7% if the additional domestic policies and measures currently under discussion were to be implemented on time and would deliver as estimated.

Implementation of the European Climate Change Programme (ECCP): In June 2001, the ECCP identified a number of EU-wide common and coordinated policies and measures (CCPMs) With only a few exceptions, policies and measures under the ECCP I are now implemented.

Implementation of the EU Emissions Trading Scheme (EU ETS): 2005 is the first year for which verified CO<sub>2</sub> emissions data are available from installations covered by the EU ETS. In 2005, the EU ETS covered about 50% of total EU-25 CO<sub>2</sub> emissions and about 40% of all EU-25 GHG emissions, equivalent to about 2 billion tonnes. A lack of independently verified emissions data for the years before the introduction of the EU ETS makes it difficult to measure the scheme's full impact on emissions. However, early academic research indicates that emissions may have fallen in 2005 compared with their level before the start of the EU ETS.

Projected use of Kyoto mechanisms by government: 10 EU-15 Member States and Slovenia have decided to use the Kyoto mechanisms to reach their Kyoto targets. Together, the 10 EU-15 Member States would acquire 107.5 Mt CO<sub>2</sub>eq. per year of the first commitment period under the Kyoto Protocol. This represents approximately 2.5% towards the EU-15 Kyoto target of -8 %. In Slovenia, the exact amount of units to be bought will depend on the actual development of GHG emissions, especially in the transport sector.

Projected use of carbon sinks: In addition to the policies and measures targeting various sources of GHG emissions, Member States can make use of carbon sinks. The information provided by the EU-15 Member States indicates that the total net sequestration during the commitment period from forestation and reforestation activities under Art. 3.3 of the Kyoto Protocol will be about 13.5 MtCO<sub>2</sub> per year.

Furthermore, the use of activities under Art.3.4 as estimated by the Member States is projected to contribute 17.6 MtCO<sub>2</sub> per year of the commitment period in the EU-15. These figures take the maximum allowance for forest management into account but do not include the sinks under Art. 3.3 and Art.3.4 from Spain (which only provided an aggregate estimate for the whole carbon sink) and from other Member States (i.e., FR, DE and GR) which elected forest management activities but did not provide yet any estimate on the projected sink. Together with the Spanish aggregate, all activities under Art. 3.3 and 3.4 in the EU-15 Member States are projected to reduce emissions by 39.1 Mt CO<sub>2</sub> per year of the commitment period equivalent to 11% of the EU-15 reduction commitment of 342 Mt CO<sub>2</sub> per year of the commitment period compared to base year emissions. Slovenia expects an additional reduction of 1.7 Mt CO<sub>2</sub> per year of the commitment period.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The Commission presented its report on the progress towards achieving the Kyoto objectives. Under the Kyoto Protocol, the EU-15 has agreed to reduce its greenhouse gas (GHG) emissions by 8% by 2008<sup>12</sup> compared to base year levels (1990 in most cases).

No overall objective has been set for emissions from EU-27. Out of the 12 Member States which joined the EU in 2004 and 2007, 10 Member States had GHG emissions above base year levels whereas the remaining 15 Member States had emissions below base year levels.

Cyprus and Malta do not have emission reduction commitments under the Kyoto protocol.

In spring 2007, the European Council adopted the unilateral commitment to reduce EU-27 GHG emissions by at least 20% by 2020 compared to 1990 levels and by 30%, provided that other developed countries commit themselves to comparable emission reductions, and that economically more advanced developing countries to contribute adequately according to their responsibilities and respective capabilities. As a follow up to its commitment, the European Commission put forward in January 2008 the climate change and energy package including new legislative measures covering the main sectors of the EU economy. The proposed measures include:

- a) an improved emissions trading system (ETS),
- b) an emission reduction target for industries not covered by the ETS (e.g., agriculture, buildings, transport, waste) - emissions covered by the EU ETS are to be reduced by 21% from 2005 levels by 2020 and those not covered by the EU ETS by 10%, with differentiated targets per Member State according to relative levels of current and projected GDP/capita,
- c) legally enforceable targets for increasing the share of renewables in the energy mix, and

- d) new rules on carbon capture and storage and on environmental subsidies.

In addition to the package, the European Commission also proposed a comprehensive new strategy to reduce CO<sub>2</sub> emissions from new cars and vans sold in the European Union. The new strategy is followed with a revision of the EU fuel quality standards. The fuel quality Directive will not only make the fuels themselves 'cleaner' but will also allow the introduction of vehicles and machinery that pollute less. The Directive is expected to lead to GHG emission reductions of 10% between 2011 and 2020. This would cut emissions by 500 million tonnes of CO<sub>2</sub> by 2020.

EU-15: based on the latest available inventory data of 2006, total GHG emissions in the EU-15 were 2.7% below base year emissions without Land Use, Land Use Change and Forestry (LULUCF). Since 1990, the EU-15 economy (expressed as GDP) grew by almost 40%. In 2006, EU-15 GHG emissions decreased by 0.8% compared to 2005 while the EU-15 economy grew by 2.8%.

- By 2010, eight Member States out of the EU-15, Belgium, Germany, Greece, Ireland, the Netherlands, Portugal, Sweden and the United Kingdom, are currently projected to achieve their targets using existing policies and measures, carbon sinks and the Kyoto mechanisms;
- Four MS (Austria, Finland, France and Luxembourg) are projected to reach their targets when also accounting for additional policies and measures planned;
- On the other hand, there are currently three Member States (Denmark, Italy and Spain) which are projected not to achieve their Kyoto target. However, the gaps between these countries' projections and their respective targets have been significantly reduced since last year, in particular for Spain and Italy.

Projections: the aggregate projections based on existing domestic policies and measures show that GHG emissions of the EU-15 will be 3.6% below base-year levels by 2010 (4.4% distance from the Kyoto target). The EU-15 is projected to reduce its emissions by 8.0% by 2010, reaching the Kyoto target. Given, however, the existing uncertainties and the EU's ambitious reduction target of 20% by 2020, it is imperative that Member States not only ensure the timely delivery of emissions reductions from existing policies and measures but also that they accelerate the development and full implementation of their planned policies and measures. Assuming that all these measures deliver as expected, the projected overall reduction of GHG emissions could be up to 11.3% compared to base year levels.

Moreover, it is estimated that the National Allocation Plan decisions on allowance allocation for the 2nd trading period under the EU ETS would contribute an estimated 3.3% of the EU-15's Kyoto target which, as yet, has not been fully factored into all Member States projections.

EU-27: in 2006, total EU-27 GHG emissions were 10.8% below base year levels without emissions and removals by LULUCF and 0.3% lower compared to 2005. The EU-27 economy grew by 3.0% in 2006. Despite the fact that in most of the EU-12 new MS, emissions are projected to increase between 2006 and 2010, nine of them that have a Kyoto target are projected to meet or even over-achieve their Kyoto targets using only existing policies and measures. Slovenia projects that it will only meet its Kyoto target when also accounting for planned additional policies and measures, the use of Kyoto mechanisms and carbon sinks.

Projections: by 2010, total EU-27 GHG emissions are projected to be about 10.1% below base-year levels. This projection is based on the compilation of Member States own estimates which take into account all existing domestic policies and measures. The projected decline is 13.4% when the effect of the Kyoto mechanisms and carbon sinks are accounted for and it could reach 16.3% if the additional domestic policies and measures currently under discussion were to be implemented on time and deliver as estimated.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

This Commission Staff Working Document accompanies the Commission communication as regards progress towards achieving the Kyoto objectives (required under Article 5 of Decision 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol).

The report gives a detailed analysis of emission trends in the main sectors:

Energy supply and use, excluding transport: Member States expect the EU Emission Trading Scheme (EU ETS) to contribute an emission reduction of at least 133 Mt CO<sub>2</sub> in the EU-27 in 2010. Most reductions will result from actions in the energy and industrial sectors. Emission reduction potentials for energy policies have stayed relatively constant since 2006 for the EU-15. Policies and measures targeted at reducing emissions from energy generation are projected to provide greatest emission reductions in the energy supply and use sector by 2010. In the EU-15, the United Kingdom and Germany are the only Member States projecting that GHG emissions from energy supply and use (including transport) in 2010 will be lower than their 1990 emissions. All central and eastern European Member States project decreases in GHG emissions from energy supply and use (including transport) by up to 63% in the case of Estonia, except for Cyprus and Slovenia that project increased emissions in 2010 compared to 1990.

Transport: all three car associations reduced the average specific CO<sub>2</sub> emissions of their cars registered for the first time on the EU market in 2005 compared to 2006. Overall, average specific CO<sub>2</sub> emissions from new cars in the EU-15 -were equal to 160.4 g CO<sub>2</sub>/vehicle-km in 2006. In order to meet the EU's final target of 120 g CO<sub>2</sub>/km, additional efforts are necessary. CO<sub>2</sub> emissions from road transport is the second largest key category in EU-15 and contributes 19% to total GHG emissions in 2006 (in 1990 the share was at 15%). CO<sub>2</sub> emissions from road transport increased by 25% between 1990-2006. All reporting Member States project a further increase of kilometres driven by 2010. In the EU-15, GHG emissions from transport are projected to decrease slightly between 2006 and 2010, approximately 26% above 1990 levels in 2010 with existing measures. Emissions from transport are projected to increase from 1990 levels in all EU-15 Member States except Germany. The lowest increase (lower than 15%) is projected in Finland, Sweden and the United Kingdom. Ireland and Portugal project an increase of more than 200%. From the central and eastern European Member States, the Czech Republic and Romania project increase of more than 200% of their transport emissions. Lithuania is the only Member State projecting emissions in 2010 to be lower than 1990.

Agriculture: the drop in GHG emissions from fertiliser use between 1990 and 2006 was achieved partly through the 1992 reform of the Common Agricultural Policy (CAP), resulting in a shift from production-based support mechanisms to direct area payments to agricultural production. The 2003 CAP reform, which included further decoupling of support from production and measures within the Rural Development

Policy, such as agro-environment programmes supporting extensification measures, are expected to lead to a further decline in GHG emissions. In addition, reduction in fertiliser use has also been achieved due to the implementation of EU legislation, particularly the Nitrates Directive.

In the EU-27, decreases in mineral and organic (manure) nitrogen fertiliser use and the efficiency improvements of farming practices, are likely to reduce N<sub>2</sub>O emissions, while decreases in the number of ruminants (cattle and sheep) and increases in cattle productivity are likely to contribute to a decline in emissions of methane. The highest relative reductions with all measures considered (more than 20 %) are projected by the Netherlands, Finland, Denmark, Germany and the United Kingdom. All central and eastern European Member States, except Cyprus, project decreases in GHG emissions from agriculture compared to 1990 emissions.

Industrial processes: policies and measures are mainly aimed at abatement measures in adipic and nitric acid production (to reduce N<sub>2</sub>O emissions) and on alternatives (substitutes) for HFCs in refrigeration and air conditioning. Policies and measures in most Member States to implement the F-gas regulation and directive are at an early stage of development. Emissions from industrial processes are projected to remain at the current level of 12% below 1990 levels. The highest relative reductions are projected by the United Kingdom. Seven central and eastern European Member States (Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Poland and Romania) project decreases in GHG emissions from industrial processes compared to 1990 emissions.

Waste management: decreases in emissions of methane in particular but also carbon dioxide and nitrous oxide are expected to result from a range of (solid and water) waste management schemes, taxes and other measures such as the EU Landfill Tax (expected to reduce emissions by 5.8 Mt CO<sub>2</sub>-eq. in 2010). Emissions from the waste sector are projected to decrease more than in any other sector by 2010 (-44%). The highest reductions (more than 50%) are projected by Belgium, Germany, the Netherlands, Sweden and the United Kingdom. Only Ireland, Portugal and Spain project that their greenhouse gas emissions from waste in 2010 will be higher than in 1990. Only three of the EU-12 Member States (Bulgaria, Cyprus and Lithuania) project decreases in GHG emissions from waste compared to 1990 emissions.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

The Annual Report from the Commission on the progress towards achieving the Kyoto objectives shows that the European Union is on track to deliver on its Kyoto Protocol commitments for reducing or limiting emissions of greenhouse gases.

Respecting the Kyoto Protocol commitments: under the Kyoto Protocol, the 15 countries which were EU Member States when the Protocol was agreed (the EU-15) are committed to reducing their collective greenhouse gas emissions in the period 2008-2012 to 8% below levels in a chosen base year (1990 in most cases). This collective commitment has been translated into differentiated national emission targets for each EU-15 Member State which are binding under EU law.

There is no collective target for EU-27 emissions. Ten of the twelve Member States which joined the EU in 2004 and 2007 have individual commitments under the Protocol to reduce their emissions to 6% or 8% below base year levels by 2008-2012. Only Cyprus and Malta have no emission target.

The main issues dealt with in this report are as follows:

- Based on the latest available inventory data of 2007, total GHG emissions in the EU-15 have fallen for the third consecutive year, and were 5.0% below base year emissions. Under the Kyoto Protocol, the EU-15 has agreed to reduce its greenhouse gas (GHG) emissions by 8% by 2008-2012 compared to base year levels. GHG emissions in EU-15 have been decreasing while the economy has grown significantly. Since 1990, the EU-15 GDP increased by almost 44%. In 2007, EU-15 GHG emissions decreased by 1.6% compared to 2006 while the EU-15 GDP grew by 2.7%. Projections indicate that the EU-15 will reach its Kyoto target.
- Ex-post evaluation of the impact of environmental policies on GHG emissions in EU-15 between 1990 and 2005 shows that GHG emissions have been reduced by 7.6% (about 350Mt CO<sub>2</sub> eq.).
- In the commitment period, five Member States (France, Germany, Greece, Sweden and the United Kingdom) have projected emissions under existing policies and measures that would allow them to achieve their targets. When all measures are taken into account, including carbon sinks, acquisition of credits by governments and EU ETS sectors, nine further Member States are projected to meet their burden sharing target.
- There is currently only one Member State (Austria) which is projected to have difficulties with achieving its GHG reduction commitment. The projections, however, do not reflect the current economic downturn and the latest forecast on GDP development and may therefore be overestimated.
- Despite the fact that in most of the twelve new Member States emissions are projected to increase between 2007 and 2010, nine of them that have a Kyoto target are projected to meet or over-achieve their Kyoto targets using only existing policies and measures. Slovenia projects that it will meet its target when all the existing and planned measures will deliver as expected.
- Additionally, according to the provisional 2008 data, emissions from the EU-15 Member States fell by 1.2 percentage points, taking them to 6.2% below their levels in the base year. EU-27 emissions are estimated to have fallen by 1.1 percentage points to stand 13.6% lower than the base year level. Those figures reflect the effects of global economic recession which was not yet the case for 2007 GHG emission data.

GHG emission trends: the overall EU GHG emission trend is strongly influenced by the two largest emitters Germany and the United Kingdom, accounting for about one third of total EU-27 GHG emissions. In 2007, these two Member States have achieved total GHG emission reductions of 394 Mt CO<sub>2</sub> equivalents compared to 1990.

- A favourable trend in Germany can be observed (-21% in 1990-2007) whereas the reduction of GHG emissions in the United Kingdom was -17% during the same period.
- Italy and France are the third and fourth largest emitters both with a share of 11%.
- Spain and Poland are the fifth and sixth largest emitters in the EU-27, accounting for 9% and 8% respectively of total EU-27 GHG emissions. Spain increased emissions by 54 % between 1990 and 2007.
- In 2007, eight Member States had GHG emissions above base year levels whereas the remaining 17 Member States had emissions below base year levels.

- Cyprus and Malta do not have emission reduction commitments under the Kyoto Protocol. In those countries, emissions in 2007 were above 1990 levels. The percentage changes of GHG emissions from the base year to 2007 range from -53.4% (Latvia) to +52.6% (Spain).

Sectors: energy (supply and use) and transport are the most important sectors, accounting for 80% of total EU-15 emissions in 2007. Transport is responsible for 21% of total GHG emissions, agriculture for 9%, industrial processes for 8% and waste for 3%. The decreases in energy, agriculture, industrial processes and waste has been partially offset by significant increases in the transport sector. In summary, compared to 1990, emissions in the EU-15 from

- energy (supply and use, excluding transport) decreased by 7%,
- transport increased by 24%,
- industrial processes decreased by 11%,
- agriculture declined by 11%,
- waste decreased by 39%.

Projections by Member States: the GHG emission projections include the impact of the EU Emissions Trading Scheme. However, the underlying methodology for the estimation of the effect of the EU ETS needs further improvement.

A) EU-15: the aggregate projections for all sectors and based on existing domestic policies and measures, including the effect of the EU emission trading system on domestic emissions, show that GHG emissions of the EU-15 will be 6.9% below base-year levels in the commitment period (1.1% distance from the Kyoto target). When including the, (1) government use of the Kyoto mechanisms which are expected to deliver an additional 2.2% emission reduction, (2) total removal due to activities referred to in Art. 3.3 and 3.4 of the Kyoto Protocol in the EU-15 corresponding to a 1.0% reduction, and (3) use by the ETS sectors of allowance and credit acquisitions, corresponding to a 1.4% reduction.

The EU-15 is projected to reduce its emissions by even more than 8.0% in the commitment period, exceeding the Kyoto target (-8%). Assuming that all measures deliver as expected, the projected overall reduction of GHG emissions could be up to 13.1% in commitment period compared to base year levels (including -1.6% effect of additional domestic measures).

Given, however the EU's ambitious reduction target of 20% by 2020 compared to 1990 and in order to pave the way for a smooth compliance with this target, it is imperative that Member State not only ensure the timely delivery of emissions reductions from existing policies and measures but also that they accelerate the development and full implementation of their additional policies and measures.

B) EU-12: aggregate emissions based on existing domestic policies and measures from the other 12 Member States are projected to increase after 2007 but will still be about 29.8% below their base year levels in the commitment period. Slovenia is the only Member State out of the EU-12 that intends to invest in Kyoto mechanisms. Slovenia, the Czech Republic and Poland intend to account for carbon sinks.

C) EU-27: in the commitment period, total EU-27 GHG emissions are projected to be about 12.8% below base-year levels. The projected decline is 15.0% when the effect of acquisitions of credits via the Kyoto mechanisms by governments and carbon sinks is accounted for, and it could reach 16.5% if the additional policies and measures were to be implemented on time and deliver as estimated.

These emission projections need to be considered in the perspective of the effective reductions already achieved, which amounted to -9% for the EU-27 and -4% for the EU-15 between 1990 and 2007. Therefore, reduction efforts will need to accelerate substantially across the EU in the future if it is to meet its -20% or -30% target by 2020.

New measures to reach the EU's ambitious 2020 target: the report recalls that in December 2008 the climate and energy legislative package proposed by the European Commission in January 2008 was agreed. For the first time a set of legal acts provides an integrated and ambitious package of policies and measures to tackle climate change until 2020 and beyond.

From 2013 onwards the total EU effort to reduce greenhouse gas emissions by 20% compared to 1990 by 2020 will be divided between the EU ETS and non-ETS sectors as follows:

- a 21% reduction in EU ETS sector emissions compared to 2005;
- a reduction of around 10% compared to 2005 for the sectors that are not covered by the EU ETS.

Taken together, this results in an overall reduction of -20% compared to 1990, which also accounts to -14% compared with 2005. A larger reduction is required by the EU ETS sector because it is more cost effective to reduce emissions in the sectors covered by the ETS rather than in the other sectors, not covered by the system.

The new set of climate and energy measures also include: legally binding targets for increasing the share of renewables in the energy mix by 2020, new rules on carbon capture and storage, new rules on environmental subsidies, as well as reduction of CO<sub>2</sub> emissions from cars and improved fuel quality.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

The Commission presented a report on the progress towards achieving the Kyoto objectives (required under Article 5 of Decision 280/2004/EC of the European Parliament and of the Council concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol).

The main findings of the report are as follows:

On track to reach the Kyoto target, 2008-2012: under the Kyoto Protocol, the EU-15 has agreed to reduce its greenhouse gas (GHG) emissions by 8% by 2012 compared to base year levels.

EU-15: based on the latest available inventory data of 2008, total GHG emissions in the EU-15 have fallen for the fifth consecutive year and were 6.9% below base year emissions without Land Use, Land Use Change and Forestry (LULUCF). While since 1990, the economy has grown significantly with an increased of EU-15 GDP by almost 45%, GHG emissions in EU-15 have nevertheless been decreasing.

In 2008, EU-15 GHG emissions decreased by 1.9% compared to 2007 while the EU-15 GDP grew by 0.6%. Projections indicate that the EU-15 will reach its Kyoto target. Current projections, reflecting the economic recession, indicate that the target is very likely to be overachieved.

According to the recent GHG projections six Member States (Finland, France, Germany, Greece, Sweden, the United Kingdom) are on track to achieve their GHG reduction targets domestically. Taking into account the planned use of the Kyoto flexible mechanisms, use of unused allowances from the EU ETS new entrant reserve and carbon sinks, only two Member States (Austria and Italy) might face difficulties with achieving their targets, though not undermining the overall EU-15 capacity to meet its Kyoto target.

New Member States: in most of the twelve Member States which entered the EU as from 2004 emissions are projected to slightly decrease between 2008 and 2012, nine of them that have a Kyoto target are projected to meet or over-achieve their Kyoto targets using only existing policies and measures. Slovenia projects that it will meet its target when all the existing and planned measures, including the purchase of Kyoto credits will deliver as expected.

Total EU-27 GHG emissions were, in 2008, 14.3% below base year levels without emissions and removals by LULUCF. Emissions were 2% lower compared to 2007 while during the same period the EU-27 economy grew by 0.7%.

Additionally, according to the provisional 2009 data, EU-15 and EU-27 greenhouse gas emissions decreased by 6.9% in 2009 compared to 2008. Based on these estimates, EU-15 stands 12.9 % below the base-year level, beyond its Kyoto commitment of 8% reduction for the first time. EU-27's 2009 emissions stand approximately 17.3 % below the 1990 level. The change of GDP in 1990-2009 was 38% for EU-15 and 40% for EU-27.

New measures to reach the EU's ambitious 2020 target: the climate and energy package adopted in 2009 provides an integrated and ambitious package of policies and measures to tackle climate change until 2020 and beyond.

From 2013 onwards the total EU effort to reduce greenhouse gas emissions by 20% by 2020 compared to 1990 will be divided between the EU ETS and non-ETS sectors as follows:

- 21% reduction in EU ETS sector emissions compared to 2005;
- reduction of around 10% compared to 2005 for the sectors that are not covered by the EU ETS.

The overall reduction of -20% compared to 1990 is equivalent to a -14% reduction compared to 2005. A larger reduction is required by the EU ETS sectors because it is more cost effective to reduce emissions in the sectors covered by the ETS rather than in the other sectors that are not covered by the system.

Progress made: since 2009 further preparation for the implementation of the GHG reduction commitment by 2020 has taken place.

(1) In regard to the implementation of the [revised EU ETS Directive](#) this covers among others a Commission Decision to determine the sectors and subsectors deemed to be exposed to carbon leakage and a Commission Decision on the Community-wide quantity of allowances to be issued in the third trading period. Furthermore, rules for the timing, administration and other aspects of auctioning of allowances and Community-wide harmonised allocation rules for allocating allowances in the third trading period are in preparation. The Registries Regulation is also being revised in order to address necessary changes.

(2) The [Effort Sharing Decision](#) regulates GHG emissions in all sectors except installations and aviation covered by the EU ETS, Land Use, Land Use Change and Forestry (LULUCF), and international maritime shipping. It obliges Member States to limit their GHG emissions between 2013 and 2020 according to a linear trajectory with binding annual targets. This will ensure a gradual move towards agreed 2020 targets in the respective sectors. Member States will be responsible for defining and implementing policies and measures to limit their emissions. A robust monitoring system will be put in place for monitoring Member States' action and help them make any necessary corrective measures if they fail to meet their targets. The Commission started work on implementing measures under the Effort Sharing Decision, which include determining the absolute values for Member States targets in 2013-2020 and setting rules for transfers of annual emission allocations among Member States as well as ensuring their transparency.

(3) The 20% GHG reduction objective was also rooted in the [Europe 2020 strategy](#) for jobs and smart, sustainable and inclusive growth adopted by the European Council in June 2010. The emission reduction target is one of the five headline targets.

The report illustrates the significant gap between projections for 2020 and the EU's 2020 targets (-20% and -30% respectively) requiring the EU to significantly step up its efforts to reduce its greenhouse gas emissions.

Depending on the actual target, in 2020 emission reductions will have to amount to 350 ? 800 Mt CO<sub>2</sub> equivalents compared to baseline scenario. This underlines the need for the EU and its Member States to implement as soon as possible the new legislation to ensure that necessary emission reductions will take place.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

In accordance with the requirements of Article 5 of Decision 280/2004/EC concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol, the Commission presents a report on the progress towards achieving the Kyoto objectives.

The main findings of the report are as follows:

On track to reach the Kyoto target, 2008-2012: in 2009, total EU-27 greenhouse gas (GHG) emissions without emissions and removals from Land Use, Land Use Change and Forestry (LULUCF) were 17.4% lower compared to 1990 levels. Emissions decreased by 7.1% compared to 2008 while during the same period the Gross Domestic Product (GDP) in EU-27 dropped by around 4% as a result of the economic recession.

Additionally, according to the provisional 2010 data, EU-15 and EU-27 GHG emissions changed by 2.3% in 2010 compared to 2009. Based on these estimates, EU-15 emissions are 10.7% below the base-year level. EU-27 2010 emissions are approximately 15.5% below the 1990 level. The change of GDP in 1990-2010 was 39% for EU-15 and 41% for EU-27, and around 1.8% between 2009-2010.

Under the Kyoto Protocol, the EU-15 has agreed to reduce its GHG emissions by 8% by 2008-2012 compared to base year levels. Based on the

latest available inventory data of 2009, total GHG emissions in the EU-15 have fallen for the sixth consecutive year and were 12.7% below base year emissions without LULUCF. While since 1990, the EU-15 economy in terms of GDP has grown significantly by almost 37%, GHG emissions in EU-15 have declined.

In 2009, EU-15 GHG emissions decreased significantly, by 6.9% compared to 2008 well exceeding the drop of EU-15 GDP of around 4% as a result of the economic recession, which proves that in 2009, the deep economic crisis in the Union did not stall the transformation of the Union's economy towards a low carbon economy. The rate of improvement in GHG intensity remained at the same level as in the years before.

All in all, projections of total GHG emissions indicate that the EU-15 is well on track to reach its Kyoto target. The estimate shows that the target is likely to be overachieved.

EU-12: aggregate emissions based on existing domestic policies and measures from the 12 Member States which joined the Union after 2004 are projected to slightly increase compared to 2009 and will be about 38.7% below their base year levels in the Kyoto commitment period. Slovenia is the only Member State out of the EU-12 that intends to invest in Kyoto mechanisms. The Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania and Slovenia intend to account for carbon sinks. The Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland and Slovakia plan to sell part of their AAUs.

New measures to reach the Union's ambitious 2020 target: the climate and energy package adopted in 2009 provides an integrated package of policies to tackle climate change until 2020 and beyond. From 2013 onwards the total Union's effort to reduce greenhouse gas emissions by 20% by 2020 compared to 1990 will be divided between the EU ETS and non-ETS sectors. As noted in the Commission's Annual Growth Survey 2011, in the field of climate mitigation the existing and planned measures are not yet sufficient to reach the 2020 headline targets. Therefore, many Member States need to make additional efforts to meet their obligations under the Effort Sharing Decision. According to recent GHG projections estimates only 11 Member States are expected to meet their commitments with policies already in place, further 7 Member States will deliver on their targets when their additional policies and measures deliver as expected. The remaining 9 Member States need to design additional policies in order to accomplish their targets. Projections show that the cut in Union's GHG emissions (with measures already in place) would be at the level of 15.3% between 1990 and 2020. However, as regards EU-27, the estimates show that the overall non-ETS target would be delivered. This analysis does not yet take into account the use of credits from JI and CDM projects.

In order to pave the way for a smooth compliance with the 2020 target, it is imperative that Member States not only ensure timely delivery of emissions reductions of existing policies and measures but also accelerate the development and full implementation of their additional policies and measures as well as consider other options including the use of international credits.

Situation in candidate countries: between 1990 and 2009 Croatia's GHG emissions decreased by 8%, and compared to 2008 they decreased by 7%. However, according to the GHG projections included in the 5th National Communication, Croatia is projected to face difficulties with achieving its Kyoto target with the current set of policies and measures.

Iceland's GHG emissions between 1990 and 2009 increased by 35% and in 2009 were 5.4% lower than in 2008. According to the GHG projections included in the 5th National Communication, Iceland is on track to meet its Kyoto target.

In 2009, Turkey's GHG emissions increased by 97.6% and comparing to 2008 increased by 1%. While Turkey is an Annex I Party, it has no GHG target under the current 1st commitment period of the Kyoto Protocol.

An up-to-date inventory of GHG emissions in the former Yugoslav Republic of Macedonia is not available. Between 1990 and 2005 total GHG emissions decreased by around 19%.

## Air pollution, greenhouse gas emissions: monitoring mechanism and implementation of the Kyoto Protocol

---

In accordance with Decision 280/2004/ concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol, the Commission presents a report on progress towards achieving the Kyoto objectives. Under the Kyoto Protocol, the EU-15 has agreed to reduce its GHG emissions by 8% by 2012 compared to base year levels. Based on the latest available inventory data of 2010, total GHG emissions in the EU-15 were 11% below base year emissions without Land Use Change and Forestry (LULUCF).

All in all, projections of total GHG emissions indicate that the EU-15 is well on track to reach its Kyoto target. The estimate shows that the target is likely to be overachieved.

1) GHG emissions in 2010 compared to 2009: European GHG emissions increased in 2010 (+2.4%) due to the return to economic growth after European GHG emissions drastically decreased in 2009 mainly because of the economic recession (-7.3%) and a colder than usual winter. Among the industrial sectors, the largest combined increase stemmed from manufacturing industries and construction (including iron and steel process emissions) and from public heat and electricity production. Higher industrial activity during 2010, after the strong contraction in 2009, appears to have led to a sharp increase in final energy demand and emissions in these sectors. The sector that contributed most to higher emissions in the EU in 2010 was, however, residential and commercial, which broadly falls outside the scope of the EU ETS. The key reason for the 43 million tonnes increase in emissions there was the cold winter in 2010, which increased demand for heating, particularly by households. The continued strong increase in renewable energy use and the improved carbon intensity of fossil fuels - underpinned by strong natural gas consumption - prevented the increase in GHG emissions from being higher.

About 56 % of the EU increase in GHG emissions was accounted for by Germany (+3%), Poland (+5%) and the United Kingdom (+3%). In percentage terms, growth in emissions was highest in Estonia (+25%), Finland (+13%), Sweden (+11%) and Latvia (+10%). Contrastingly, Spain, Greece, Portugal, Romania, Cyprus and Ireland continued reducing GHG emissions in 2010. The increase in emissions in 2010 was partly driven by the economic recovery from the 2009 recession in many European countries, which had itself caused substantial emission reductions in 2008 and 2009 in all Member States. Final energy demand increased by 3.7 % in 2010, outpacing the increase in economic output (2.0 %).

2) Progress in 2010: in 2010, total EU-27 greenhouse gas (GHG) emissions without emissions and removals from Land Use, Land Use Change and Forestry (LULUCF) were 15% lower compared to 1990 levels. Emissions increased by 2.4% compared to 2009. This partly compensates the significant decrease of GHG emissions in 2009 as a result of the economic recession (-7.3%). Leaving the exceptional drop

in 2009 aside, 2010 GHG emissions continue to follow the general decreasing trend seen from 2004 onwards.

Additionally, according to the provisional 2011 data, EU-15 and EU-27 GHG emissions decreased by 3.6% and 2.5% in 2011 compared to 2010. Based on these estimates, EU-15 emissions are 14% below the base-year level. EU-27 2011 emissions are approximately 18% below the 1990 level. The change of GDP in 1990-2011 was 43% for EU-15 and 48% for EU-27, and around 1.5% between 2010 and 2011. While the economy has grown significantly, emissions in both the EU-27 and the EU-15 have been decreasing, which demonstrates that decoupling of economic growth from GHG emissions has been progressing steadily since 1990.

According to the GHG projections submitted in 2011 and updated in 2012:

- six EU-15 Member States (Finland, France, Germany, Greece, Sweden, the United Kingdom) are on track to achieve their individual GHG reduction targets domestically. Taking into account the planned use of the Kyoto flexible mechanisms, use of unused allowances from the EU ETS new entrants reserve and carbon sinks as well as additional policy measures, only one Member State (Italy) is not on track to achieve their targets;
- in most of the twelve Member States that acceded the Union as from 2004, emissions are projected to slightly increase between 2009 and 2012. However, nine of them that have a Kyoto target are projected to meet or over-achieve their commitments using only existing policies and measures. Slovenia is estimated to meet its target when all the existing and planned measures, including the purchase of Kyoto credits, deliver as expected.

3) New measures to reach the ambitious Europe 2020 target: the climate and energy package adopted in 2009 provides an integrated and ambitious package of policies and measures to tackle climate change until 2020 and beyond. It forms one of the five headline targets of the Europe 2020 jobs and economic growth strategy. From 2013 onwards the total effort of the Union to reduce greenhouse gas emissions by 20% by 2020 compared to 1990 will be divided between the EU ETS and non-ETS sectors. The GHG data refer to the scope of the first commitment period under the Kyoto Protocol and cannot be directly used to assess progress towards the Union's domestic commitment by 2020 because of its broader sectoral coverage.

Preparations for the implementation of the GHG reduction commitment by 2020 are almost completed.

With regard to the EU ETS, substantial progress in preparing for Phase 3 (2013-2020) has been made since the last progress report in October 2011, including on the auctioning platform, on the Single Union Registry and on adoption of harmonised rules on monitoring, reporting, accreditation and verification.

- As far as the [Effort Sharing Decision](#), which regulates GHG emissions in sectors outside the EU ETS by setting binding annual GHG emissions targets for each Member State (MS) is concerned, work on implementing measures is continuing, especially in relation to determining the absolute values for Member States' targets and the compliance system which will be put in place for monitoring Member States' action annually and helping them to take any necessary corrective measures if they fail to meet their targets.
- The 20% GHG reduction objective is rooted in the Europe 2020 strategy for jobs and smart, sustainable and inclusive growth adopted by the European Council in June 2010. The emission reduction target is one of the five headline targets. As noted in the Commission's [Annual Growth Survey 2011](#), in the field of climate change mitigation the existing and planned measures are not yet sufficient to reach the 2020 headline targets. Many Member States need to make additional efforts to meet their obligations under the Effort Sharing Decision.

The report illustrates the considerable emission reduction effort required between business as usual for 2020 and the Union's 2020 targets (-20% and -30% respectively). In 2011, EU-27 emissions (including international aviation emissions) were 16% below 1990 level. Business as usual would lead to an emissions cut of around 15% between 1990 and 2020.

According to the latest available GHG projections, which include the implementation of the Climate and Energy Package, the EU would collectively meet its 2020 target. However, only 13 Member States can expect to meet their 2020 commitments with policies already in place, and a further 8 Member States could deliver on their targets when their additional policies and measures deliver as expected. The remaining 6 need to design additional policies in order to accomplish their targets and/or make use of the flexibilities provided for in the Climate and Energy Package.