

Application of the Emissions Trading Directive by EU Member States — reporting year 2007

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Executive summary

According to Article 21 of the Emissions Trading Directive, Member States shall report annually on its application. The reporting obligation allows the Commission to continuously follow the implementation of the directive and provide information for the Commission's review report under Article 30 of the directive. This information can be used for improvements in coming trading periods. It has also been used in the preparation of the proposals for a revised ETS Directive, presented 23 January 2008.

The reports from the Member States are based on a questionnaire decided on by the Commission. A first questionnaire was developed and provided to the Member States in 2005. That questionnaire was updated based on the responses for the first four months of the trading scheme. The updated questionnaire has been used for the second and third set of reports covering the time period of the full trading years for 2005 and 2006 respectively ⁽¹⁾. The same questionnaire will be used for the fourth set of reports, to be delivered by 30 June 2008, to ensure consistency with the whole first trading period. By early November 2007, responses had been received from all Member States. The responses were assessed by the EEA and its European Topic Centre on Air and Climate Change (ETC/ACC) and compiled for this report.

The assessment of the third set of Article 21 reports gives a more comprehensive overview of how Member States have implemented the Emissions Trading Directive. All Member States have delivered reports this time and gaps from previous reports have been filled to a large extent. It covers approaches by Member States to the different administrative procedures which are necessary for running the Emissions Trading Scheme. Similarities and differences in implementation are identified. This report may therefore support Member States in improving their future application of the Emissions Trading Directive by making them aware of the approaches chosen by other Member States. The report can also assist in future revisions of the EU-ETS. The main findings which can be derived from the assessment of the three sets of reports are

summarised below and new information coming from the present third set of reports are highlighted in the different chapters.

Main differences compared to the last annual report

The analysis on the application of the Monitoring and Reporting Guidelines is more detailed than in the previous reports. The other main change is the addition of two 'supplementary analyses', one on data consistency between national greenhouse gas inventories and verified emission reports under the EU ETS and a second on innovation incentives of allocation provisions. The intention of these 'supplementary analyses' is to provide background information and more detailed analysis on specific issues. They are not based on information provided by Member States in their questionnaire but on independent research undertaken by the EEA-ETC/ACC.

The information in the other chapters contained in this report is similar to last year. Some clarifications have been made by some Member States on the institutional setup but, in general, the implementation of the ETS Directive has not changed much from 2005 to 2006. There is more complete information on some issues, mainly because for the first time all Member States reported and all used the revised version of the questionnaire. In addition, Bulgaria and Romania have reported for the first time and the report now covers all 27 Member States.

Competent authorities

All Member States retained or increased the number of authorities compared to last year's report. That is why the main picture from the previous report concerning competent authorities remains similar. In all Member States more than one competent authority is involved in the national implementation of the Emissions Trading Scheme. The issuing of greenhouse gas permits and

⁽¹⁾ The term 'reporting period', when used in this report, means the full trading year 2006.

monitoring of emissions are carried out by regional or local authorities in some countries. The choice may depend on the size and the general institutional structure of the Member States. Since there are links between the different procedures, it is important to avoid inconsistencies at national implementation level. Several Member States reported measures to avoid such problems, for example through working groups with regular meetings, the development of specific guidance notes and the establishment of an 'interpretation group' or training courses for employees of the competent authorities.

Coverage of activities and installations

Compared to the last report the number of installations of different types and the amount of emissions covered under the emissions trading scheme have changed. This will happen continuously during a trading period due to new entrants and closures of installations. The size of the entire Emissions Trading Scheme will therefore vary, albeit only slightly. A total of 10 800 installations were included in the Community Independent Transaction Log (CITL) ⁽²⁾. One-third of the combustion installations covered by the scheme have a rated thermal input between 20 and 50 Megawatt (MW). These installations are covered by the EU ETS but not by the IPPC Directive. They account for 2 % of the overall emissions reported so far. Installations with emissions of more than 500 000 tonnes of CO₂ per year account for 7 % of the total number of installations, but are responsible for more than 80 % of total emissions. Small installations with 500 tonnes of CO₂ emissions or less per year account for more than 14 % of the installations with total emissions of 108 kt CO₂ in 2006. Over 700 changes in the list of installations compared to the national allocation plan tables were reported for 2006. About half of those changes were due to new installations entering the scheme or capacity increases and a quarter of all changes were caused by installations leaving the scheme due to closures and capacity decreases. No applications to form a pool have been received in 2006.

Permits for installations

Procedures for the issuing and follow up of permits are not expected to change during one and the same trading period. Member States though

apply different measures to ensure operator compliance with the requirements of their permits. Some Member States report that random spot checks will take place at the installation. In fifteen Member States more than one competent authority is involved in issuing permits to installations, which may cause inconsistencies in the national implementation if the individual competent authorities interpret the national legislation differently. Different measures to avoid such problems have been reported by Member States. In total 3 212 changes to permits were reported by Member States for 2006. The share of affected installations ranged from 0 % to 100 % in the different Member States. In total, about one quarter of all permits had to be updated; this is as high as it was in the first year of the trading period.

Application of 'Monitoring and Reporting Guidelines'

In common with the last two reports there are differences between Member States in the application of the guidelines. Several Member States have included provisions for lower tiers in their national law for certain activities or parameters. The number of reported installations by Member States for which it has not been feasible to use the minimum tiers listed in Decision 2004/156/EC decreased compared to last year. Lower tiers in the largest installations emitting 50 % of the emissions covered by the scheme were applied, at least in one source stream, in nearly all Member States. The number of installations that temporarily applied lower tiers than those agreed with the competent authority has reduced to half compared to last year (from 55 to 24). The reported amount of biomass combusted and employed has very much increased; most of it in combustion installations (activity sector E1). The reported quantity of waste used or deployed has nearly doubled compared to last year.

Arrangements for verification

The verification procedure has now been carried out for the second time, which should give a better overall picture on the process. Comparing with the last set of reports, apart from differences in numbers, not much has changed. This is understandable as much of the process is laid down in national legislation and not easily changed, even if aspects

⁽²⁾ 'Community independent transaction log' (CITL) is the independent transaction log provided for in Article 20(1) of Directive 2003/87/EC for the purpose of recording the issue, transfer and cancellation of allowances, and established, operated and maintained in accordance with Article 5 of the Commission Regulation (EC) No 2216/2004. The report refers to the information published on the CITL website as of 5 July 2007; the Maltese information was updated on 20 November 2007.

warranting improvement have been determined in the first year. General aspects, such as the possibility for accreditation of independent verifiers according to national rules, are treated similarly in almost all countries. However, there are issues reported by some Member States which could be considered by other Member States as well. In twelve countries verifiers have to provide recommendations for improving the monitoring plan of an installation as part of the verification procedure. Verified emission reports may be subject to additional checks by the competent authorities in order to ensure the quality of the verification process in all Member States. Around 30 installations did not submit an emission report verified as satisfactory by 31 March 2007; whilst last year, 120 reports were outstanding at this time. An additional 160 installations did not submit a report at all, the same number as for 2006. Most of these cases were solved within three months.

Operation of registries

Most registries were operating in 2006 but faced scheduled and unscheduled downtime. While some Member States reported no downtime at all other registries were offline for over 200 hours. On average, each registry was unavailable for approx. 3.4 hours/month in 2006, an increase of 29 % compared to last year. Most Member States implemented procedures to safeguard registries. Three Member States detected security threats during 2006.

Allocation, new entrants and closures

As was covered in the reports for 2005, many Member States again welcome harmonisation of allocation issues such as the treatment of new entrants, closures or small installations and, above all, harmonisation of the definition of a combustion installation. One of the main lessons learned so far is the need to simplify the allocation process to enhance clarity of the rules and reduce the workload of authorities as well as companies. Twenty Member States allocated a total of 25.9 million EUA to 395 new entrants in the reporting period. Only Denmark, Hungary and Ireland auctioned allowances in 2006.

Surrender of allowances by operators

During 2006 two accounts (in the Czech Republic and Belgium) were closed in the national registries with a negative balance because there was no

reasonable prospect of further allowances being surrendered by the operator during this reporting period.

Use of ERUs and CERs within the Community scheme

As noted for the 2005 reporting period, credits from JI (ERUs) or CDM (CERs) projects were not available during the 2006 reporting period. Seventeen Member States reported requiring adherence to criteria and guidelines contained in the World Commission on Dams Final Report (2000) for the approval of hydroelectric JI or CDM projects and most of them described a verification procedure. Member States are obliged by Directive 2004/101/EC (Linking Directive) to ensure compliance with these guidelines during project approval.

Fees and charges

Compared to last year's report the situation has not changed, meaning that most Member States recover at least some of the administrative costs of the trading scheme through fees and charges to operators and personal account holders. This is done through charges of services like the issuance of permits, issuance of allowances and the use of the registry. Additionally two countries have a general subsistence fee. Fees and charges for the same service differ substantially between Member States. This is due to different approaches to cost recovery and differences in the areas where fees are charged. In general resulting costs for operators are small.

Compliance and enforcement

According to Article 16 of the directive, Member States should implement effective penalties in cases of a breach of emissions trading legislation. Compared to previous sets of reports this time most Member States provided detailed information on penalties which are to be imposed. The picture is, therefore, more complete than in the previous reports. The maximum fines deviate substantially between Member States for similar infringements (from EUR 15 million to EUR 600). In seven Member States operators might also receive prison sentences. In Hungary, the amount equivalent to the excess emissions will be automatically deducted from the next issuance of the allocated allowances. Three countries imposed fines for infringements of national provisions in 2006.

Legal nature of allowances and fiscal treatment

The legal nature of allowances is not identical in all Member States neither for the purpose of financial regulation nor accounting. Some Member States consider allowances to be financial instruments whose trading is supervised by the financial service authority (FSA). Other Member States consider them to be normal commodities. In the latter case, only the derivatives of these allowances are viewed as financial instruments. Allowances are regarded for accounting purposes as intangible or financial assets in eleven Member States; in four countries allowances are treated as commodities or stock. In the case of Hungary, the treatment depends on the intended future use of the allowances. Only nine Member States reported having adopted specific accounting rules for allowances.

In all Member States except Cyprus transactions of allowances are subject to value-added tax (VAT). The issuance of allowances free of charge is exempted from the VAT in all Member States. Profits and losses from transactions in allowances are subject to income or corporate taxes. No Member State established separate rules for allowances; the same regulations as for all other profits and losses are applied.

Access to information

Pursuant to Article 17 of the Emissions Trading Directive, decisions related to allocation of allowances and reports of emissions shall be made available to the public. Compared to last year there are few changes. Most Member States publish their national allocation plan, allocation rules and installation allocation on the internet. Access to monitoring reports is granted upon request in most Member States and five countries decided to publish the full reports on the Internet whilst four did not provide access to the public under any circumstances.

General observations

Member States provided information on studies undertaken on the application, effects and further development of the Emissions Trading Scheme. Studies on the development of second national allocation plans were one focus of the work in 2006. Competitiveness issues due to the application of the Emissions Trading Directive were raised by several Member States as well. Areas identified as problematic include allocation rules, definition of combustion installations, verification and industry branches suffering from competition from installations outside the EU, that are not covered by a carbon trading scheme.

1 Introduction

Article 21 of the Emissions Trading Directive 2003/87/EC ⁽³⁾ obliges Member States to report annually on the application of this Directive on the basis of a questionnaire. This report shall pay particular attention to the arrangements for the allocation of allowances, the operation of registries, the application of monitoring and reporting guidelines, verification, issues relating to compliance with the directive and the fiscal treatment of allowances.

The EEA assisted by its Topic Centre assessed the reports delivered by the EU Member States and the results are presented in this report.

1.1 Intentions behind reporting

The overall intention of annual reporting is to give an overview of how Member States have addressed the different procedures involved in implementing and running the European Union Emissions Trading Scheme (EU ETS). Learning from procedures used amongst Member States may facilitate future harmonisation and improvements in the overall running of the EU ETS. In addition, it could help to improve the quality of monitoring data through application of common rules, which would facilitate emission reporting by Member States and also improve the quality of data reported to the European Pollutant Emission Register ⁽⁴⁾. It might also help to improve the quality of future 'top-down' reports of the inventories according to the greenhouse gas monitoring mechanism ⁽⁵⁾.

1.2 Reporting process

An initial questionnaire ⁽⁶⁾, which was used for the first set of reports by 30 June 2005, was developed under severe time constraints and a possible need for revision was anticipated. After the experience gained by the use of this questionnaire for the reports covering the first four months of the trading year 2005 the questionnaire was reviewed. The revised questionnaire ⁽⁷⁾ was not formally adopted before the due date for reporting in 2006 and therefore not all countries were able to use the new version. For this year's report all reporting Member States have used the revised questionnaire.

This report is based on the replies to the questionnaires received by 9 November 2007, information contained in the CITL on 5 July 2007, the information contained in the CITL for Malta on 20 November 2007 and the supplementary comments received from Member States in the review process. In some cases information from the replies in the previous year was used to supplement information provided in 2007. This was done especially in cases where Member States only reported that no changes had occurred since the last report.

The report summarises the answers and tries to identify common patterns and differences in the implementation of the directive across Member States. The third set of reports on the application of the directive by Member States were due by 30 June 2007 covering the trading year 2006. Many Member

⁽³⁾ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC; (1) OJ L 275/32 EN, 25.10.2003, pp. 32–46.

⁽⁴⁾ Commission Decision of 17 July 2000 on the implementation of a European pollutant emission register (EPER) according to Article 15 of Council Directive 96/91/EC concerning integrated pollution prevention and control (IPPC) O.J. L192/36 dated 28.07.2000.

⁽⁵⁾ Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004 concerning a mechanism for monitoring Community greenhouse gas emissions and for implementing the Kyoto Protocol.

⁽⁶⁾ Commission Decision 2005/381/EC of 4 May 2005 establishing a questionnaire for reporting on the application of 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 O.J. L126/43 EN, 19.05.2005.

⁽⁷⁾ Commission Decision of 23 November 2006 amending Decision 2005/381/EC establishing a questionnaire for reporting on the application of 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 (notified under document number C(2006) 5546) (Text with EEA relevance) (2006/803/EC).

States submitted their replies after this deadline. Bulgaria and Romania entered the European Union and the EU ETS on 1 January 2007. Their reports therefore focused on the institutional setup of the ETS in their country and covered experiences of the trading scheme from the first four months of 2007.

On 9 November the last Article 21 report was submitted to the Commission. All reports have been assessed thoroughly and analysed in detail. However, several Member States did not provide answers to all questions. Therefore, the number of answers do not come to 27 for all questions. In such cases, either some Member States have provided no answer to this question or the answer categories are non-exclusive and overlap. However, this does not mean that the answers from certain Member States have been neglected or omitted.

1.3 Changes compared to the previous reporting periods

The first report on the application of the Emissions Trading Directive by EU Member States⁽⁸⁾ only covered the period up to April 2005. During that

period many Member States were still in the process of transposing the directive and were not able to answer all questions. Furthermore, experience in monitoring, reporting and verification was only gained at the end of the first complete year. In contrast, the second report was based on information for a full trading year and included experiences in the reporting process of the 2005 emissions⁽⁹⁾. This third report is somewhat more comprehensive as all Member States submitted their reports and all used the revised questionnaire. In addition, Bulgaria and Romania are included this year although they only entered the trading scheme after the end of the reporting period. Despite these differences, many chapters are similar to those of last year especially those on the institutional organisation. Two chapters have changed significantly: The analysis of the application of the Monitoring and Reporting is overhauled and completed by a supplementary analysis on data consistency between inventories and the EU ETS (Box 1 in Chapter 5); plus a supplementary analysis on innovation incentives of allocation provisions is included in Chapter 8 on arrangements on allocation of allowances, new entrants and closures (Box 2 in Chapter 8).

⁽⁸⁾ European Environment Agency (2006): Application of the Emissions Trading Directive by EU Member States. EEA Technical report No 2/2006.

⁽⁹⁾ European Environment Agency (2007): Application of the Emissions Trading Directive by EU Member States. EEA Technical report No 4/2007.

2 Competent authorities

- *As in the report from last year, it appears that in all Member States more than one competent authority is responsible for administrative tasks of the Emissions Trading Scheme.*
- *Approximately half of the Member States also involve regional or local authorities in the administration of granting permission for installations, monitoring, reporting and verification or other issues.*
- *Compared to the previous reporting period, several Member States included a greater number of competent authorities.*

The administration of the Emissions Trading Directive follows the subsidiary principle and differs between Member States. As a result, it is not always clear to other Member States or the Commission which authority is responsible for which administrative task. Hence, Member States were requested to provide an overview of the entities and their responsibilities for the different administrative operations foreseen under the Emissions Trading Directive.

Typical tasks that are carried out by the competent authorities relate to allocation, issue of permits, issue of allowances, monitoring and emission reports, registries, accreditation of verifiers, compliance and enforcement, use of Certified Emission Reductions (CER) and Emission Reduction Units (ERU), administration of the New Entrants Reserve (NER) and information provided to the public. The information in Table 1 gives an overview of the competent authorities in each Member State responsible for these tasks.

In all Member States more than one competent authority is involved in the administration of

the Emissions Trading Scheme. Apart from the Environment Ministries (which often are responsible for tasks such as allocation, accreditation of verifiers or administration of the new entrants reserve — NER), one or several subordinate authorities are involved. The highest number of competent authorities has been reported by France, Lithuania, Poland, Romania, Spain and Portugal. The first five have six authorities involved in the administration of the scheme, while Portugal has seven. For Belgium, eleven authorities are mentioned where, for the Flanders region alone, six authorities are involved. The second column of Table 1 gives an overview of the competent authorities of each Member State.

In sixteen Member States (Austria, Belgium, Bulgaria, Estonia, Finland, France, Germany, Latvia, Lithuania, Poland, Portugal, Romania, Slovakia, Spain, Sweden and United Kingdom) regional or local authorities are responsible for issuing emission permits and/or for monitoring, reporting and verification (MRV) of emissions. In the United Kingdom, Department of Food and Rural Affairs (DEFRA) is also responsible for opt-out applications under the national climate change agreements and the national emissions trading scheme.

The number of competent authorities has increased compared to last year from 83 to 121. Fifteen new authorities have been reported by Bulgaria, Romania, the Czech Republic and Luxembourg non of whom reported last year. Eight Member States reported more authorities being engaged (Cyprus, Denmark, Estonia, Greece, Italy, Poland, Portugal and Slovakia). (The UK Accreditation Service carries out the role of the accreditation of verifiers but is not listed as a competent authority for the purposes of the EU ETS.)

Table 1 Competent authorities and their tasks *

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and supervising verified em. reports	Accredit. of verifiers	Registry	Compliance and enforcement	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compliance	Administration of new entrants reserve	Information to the public	Auctioning	Administration of opt-ins	Administration of pooling
AT	-Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Abteilung V/4 Immissions- und Klimaschutz (BMLFUW)	RLA	BMLFUW	BMLFUW	RLA	BMLFUW	BMLFUW	BMLFUW	RLA, BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW
	-Regional or local authorities (RLA)															
	-The Registry Administrator (FED)							FED								
	-Gouvernement de la Région de Bruxelles-Capitale (GBC)	IBGE	GBC	IBGE	IBGE	IBGE	IBGE	IBGE	IBGE		Regions and federal	GBC	IBGE, Federal	-	-	-
BE	-Institut Bruxellois pour la Gestion de l'Environnement (IBGE)	IBGE	GBC	IBGE	IBGE	IBGE	IBGE		IBGE	Regions and federal	Regions and federal	GBC	IBGE, Federal	-	-	-
	-Flemish Government (FL-FG)															
	-Flemish Minister of the Environment (FL-FME)															
	-Flemish Competent Authority (FL-FCA)	FL-PE, FL-ANREH, FL-VBBV	FL-FG, FL-FME	FL-FCA	FL-VBBV	FL-VBBV	FL-VBBV		FEA, FL-VBBV, FL-FCA	-	-	FL-FCA	FL-FCA, FL-ANREH	-	-	-
BG	-Flemish Air, Nuisance, Risk Management, Environment and Health Division (FL-ANREH)															
	-Benchmarking Verification Bureau of Flanders (FL-VBBV)															
	-Provincial Executive(s) of the Provincial Council(s) (FL-PE)															
	-Walloon Government (GW)	GW, DGRNE	GW	GW	GW	DGRNE	DGRNE		DGRNE	DGRNE	DGRNE	DGRNE	DGRNE	GW, DGRNE	GW, DGRNE	GW, DGRNE
BG	-Directorate General for Natural Resources and for Environment (DGRNE)															
	-Bulgarian Ministry of environment and water (MoEW)															
	-Environmental executive agency (EEA)															
	-Executive agency Bulgarian accreditation service (EABAS)	MOEW	CMRB	MOEW	AEE	AEE	EABAS	AEE	MOEW, AEE, REI	MOEW	MOEW	MOEW	CMRB, MOEW, EAA, EABAS	CMRB	-	-
	-Council of Ministers of the Republic of Bulgaria (CMRB)															
	-Regional environmental inspectorates (REI)															

Note: * For a list of the abbreviations for Member States see Abbreviations at the end of this report.

Table 1 Competent authorities and their tasks (contd)

	Competent authorities	Administration of pooling	Administration of opt-ins	Auctioning	Information to the public	Administration of new entrants reserve	Approval of the use of CERs & ERUs for compliance	Issuance of ERU as a host country	Compliance and enforcement	Registry	Accredit. of verifiers	Receiving and supervising verified em. reports	Validation of monit. meth.	Issuance of allow.	Allocation of allow.	Issuance of permits
CY	-Ministry of Agriculture, Natural Resources and Environment (MANRE)	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	-	MANRE	MANRE	MANRE	MANRE	MANRE
	-Ministry of Labour and Social Insurance (MLSI)															
	-Ministry of Commerce, Industry and Tourism (MCIT)															
	-Ministry of Communication and Works (MCW)															
	-Cyprus Scientific and Technical Chamber (ETEK)															
	-Ministry of Environment of the Czech Republic (MoE)															
CZ	-Czech Environmental Inspection (CEI)				MoE	MoE	MoE	MoE	MoE	EMO	MoE	MoE	MoE, CHMI	MoE	MoE	MoE
	-Electricity Market Operator (EMO)															
	-Czech Hydrometeorological Institute (CHMI)															
	-Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit (BMU)															
DE	-Deutsche Emissionshandelsstelle im Umweltbundesamt (DEHSt)					DEHSt	DEHSt	DEHSt	DEHSt	DEHSt	LA	LA, DEHSt	LA	DEHSt	BMU, DEHSt	LA
	-Local authorities (LA)															
	-Energistyrelsen (ENS)															
DK	-Miljøstyrelsen (MST)															
	-Den Danske Akkrediterings- og Metrologifond (DANAK)															
EE	-Ministry of the Environment (MoE)															
	-Estonian Environment Information Centre (EEIC)															
	-Estonian Environmental Inspectorate (EEI)															
	-Country environmental departments ()															

Table 1 Competent authorities and their tasks (contd)

Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and supervising verified em. reports	Accredit. of verifiers	Registry	Compliance and enforcement	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compliance	Administration of new entrants reserve	Information to the public	Auctioning	Administration of opt-ins	Administration of pooling	
ES - Consejerías de las Comunidades Autónomas (CCAA) - Administración General del Estado (AGE) - Autoridad Nacional Designada (AND) - Oficina Española de Cambio Climático (OECC) - Comisión de Coordinación de Políticas de Cambio Climático de Cambio Climático (Órgano de coordinación entre autoridades competentes de la Administración General del Estado y las Comunidades Autónomas) (CCPCC)	CCAA	AGE	AGE	CCAA	CCAA	CCAA, Accreditation entities	OECC	AGE, CCAA	AGE	AGE	AGE	all	AGE	AGE	AGE	
	- Grupo Interministerial de Cambio Climático (GICC)															
	-Energy Market Authority (EMA)															
	-Ministry of Trade and Industry (MTI)															
	-The National Government of Åland (NGA)	EMA, NGA	MTI	EMA	EMA, NGA	EMA, NGA	FINAS	EMA	EMA, NGA	MoE	EMA	EMA, NGA	-	EMA	-	-
FI -Finnish Accreditation Service (FINAS) -Ministry of the Environment (MoE)																
FR -Ministère de l'Ecologie et du Développement Durable (MEDD) -Caisse des Dépôts et Consignations (CDC) -Préfectures de département (PREF) -Directions Régionales de l'Industrie, de la Recherche et de l'Environnement (DRIRE) -Mission Interministérielle de l'Effet de Serre (MIES) -Ministère de l'Economie et des Finances (MINEFI)	DRIRE, PREF	MEDD	CDC	MEDD, DRIRE, PREF	MEDD, DRIRE	MEDD	CDC	MEDD, DRIRE, PREF, CDC	MEDD, MINEFI	MEDD, MINEFI	MEDD	MEDD, DRIRE, MIES, CDC	-	MEDD	MEDD, CDC	
GB -Environment Agency (EA) -Scottish Environment Protection Agency (SEPA) -Chief Inspector – Department of Environment – Northern Ireland (DOENI) -Department of Trade and Industry (DTI) -Department for Environment, Food and Rural Affairs (Defra)	EA, SEPA, DOENI, DTI	Defra, EA	EA, SEPA, DOENI, DTI	EA, SEPA, DOENI, DTI	EA, SEPA, DOENI, DTI	UK Accreditation Service	EA	EA, SEPA, DOENI, DTI	Defra	-	EA, DTI	EA, SEPA, DOENI, DTI	Defra, DTI	-	-	

Table 1 Competent authorities and their tasks (contd)

Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and supervising verified em. reports	Accredit. of verifiers	Registry	Compliance and enforcement	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compliance	Administration of new entrants reserve	Information to the public	Auctioning	Administration of opt-ins	Administration of pooling
GR -Ministry of Environment, Physical Planning and Public Works, General Directorate of Environment, Directorate of Air Pollution and Noise Control (MoE) -Interministerial Committee (ICOM) -National Center for the environment and sustainable development (NCES (EKTTAA)) -Hellenic Accreditation system S.A. (ESYD)	MoE	MoE, ICOM	MoE	MoE	MoE	ESYD	NCESD	MoE	MoE	MoE	MoE	MoE		MoE, ICOM	MoE, ICOM
	MEW	MEW	MEW, NIENW	NIENW	NIENW	NIENW	NIENW	NIENW	n/a	EPA	MEW	MEW, NIENW	MEW	MEW	MEW
	EPA	EPA	EPA	EPA	EPA	INAB	EPA	EPA	n/a	EPA	EPA	EPA	EPA	EPA	EPA
	Committee	Committee	Committee	Committee	Committee	Committee	APAT	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
HU -Ministry of Environment and Water (MEW) -National Inspectorate for Environment, Nature and Water (NIENW)	NIENW	MEW	MEW, NIENW	NIENW	NIENW	NIENW	NIENW	NIENW	n/a	EPA	MEW	MEW, NIENW	MEW	MEW	MEW
	EPA	EPA	EPA	EPA	EPA	INAB	EPA	EPA	n/a	EPA	EPA	EPA	EPA	EPA	EPA
IE -Environmental Protection Agency (EPA) -Irish National Accreditation Board (INAB)	EPA	EPA	EPA	EPA	EPA	INAB	EPA	EPA	n/a	EPA	EPA	EPA	EPA	EPA	EPA
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
IT -Ministry for the environment and territory (MATT) -Agency for the environment and technical services (APAT) -Ministry for economic development (MSE) -Committee for the implementation and management of Directive 2003/87/EC (Committee)	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
LT -Ministry of the Environment of the Republic of Lithuania (AM) -Ministry of Economic Affairs of the Republic of Lithuania (UM) -Lithuanian Environmental Protection Investment Fund (LAAIF) -National Accreditation Office under the Ministry of Environment (NAB) -Regional Environmental Protection Departments (RAAD) -State Environmental Protection Inspectorate (VAAI)	RAAD	AM in conjunction with UM	RRAD, LAAIF	RAAD	RAAD, LAAIF	NAB	LAAIF	RAAD, LAATF independent evaluators	LAAIF	LAAIF	AM	AM, UM, LAAIF, RAAD, VAAI	LAAIF	AM	AM
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee
	Committee	Committee	Committee	Committee	Committee	Committee	Committee	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee

Table 1 Competent authorities and their tasks (contd)

Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and supervising verified em. reports	Accredit. of verifiers	Registry	Compliance and enforcement	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compliance	Administration of new entrants reserve	Information to the public	Auctioning	Administration of opt-ins	Administration of pooling
LU -Ministère de l'Environnement (MEV) -Administration de l'Environnement (AEV)	AEV	AEV	AEV	AEV	AEV	AEV	AEV	MEV, AEV	AEV, MEV	MEV, AEV	AEV	MEV, AEV	-	MEV, AEV	MEV, AEV
LV -Ministry of the Environment (MoE) -State environmental Service (SES) -Environment State Bureau (ESB) -Latvian Environment, Geology and Meteorology Agency (LEGMA)	SES	MoE	MoE	SES	SES	LATAK	LEGMA	LEGMA, SES	MoE	MoE	MoE	LEGMA	Not decided	SES, MoE	LEGMA, SES
MT -Latvian National Accreditation Bureau (LATAK) -Malta Environment and Planning Authority (MEPA) -Malta Standards Authority (MSA)	MEPA	MEPA	MEPA	MEPA	MEPA		MEPA	MEPA	-	MEPA	MEPA	Not applicable to date but MEPA in case of realisation			
NL -Dutch Emissions Authority (NEA) -Ministry for Housing, Spatial Planning and the Environment (VROM) -Ministry for Economic Affairs (EZ)	NEA	EZ, VROM	NEA	NEA	NEA	Council of Accreditation	Nea	NEA	NEA	NEA	VROM, EZ, NEA	VROM, EZ, NEA	EZ, VROM	VROM, EZ, NEA	-
PL -Council of Ministers (RM) -Minister of Environment (MoE) -National Administration of the Emissions Trading Scheme (KASHUE) -Polish Centre for Accreditation (PCA) -The body competent for issuing permits to take part in the trading scheme (starost [county governor] - S, or in the case of plants incorporating an installation which qualifies as an undertaking likely to have a significant impact on the environment environmental impact, and in respect of which the compilation(submission) of a report on the undertaking's environmental impact is compulsory - the competent voivode [provincial governor] - W) (S/W)	S/W	RM, S/W	KASHUE	S/W	KASHUE, S/W	PCA	KASHUE	S/W, A, KASHUE	-	KASHUE	KASHUE	MoE, KASHUE	-	S/W	W
-Accredited auditor/Regional Environmental Protection Inspector (A)															

Table 1 Competent authorities and their tasks (contd)

Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and supervising verified em. reports	Accredit. of verifiers	Registry	Compliance and enforcement	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compliance	Administration of new entrants reserve	Information to the public	Auctioning	Administration of opt-ins	Administration of pooling	
PT -Directorate-General for geology and energy (DGGE) -Inspectorate-General for the environment and regional planning (IGAOT) -Regional or local authorities (RLA) -Coordinating bodies for allowances (ECL) -Presidency of the Council of Ministers (PCM) -Ministry of the environment, regional planning and regional development (MAOTDR) -Ministry of the economy and innovation (MEI)	DGEE, ECL, RLA	PCM	DGEE	DGEE, RLA	DGEE, ECL, RLA	APA (DGEE)	DGEE	DGEE, IGAOT	-	Climate Change Commission	DGGE	DGGE	PCM	PCM	MAOTDR, MEI	
	RO -Ministry of Environment and Sustainable Development (MESD) -National Environmental Protection Agency (NEPA) -8 Regional Environmental Protection Agencies (REPA's) -42 Local Environmental Protection Agencies (LEPA's) -National Environmental Guard (NEG) -Ministry of Economy and Finance (MEF) SE -Swedish Agency for Economic and Regional Growth (NUTEK) -Swedish Environmental Protection Agency (SEPA) -Swedish Energy Agency (SEA) -County Administration Boards (CAB) -Swedish Board for Accreditation and Conformity Assessment (SWEDAC)	LEPA, REPA	MESD	NEPA	NEPA	NEPA	MEF	NEPA	NEG	NEPA, MESD	MESD	NEPA, MESD	MESD, NEPA	Romanian Government	SEPA, SEA, M6E	NEPA
		CAB	SEPA	SEA	CAB	SEPA	SWEDAC	SEA	SEPA	SEA	SEPA	SEA	SEA, SEPA	-	-	-

Table 1 Competent authorities and their tasks (contd)

Competent authorities				
SI	-Ministry of Environment and Spatial Planning (MOE)	MOE	MoE	
	-Agency for Environment (ARSO)	MOE	MoE	
	-Slovenska Akreditacija (SA)	MOE	MoE	
	-Inspectorate of RS for Environment and spatial Planning (Insp.)	MOP, ARSO, Insp.	MoE	
	SK	-Ministry of the Environment of the Slovak Republic (MoE)	ARSO	MoE
		-8 Regional Offices of the Environment (ROE)	MOE	MoE
		-National Registry Administrator Dexia Blanka (NREK)	-	MoE
		-46 District Offices of the Environment (DOE)	Insp.	MoE, ROE, DOE
			ARSO	MoE, NREK
			SA, ARSO	MoE
		ARSO	DOE	
		ARSO	DOE	
		ARSO	MoE	
	ARSO	MoE		
	ARSO	DOE		

Note: ^a Verifiers are accepted and not accredited in Austria

^b Information from last years' answers.

3 Coverage of activities and installations

- *In total, 10 800 installations were included in the Community Independent Transaction Log (CITL) at the beginning of July 2007. In contrast to the last report all national registries had connected to the CITL and transferred information.*
- *One-third of the combustion installations included have a thermal input rated between 20 and 50 MW; these installations are responsible for about 2 % of the overall emissions in 2006; a value very close to the year before.*
- *Installations with emissions of more than 500 000 tonnes of carbon dioxide (CO₂) per year account for 7 % of the total number of installation but are responsible for more than 80 % of the total emissions. Small installations with emissions of 500 tonnes of CO₂ or less per year account for 0.005 % of the emissions but 14 % of the total number of installations.*
- *Over 700 changes in the list of installations compared to the national allocation plan (NAP) table were reported for 2006. Of these, 53 % of the changes concerned installations entering the Emissions Trading Scheme; 27 % from installations leaving the scheme and 17 % were corrections due to court proceedings or sustained objections. The remaining 2 % included installations with an unspecified type of change.*
- *No applications to form a pool have been reported by any Member State.*

The number of installations covered under the Emissions Trading Directive will change continuously due to new entrants or closures of installations and new countries entering the scheme. The size of the entire Emissions Trading Scheme will therefore vary. Data for Sections 3.1 and 3.3 is taken from the CITL on 05 July 2007 ⁽¹⁰⁾. At the time of writing all 25 Member States belonging to the Scheme in 2006 transmitted data to the CITL. This section provides an overview of the status of issues related to the number of installations and the number of allowances allocated.

3.1 Number of installations per Annex I activity

On 5 July 2007 all national registries had connected to the CITL and transferred information. Table 2 gives an overview of the number of installations and their activities. Compared to the previous year the completeness of information has increased greatly. Even though the total number of installations has increased from 10 075 to 10 800, the number of installations listed as opted-in has decreased. In the previous year the number of installations listed under opt-in included installations which were not included in the notified NAP submitted by a Member State, but included in the final NAP Decision by the Commission. This year work was carried out to identify the sectors of those installations. In Finland 40 % of the installations are opt-ins. All installations belonging to a district heating network where at least one installation exceeds the 20 MW threshold and therefore belongs to the scheme were opted-in, resulting in a very high number of opt-ins.

Two third of all installations are classed as combustion installations (E1). In the EU-10 the share is even higher with 73 % in this class. Installations for the manufacture of ceramic products form the second largest group and account on average for 10 % of the overall number of installations. By far the smallest groups are metal ore roasting or sintering and coke ovens. Only twelve installations in five Member States for roasting or sintering metal ore are included in the scheme, and 20 coke ovens in seven Member States are included in the CITL.

3.2 Combustion installations with a rated thermal input between 20 and 50 MW

In Table 3 an overview of combustion installations with a rated thermal input between 20 and 50 MW is provided. These are installations which are covered by the Emissions Trading Directive (2003/87/EC) but not by the IPPC Directive (96/61/EC).

⁽¹⁰⁾ In July 2007 the two Maltese installations were included in the CITL but without any information on emissions or allocation. Therefore the Maltese information was updated on the 20 November 2007.

All reporting Member States have included adequate data on the number of such installations. Compared to the previous year the number of installations in all Member States has either remained constant or increased slightly. They amount to 3 532 installations in total, roughly one third of the total number of installations in the EU-25. In other words, two thirds of the installations covered by the Emissions Trading Directive are larger sources which are also covered under the IPPC Directive. When considered together as a group, the installations with a rated thermal input between 20 and 50 MW emitted 46.5 Mt CO₂ in 2006, slightly less than in the previous year (53.8 Mt CO₂ in 2005). Their aggregate emissions are equivalent to 2.3 % of the total CO₂ emissions covered by the trading scheme for the year 2006.

3.3 Installations and the magnitude of their emissions

It has been intensively debated whether the EU ETS covers too many small installations with rather low emissions where the administrative costs substantially exceed the advantages of trading. This is shown in Table 4 and Table 5 which give a breakdown of installations according to the magnitude of their emissions.

The share of installations with emissions below 500 tonnes CO₂ in 2006 is 14 % on average in the EU. However, this figure varies substantially between Member States. In Finland and Sweden, where several small district heating installations

Table 2 Breakdown of the number of installations by Annex I activity

	Number of installations										Total
	Combustion installations	Mineral oil refineries	Coke ovens	Metal ore roasting/sintering	Pig iron or steel	Cement clinker or lime	Manufacture of glass	Manufacture of ceramics	Pulp paper and board	Other activity opted in	
Austria	110	1	1	2	3	18	8	33	23	0	199
Belgium	221	5	0	0	27	11	11	33	13	1	322
Cyprus	3	0	0	0	0	2	0	8	0	0	13
Czech Republic	290	4	0	0	7	11	19	64	10	0	405
Denmark	353	1	0	0	1	1	2	27	3	0	388
Estonia	43	0	0	0	0	1	1	2	2	1	50
Finland	287	2	0	0	4	8	6	5	49	245	606
France	772	16	1	1	25	50	50	51	122	3	1 091
Germany	1 244	43	3	0	35	109	92	203	137	0	1 866
Greece	55	4	0	1	5	25	3	44	15	0	152
Hungary	155	1	1	2	8	7	9	50	6	0	239
Ireland	104	1	0	0	0	6	2	3	1	0	117
Italy	596	20	0	0	44	87	55	35	168	0	1 005
Latvia	87	0	0	0	1	1	2	6	1	3	101
Lithuania	85	1	0	0	0	2	3	8	2	0	101
Luxembourg	8	0	0	0	4	1	2	0	0	0	15
Malta	2	0	0	0	0	0	0	0	0	0	2
Netherlands	166	8	0	0	2	2	9	3	21	1	212
Poland	604	9	10	0	9	66	39	76	21	0	834
Portugal	86	2	0	0	2	12	9	115	29	0	255
Slovakia	143	1	0	0	3	10	5	11	2	0	175
Slovenia	67	0	0	0	3	5	4	10	9	0	98
Spain	442	12	1	3	28	57	60	306	112	0	1 021
Sweden	453	12	0	3	15	5	4	4	57	183	736
United Kingdom	717	13	3	0	7	21	11	19	6	0	797
EU-25	7 093	156	20	12	233	518	406	1 116	809	437	10 800
EU-15	5 614	140	9	10	202	413	324	881	756	433	8 782
EU-10	1 479	16	11	2	31	105	82	235	53	4	2 018

Note: For an explanation of the abbreviations for the Annex I activities please see Abbreviations at the end of the report. The numbers reflect the data contained in the CITL on 05 July 2007 (for Malta on 20 November 2007).

with a rated thermal input below 20 MW were opted in, every second installation falls in the smallest category. However, since most of these small installations are operated by large utilities which operate several installations falling under the EU ETS, they can make use of synergies in the administration, and thus prevent substantial increases in transaction costs. Most installations emit between 500 and 50 000 t CO₂ per year; this is also true at Member State level for 21 out of 25 Member States ⁽¹¹⁾ Only about one quarter of all installations covered had emissions above 50 kt CO₂ in 2006.

Installations with emissions of more than 500 000 tonnes of CO₂ per year are responsible for more than 80 % of the total emissions, while small installations with 500 tonnes of CO₂ emissions or less per year account for 0.005 % of overall emissions included in the scheme.

Spain reported that, due to the Commission Decision on the Spanish NAP on 27 December 2004, 210 new installations were included in the Spanish ETS. For these installations, coming from different sectors (food, tobacco, residential/services), the administrative burden was seen as substantial without the benefit of participation in the market. Similar statements on various sectors were made by other Member States in the first report on the application of the directive.

3.4 New entrants and closures

In total, 20 Member States reported on 602 installations which entered or left the scheme. In Cyprus, Greece, Malta and Poland no changes to the list of installations occurred during 2006. However,

Table 3 Combustion installations with a rated thermal input between 20 and 50 MW

	Installations		Emissions	
	Number	Share of national installations	t CO ₂ -equivalent	Share of total national emissions
Austria	47	24 %	466 281	1.4 %
Belgiumab	114	35 %	1 480 092	2.7 %
Cyprus	0	0 %	0	0.0 %
Czech Republic	213	48 %	2 200 000	2.7 %
Denmark	241	64 %	1 705 000	5.0 %
Estonia	26	55 %	436 459	3.6 %
Finland	138	24 %	970 890	2.2 %
France	340	31 %	4 200 000	2.8 %
Germany	681	36 %	10 166 797	2.1 %
Greeceab	9	6 %	248 533	0.4 %
Hungary	73	32 %	1 114 615	4.3 %
Ireland	50	45 %	511 966	2.4 %
Italya	261	26 %	3 404 000	2.3 %
Latvia	37	58 %	264 497	9.0 %
Lithuania	43	43 %	507 412	3.9 %
Luxembourg	3	20 %	79 719	2.9 %
Malta	0	0 %	0	0.0 %
Netherlands	62	30 %	2 196 000	2.7 %
Poland	268	44 %	4 918 833	2.7 %
Portugal	41	16 %	761 644	2.3 %
Slovakia	94	54 %	1 130 738	4.4 %
Slovenia	33	34 %	305 202	3.5 %
Spain	242	23 %	6 630 222	3.6 %
Sweden	164	20 %	350 894	1.8 %
United Kingdom	350	50 %	2 098 884	0.8 %
Total EU-25^{a b}	3 530	33 %	46 148 678	2.3 %
Bulgaria	41	42 %	-	-
Romania	57	-	-	-

Notes: ^a The share of installations is calculated based on CITL data as of 5 July 2007.

^b The share of emissions is calculated based on CITL data as of 5 July 2007.

⁽¹¹⁾ Exceptions are Sweden and Finland, where the small installations form the largest group; Luxembourg where 60 % of the installations emit between 50 and 500 kt CO₂ and Malta, where both installations emitted over 500 000 t CO₂ in 2006.

395 new entrants (including capacity increases) were reported by 20 Member States (Austria, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Portugal, Slovenia, Spain, Sweden and the United Kingdom). This includes 116 new entrants that had already received an allocation in 2005. According to Greek law, existing installations not identified by the National Allocation Plan are included into the scheme as new entrants. All Member States (with the exception of Romania which did not participate in the trading scheme in 2006) indicated that the quantity of allowances allocated or issued to new entrants; for the other reporting categories was not as complete. In 2006 new entrants received all together an allocation 25 907 kt CO₂. The Czech

Republic included further four installations which were identified only after the beginning of the emissions trading scheme.

The number of closures reported increased significantly from 15 in 2005 to 132 in 2006 from amongst 17 different Member States. Germany stated that the allowances not issued or returned for the year(s) which follow the closure of an installation were added to the new entrants' reserve. A further 55 installations left the scheme because they fell below the capacity threshold in Belgium, Denmark, France, Germany, Lithuania and Portugal⁽¹²⁾.

In the Czech Republic, Germany and Slovakia, there were 16 cases in which installations were excluded

Table 4 Installations classed by the magnitude of their emissions — number of installations

Emissions in kt CO ₂ /year	< 0.5		0.5 to 50		50 to 500		> 500		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Austria	12	6.0 %	122	61.3 %	50	25.1 %	15	7.5 %	199	100 %
Belgium	23	7.1 %	198	61.5 %	68	21.1 %	33	10.2 %	322	100 %
Cyprus	0	0.0 %	8	61.5 %	2	15.4 %	3	23.1 %	13	100 %
Czech Republic	28	6.9 %	284	70.1 %	62	15.3 %	31	7.7 %	405	100 %
Denmark	117	30.2 %	221	57.0 %	36	9.3 %	14	3.6 %	388	100 %
Estonia	5	10.0 %	31	62.0 %	11	22.0 %	3	6.0 %	50	100 %
Finland	282	46.5 %	236	38.9 %	65	10.7 %	23	3.8 %	606	100 %
France	74	6.8 %	748	68.6 %	219	20.1 %	50	4.6 %	1 091	100 %
Germany	171	9.2 %	1 176	63.0 %	363	19.5 %	156	8.4 %	1 866	100 %
Greece	8	5.3 %	90	59.2 %	28	18.4 %	26	17.1 %	152	100 %
Hungary	20	8.4 %	167	69.9 %	41	17.2 %	11	4.6 %	239	100 %
Ireland	14	12.0 %	74	63.2 %	14	12.0 %	15	12.8 %	117	100 %
Italy	74	7.4 %	616	61.3 %	219	21.8 %	96	9.6 %	1 005	100 %
Latvia	20	19.8 %	73	72.3 %	7	6.9 %	1	1.0 %	101	100 %
Lithuania	13	12.9 %	73	72.3 %	11	10.9 %	4	4.0 %	101	100 %
Luxembourg	0	0.0 %	4	26.7 %	9	60.0 %	2	13.3 %	15	100 %
Malta	0	0.0 %	0	0.0 %	0	0.0 %	2	100.0 %	2	100 %
Netherlands	6	2.8 %	93	43.9 %	86	40.6 %	27	12.7 %	212	100 %
Poland	44	5.3 %	559	67.0 %	173	20.7 %	58	7.0 %	834	100 %
Portugal	28	11.0 %	186	72.9 %	30	11.8 %	11	4.3 %	255	100 %
Slovakia	10	5.7 %	130	74.3 %	28	16.0 %	7	4.0 %	175	100 %
Slovenia	5	5.1 %	79	80.6 %	11	11.2 %	3	3.1 %	98	100 %
Spain	56	5.5 %	670	65.6 %	211	20.7 %	84	8.2 %	1 021	100 %
Sweden	379	51.5 %	296	40.2 %	53	7.2 %	8	1.1 %	736	100 %
United Kingdom	133	16.7 %	461	57.8 %	135	16.9 %	68	8.5 %	797	100 %
Total	1 522	14.1 %	6 595	61.1 %	1 932	17.9 %	751	7.0 %	10 800	100 %

Note: Data taken from CITL on 5 July 2007. Data for Malta updated on 20 November 2007.

⁽¹²⁾ The United Kingdom noted that their figures for closures might include installations falling below capacity threshold.

from the NAP, most of them because they did not fall into the scope of the transposed directive and were included in the NAP table erroneously, and therefore did not receive any allocation in 2006. One Danish installation was connected to another installations belonging to the ETS.

The allocation to 18 installations was corrected in the Czech Republic, Lithuania and Portugal. In Spain, 17 installations received an allocation due to court procedures for the years 2005–2007, resulting in a change of 450 kt CO₂ in total. In Germany 110 corrections of allocation due to sustained objections were issued; the 10 342 kt CO₂ needed for the corrections were taken from the new entrants' reserve.

3.5 Applications to form a pool

Article 28 of the Emissions Trading Directive allows operators to form a pool of installations for the same Annex I activity in the periods 2005 to 2007 and 2008 to 2012. No Member State reported that a pool was formed in 2006 which is not surprising since most pools would be expected to be formed at the beginning and not halfway through a trading period. During 2005 in total 16 pools were formed in the EU, thus this provision is obviously not currently much used. In Finland, Netherlands and Sweden pooling is not possible under national law.

Table 5 Installations classed by the magnitude of their emissions – aggregated emissions arising

Emissions in kt CO ₂ /year	< 0.5		0.5 to 50		50 to 500		> 500		Total	
	kt CO ₂ /year	%	kt CO ₂ /year	%	kt CO ₂ /year	%	kt CO ₂ /year	%	kt CO ₂ /year	%
Austria	1.8	0.0 %	1 799	5.6 %	8 373	25.9 %	22 209	68.6 %	32 383	100 %
Belgium	2.1	0.0 %	3 337	6.1 %	10 542	19.2 %	40 895	74.7 %	54 775	100 %
Cyprus	0.0	0.0 %	134	2.6 %	849	16.1 %	4 276	81.3 %	5 259	100 %
Czech Republic	1.8	0.0 %	3 679	4.4 %	13 030	15.6 %	66 915	80.0 %	83 625	100 %
Denmark	15.3	0.0 %	2 149	6.3 %	5 008	14.6 %	27 027	79.0 %	34 200	100 %
Estonia	0.5	0.0 %	465	3.8 %	1 592	13.1 %	10 052	83.0 %	12 109	100 %
Finland	18.4	0.0 %	2 380	5.3 %	11 653	26.1 %	30 570	68.5 %	44 621	100 %
France	2.7	0.0 %	12 890	10.4 %	32 404	26.3 %	78 121	63.3 %	123 418	100 %
Germany	14.1	0.0 %	17 591	3.7 %	54 752	11.5 %	405 207	84.8 %	477 564	100 %
Greece	0.0	0.0 %	1 573	2.2 %	3 449	4.9 %	64 943	92.8 %	69 965	100 %
Hungary	1.4	0.0 %	2 739	10.6 %	6 328	24.5 %	16 766	64.9 %	25 835	100 %
Ireland	1.3	0.0 %	933	4.3 %	1 876	8.6 %	18 893	87.1 %	21 703	100 %
Italy	1.3	0.0 %	9 713	4.3 %	38 071	16.8 %	179 365	79.0 %	227 150	100 %
Latvia	1.5	0.1 %	755	25.7 %	1 554	52.9 %	630	21.4 %	2 941	100 %
Lithuania	1.0	0.0 %	723	11.1 %	1 912	29.3 %	3 881	59.6 %	6 517	100 %
Luxembourg	0.0	0.0 %	100	3.7 %	901	33.2 %	1 712	63.1 %	2 713	100 %
Malta	0.0	0.0 %	0	0.0 %	0	0.0 %	1 986	100.0 %	1 986	100 %
Netherlands	0.2	0.0 %	2 337	3.0 %	11 618	15.1 %	62 746	81.8 %	76 701	100 %
Poland	2.4	0.0 %	10 543	5.0 %	24 532	11.7 %	173 860	83.2 %	208 937	100 %
Portugal	1.6	0.0 %	2 350	7.1 %	4 853	14.7 %	25 879	78.2 %	33 084	100 %
Slovakia	1.5	0.0 %	1 401	5.5 %	5 179	20.3 %	18 961	74.2 %	25 543	100 %
Slovenia	0.3	0.0 %	1 015	11.5 %	1 607	18.2 %	6 219	70.3 %	8 842	100 %
Spain	3.9	0.0 %	11 073	6.2 %	29 025	16.2 %	139 282	77.6 %	179 385	100 %
Sweden	31.2	0.2 %	2 488	12.5 %	6 525	32.8 %	10 837	54.5 %	19 881	100 %
United Kingdom	3.7	0.0 %	5 000	2.0 %	21 530	8.6 %	224 605	89.4 %	251 139	100 %
Total	108	0.0 %	97 168	4.8 %	297 164	14.6 %	1 635 835	80.6 %	2 030 275	100 %

Note: Data taken from CITL on 5 July 2007. Data for Malta updated on 20 November 2007.

3.6 Additional remarks

Most additional remarks received are identical to those of the previous year.

Denmark and the Netherlands remarked that they had applied the broad interpretation of a combustion installation in accordance with the recommendation of the Commission. The United Kingdom recognised inconsistencies and difficulties concerning the coverage of installations and activities that had led to competitive distortions. To improve the situation Member States and the Commission have worked on a harmonised definition to be applied in the second period of the trading scheme.

Finland highlighted that it unilaterally included several installations with a rated thermal input of less than 20 MW if they were connected to a district heating grid where at least one installation was covered by the scheme. In Sweden, all such district heating installations were unilaterally included if the aggregated rated thermal input of all installations connected to the same district heating grid exceeded 20 MW.

An opt-out was requested and granted for a number of small installations in the Netherlands on the grounds that their annual emissions were below 25 kt CO₂/year and appropriate monitoring requirements for these installations are applied.

4 Permits for installations

- *Provisions to enforce compliance with the requirements of greenhouse gas permits seem sufficient to discourage infringements by operators in all reporting Member States.*
- *In fifteen Member States more than one competent authority is involved in the issuance of permits to operators; in those countries, various measures and regulations, such as regular meetings or guidance documents, have been established to assure consistent implementation of the emissions trading legislation.*
- *In most Member States, changes to an installation or its operating mode have to be authorised by the competent authorities; smaller changes need only be notified.*
- *Over 3 200 changes to permits occurred during the reporting period; the most frequent reasons for updates were changes in monitoring and reporting details, and revocation of permits.*
- *Compared to last year's report not much has changed. Not all Member States reported consistently on their institutional setup in 2006 and 2007; it can be assumed that the main reason for this is erroneous information and not actual changes in national legislation/procedures.*

Greenhouse gas emission permits are the basis for emissions trading since they define the conditions with which operators have to comply when their installations are covered by the Emissions Trading Directive. Member States have implemented the respective provisions of the directive (Articles 4 to 6) differently. In order to maintain the credibility of the Emissions Trading Scheme, it is important for all market players to have a clear picture of how Member States implement these provisions. This section therefore addresses several issues related to greenhouse gas permits, such as coordination between permitting authorities, interplay with other environmental permits and changes to permits.

4.1 Measures to ensure operator compliance with the requirements of their permits

Articles 4 to 6 of the Emissions Trading Directive deal with the greenhouse gas emissions permit.

Pursuant to Article 4, Member States have to ensure that no installation listed in Annex I of the directive emits greenhouse gases unless the operator holds the respective permit. Article 5 describes which information operators have to submit in their application for such a permit. Finally, Article 6 provides the conditions under which the competent authority may grant the permit under which operators have to demonstrate that they are able to monitor and report the greenhouse gas emissions of their installation.

All reporting Member States listed at least five measures which can be used to enforce compliance by operators with their permits. Blocking of operator holding accounts, prohibition on selling allowances, spot or routine checks, naming and shaming of operators and the provision of reporting formats are the most common measures in the EU. Authorities or verifiers in eighteen Member States and Wallonia have the right to estimate emissions conservatively for an installation if no emission report is submitted by the operator. In Belgium (Flanders), Cyprus, the Czech Republic, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Malta, Portugal, Romania, Sweden, Slovenia and the United Kingdom permits might be withdrawn and operation of an installation suspended in severe cases of non-compliance. An additional soft measure applied in 21 Member States is regular meetings with industry and associations to discuss issues relevant for compliance.

In Cyprus, Finland, France, Ireland, Malta, Portugal, Sweden, Slovenia and the United Kingdom all of the measures listed above can be applied. In addition to these provisions operators might also be fined or imprisoned for certain infringements in most Member States (see Chapter 12). Portugal reported that tools and machinery involved in an infringement might be forfeited to the state, e.g. an installation operating without a permit may be confiscated. Additionally, operators can lose their eligibility for public grants and benefits. It can be concluded that provisions to enforce compliance with the requirements of greenhouse gas permits are sufficient to discourage infringements by operators in all reporting Member States if applied rigorously.

4.2 Coordination of permitting procedures in the case of more than one competent authority

Regarding the coordination of different competent authorities involved in the issue of greenhouse gas emission permits, the Czech Republic, Denmark, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Portugal and Slovenia stated that only one competent authority is doing so. With the exception of Finland, all Member States with more than one competent authority involved in the permitting procedures reported on measures to coordinate activities. In Austria, Bulgaria, Cyprus, Estonia, Germany, France, Lithuania, Poland, Romania, Slovakia, Spain and the United Kingdom cooperation between the concerned competent authorities is regulated by law, regulation or ministerial order whilst Belgium, Finland and Sweden are the only Member States with more than one competent authority but no legal provisions for coordination between the authorities. With the exception of Austria, Lithuania and Poland this group of countries, as well as Sweden and the Belgian regions, also set up commissions or working groups to ensure consistency.

Specific guidance notes to promote consistent implementation of emissions trading law have been elaborated in ten countries. Five Member States set up their own interpretation groups to discuss ambiguous issues; nine have one central authority to coordinate administrative acts and nine provide training courses.

Austria reports that the coordination works well in practice. The only area for improving coordination identified in the second year of the trading scheme was the standards for permitting. In Finland the issuing of greenhouse gas permits is done by a separate competent authority for the autonomous region of Åland; all other permits as well as the issuance of allowances and the registry for all installations are dealt with by the Energy Market Authority. Portugal has implemented several measures to ensure consistency with other bodies although only one competent authority is involved in the permitting procedures; this has been done as the implementation of the scheme relies on these other bodies.

4.3 Interplay of the permitting procedure under the IPPC and the EU ETS Directive

Basically, the integrated pollution prevention and control (IPPC) Directive (96/91/EC) requires the

definition of both energy efficiency requirements and emission or concentration limits for pollutant emissions from all sources with a rated thermal input higher than 50 MW. These requirements could restrict emissions trading. For example, operators of large sources might be obliged to reduce their emissions (in order to comply with the IPPC Directive) when it could be more economically efficient to increase emissions further and buy additional allowances instead. Article 26 of the Emissions Trading Directive therefore amends the IPPC Directive so that permits shall not include CO₂ emission limits for installations which are covered by the EU ETS. Where necessary, the competent authorities shall amend the permit as appropriate. In this regard, 26 Member States stated that national law, which transposes the Emissions Trading Directive, ensures that no emission or concentration limits for CO₂ are applied to emissions trading installations; in 16 Member States and two Belgian regions the transposition of the IPPC Directive does not include emission or concentration limits for CO₂.

Regarding the permitting procedure which is required under both Directives, nine Member States apply an integrated permit procedure (Austria, Belgium (Flanders and Wallonia), Cyprus, Germany, Estonia, France, Lithuania, Latvia and Portugal) whilst in Italy although this was foreseen in the last report, it is not yet implemented. The other Member States establish separate permit procedures for each of the directives. In Belgium (Brussels), Germany, France and Lithuania, operators only need one permit for both Directives. With the exception of the Czech Republic, Denmark, Estonia, Italy and Romania, all countries with separate permit procedures established other ways to coordinate the processes. In many countries granting a permit under the Emission Trading Scheme requires a valid IPPC permit or vice versa. In fifteen Member States IPPC regulators will inform ETS regulators if an installation needs a permit for the trading scheme as well. In the Netherlands permits under the national nitrogen oxide trading scheme are combined with the permits under the CO₂ trading scheme.

4.4 Legal provision for the update of permits

According to Article 7 of the Emissions Trading Directive, operators have to inform the competent authority of any extension or other planned changes in the nature or functionality of an installation. Where appropriate the competent authority shall update the permit. In the case of changes in the identity of the operator, the competent authority

shall update the permit and include the name and address of the new operator.

All reporting Member States except Estonia, Greece and Poland require changes in the installation type or its operating mode to be authorised. In Greece these changes only have to be notified and in the Netherlands authorisation is limited to changes which affect CO₂ emissions by more than 5 %. All countries except Estonia require authorisation for changes in the monitoring methodology. Changes have to be notified in advance to the authorities in almost all countries; Germany and Italy specified that this has to be done at least one month prior to the change. In cases where changes are deemed less significant they are just recorded and no further action is taken. Operators in 23 Member States have to notify closures within one month.

In case of breaches of these regulations penalties may be imposed in 23 countries. Finland reported that permits might be revoked but Sweden suggested that the legal situation is not yet entirely clear.

In all Member States but Austria, Belgium (Wallonia), Germany, Ireland and the Netherlands changes in the identity of the operator require an update of the permit. In the other countries the permit refers to the installation and not the operator and is therefore not affected by changes of operators.

4.5 Number of updated permits

25 Member States reported on the number of permits which were changed in 2006 (Table 6).

In Cyprus, Estonia, Luxembourg and Malta no permits needed updating in the second year of the trading scheme. Bulgaria and Romania entered the EU and the EU ETS in 2007 and therefore did not report on changes to permits in 2006.

Denmark reported that about 40 % of its 388 permits issued were updated during the second

year. Reasons for the updates included changes in capacity or fuels used and the identification of errors and omissions in the monitoring plan by verifiers. The United Kingdom has an annual improvement review and the large number of changes reported is in part a reflection of this process. A total of 67 permits were revoked in Germany due to closures (23 cases), installations falling below the capacity threshold (34 cases) and the erroneously inclusion of 10 installations which were never covered by the directive. Germany also reported that 110 permits had to be changed because of appeals and court rulings.

Together Member States reported a total of approximately 3 212 changes to greenhouse gas permits. 284 notifications with updates of permits were recorded. In addition, the Netherlands estimated that thousands of non significant changes to permits took place which did not need to be reported to the competent authorities. It has to be noted that this number of changes is higher than the total number of permits updated, as updates may involved more than one change. Not all Member States reported on the quantity of updated permits and an exact estimate is not possible. Most frequently recorded changes concerned either monitoring and reporting details (1 044 cases) or revocation (649 cases). In the United Kingdom the total number of changes exceeded the number of installations (141 %). Other countries with a high share of permit updates in 2006 are Slovenia (44 %) and Denmark (40 %).

Taking those Member States into account which did not report on the total number of updates it can be estimated, that approximately one quarter of all greenhouse gas emission permits needed updating in the second year of the trading scheme. This is a considerable administrative burden to operators and competent authorities and was equally high in the first year. It will be assessed from future reports whether the number of updates remains at this level or if this high proportion is still due to errors or omissions identified in the first years of the trading scheme.

Table 6 Number of permits updated in 2005 by categories of changes

	Revoked	Surrendered	Transferred	Increase of capacity	Decrease of capacity	Changes to monitoring and reporting	Change in name of installation or operator	Non-significant amendment	Notification without update of permit	Other	Total updates ^a
Austria				2		11	1	5	2	^b	17
Belgium		1		4	2	62	4				
Bulgaria											
Cyprus											0
Czech Republic	2	5	2	13	6	35	33	7	23	-	136
Denmark		8	6								40 % of permits
Estonia											0
Finland	4	19	n.a.	n.a.		56	n.a.	n.a.	n.a.		
France	14	5	24	Unknown	Unknown	78		50	Unknown		
Germany	67	86	65				10	Unknown	Unknown	110	
Greece				2							2
Hungary							24				52
Ireland	4			10		n.a.		1			15
Italy	37	i.e. ^c	75	9		^d	34	183	n.a.		
Latvia			3	1	9	1	10				24
Lithuania		1	3								4
Luxembourg											
Malta											0
Netherlands			8		(69) ^e	(7) ^e	Unknown	50			
Poland	4					134	9	48	19	7	202
Portugal		1	9		Unknown			9	34		53
Romania											
Slovakia	2						6				8
Slovenia	1		17	2	7	9	3	4			43
Spain	19	20	34	19	138	50	18	33	36		368
Sweden	5	24	12	4	70	4	15	43			
United Kingdom	490	15	26	21		522	14	35			

Notes: n.a. — not applicable; i.e. included elsewhere.

^a Not all Member States provided the total number of changes.

^b Known cases.

^c Included under change in name.

^d 26 not formalised in 2007.

^e Notification only, no change in Permit.

5 Application of the 'Monitoring and reporting guidelines'

- *There are still several issues concerning monitoring parameters as a result of which minimum tiers are deemed not to be technically feasible in several Member States; these include accreditation of laboratories according to ISO 17025, as well as the determination of calorific values and oxidation factors or unreasonable high costs.*
- *Twenty-one Member States reported the application of lower tiers than those included in the Monitoring and Reporting Guidelines in those installations which emit 50 % of the emissions covered by the directive. This increases to 24 Member States if all installations are taken into account.*
- *Seven Member States reported application of continuous emissions measurement.*
- *Most of the Member States coordinate ETS reporting with other reporting obligations (UNFCCC, EPER, IPPC, NEC, LCP, EMEP) and use of ETS data for public statistics, domestic trading schemes and regional covenants.*
- *Compared to the previous reporting period Member States submitted more data and information on CO₂ transfer, biomass combustion and use in processes and use of waste as fuel and input material.*

Monitoring, reporting of emissions by operators and verification play a fundamental role in any emissions trading scheme. The plant inventory reports and the verified emission reports are crucial since they determine the amount of allowances which have to be surrendered for each year. This thereby establishes whether an operator is able to sell excess allowances or, for compliance reasons, needs to buy missing allowances or acquire equivalent carbon credits. The monitoring methods to be used are normally specified in the greenhouse gas emission permits and are determined on the basis of the monitoring and reporting guidelines⁽¹³⁾ (MRG) by the relevant competent authorities in each Member State.

Only a consistent application of these guidelines ensures a level playing field for all companies

irrespective of location. In this section of the questionnaire, Member States are asked to provide information on adopted national legislation, approaches and methods (tiers) used to monitor emissions, temporary derogations and deviations from the monitoring methodologies and other specific issues like continuous emissions measurement, CO₂ transfer and the use of waste and biomass. One subsection is devoted to the coordination of emission reporting with other reporting requirements, both national (like national statistics or voluntary covenants) and international, e.g. UNFCCC, EMEP/UN ECE, EPER, IPPC, LCP, and NEC.

5.1 Transposition of the monitoring and reporting guidelines

Nineteen Member States (Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Germany, Estonia, Spain, Finland, France, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania and Sweden) have transposed the MRG into their national legislation in form of either government ordinances, ministerial orders or parliamentary laws/acts. Several other countries indicated that the respective competent authorities – federal or local – approve the monitoring and reporting plans (M&R plan). The M&R plan then becomes part of an installation's permit and therefore is a legally binding requirement upon the operator (Denmark, France, Ireland and United Kingdom). Hungary, Ireland, Slovenia and Slovakia indicated that the MRG can be applied directly and therefore no further national legislation with respect to monitoring and reporting has been adopted. In Greece supplementary guidelines are applied to the MRG.

Several Member States provide in their national laws some exceptions and (temporary) derogations from the MRG (Table 7): Lithuania, the Netherlands and Slovakia clearly indicated that no derogations have been allowed.

⁽¹³⁾ Commission Decision 2004/156/EC of 29 January 2004 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council, O.J. L 59/1 EN 26.02.2004.

5.2 Tiers used in the monitoring methodologies for the major emitting installations

All Member States except Romania provided detailed information on the tiers used for those installations that contribute cumulatively to 50 % of the total emissions included in the trading scheme of their country. Romania only joined the EU ETS in 2007 and could not report on this issue.

The type of information required by the questionnaire is listed in Table 8.

The total number of installations for which detailed values have been submitted from those Member States is 258 (Table 9). The number of installations per country varies between 1 (Estonia), 2 (Lithuania, Luxembourg, Malta, Slovak Republic, Slovenia) to 30 (Italy). Information was only required for emission sources within these installations with

Table 7 Exceptions and temporary derogations from the monitoring and reporting guidelines in Member States

Exceptions and (temporary) derogations from the MRG	Member States
1 Characteristics of fuel or input material can be specified by the provider.	Austria, Sweden
2 Energy-balance method is allowable for biomass.	Austria, Sweden
3 Material streams should be used rather than source approach.	Austria
4 Standard characteristics are allowed for standardized fuels. (Germany: only if in accordance with the same allocation method)	Austria, Germany, Sweden
5 For commercial liquid and gaseous fuels (heavy fuel oil, natural gas, LPG, petroleum coke, gas oil, light fuel oil, gasoline, lamp oil, kerosene, ethane, propane and butane), it is allowable in all the cases to adopt a tier 2 for net calorific value and emission factors.	Belgium
6 Operator of an installation may define all the necessary information data (activity data, net calorific value, emission factor and oxidation factor/conversion factor) needed for calculations of the emissions provided that the accuracy (uncertainty) of the system the operator is using is at least the one demanded by the tier for that specific installation; operator may, if he wants to, use an independent testing laboratory.	Finland
7 For installations with only one type of solid fuel the 'energy-balance method', i.e. a method where the amount of fuel and net calorific value of the fuel is being measured constantly directly from the boiler by measuring the energy output of the boiler and the energy losses through the stack and through the walls of the boiler, has been accepted by the national decree provided that at least the minimum uncertainty requirement of the tier to that specific installation is reached.	Finland
8 National emission factors (Tier 2a) are accepted on the grounds of cost efficiency instead of Tier 3 for installations using fuels which have been proven to be of uniform quality; the national emission factors do not include the oxidation factor; similar special ruling referring oxidation factors.	Finland
9 Standard oxidation factors need to be used unless one can demonstrate that plant specific OFs are more accurate and if they are in accordance with the same allocation method.	Germany
10 Table 1 of Monitoring and Reporting Guidelines is accepted as regular requirement table for monitoring in the first trading period.	Germany
11 The plant labs are not obliged to be accredited in accordance with the standard EN ISO 17025. However, equipments used in plant labs should be at least periodically calibrated by an independent lab approved by Member State (Belgium, Finland, Sweden); labs are obliged to apply Quality Standards in Finland and Sweden.	Belgium, Finland, Sweden
12 In the case that there is no data for a specific fuel, documented data from laboratory tests of the operator should be used. In the absence of these tests, documented data from the provider invoices when these are issued under checks according to the international standards can be used.	Greece
13 Lower tier methods are allowed for the following emission or oxidation factor (France): - activity M1 (cement), emissions > 500 kt CO ₂ ; the emission factors can be evaluated by a method of level 1 instead of 2 (14 installations – 9,43 Mt CO ₂ -equivalent). - activity E1, emissions between 50 et 500 kt CO ₂ ; the oxidation factors, for solid fuels, can be evaluated by a method of level 1 instead of 2 (254 installations – 25,21 MtCO ₂). - activity E1 (electricity production), emissions > 500 kt CO ₂ ; the emission factors can be evaluated by a method of level 1 instead of 2 (19 installations – 32,78 Mt CO ₂ -equivalent).	France
14 Lower tiers are allowed for the activity data related to combustion of gaseous fuels compared to 2004/156/EC; in particular, tier 2a/2b and 3a/3b are allowed respectively for B and C category, instead of 3a/3b and 4a/4b; this derogation will be valid until 31 December 2006.	Italy
15 In some specific cases and only during the first commitment period, lower tiers (by one level only) can be applied than those given in MRG. Such a possibility has to be regulated in a GHG permit.	Poland
16 In case that accredited laboratories are not available or the procedure of determination of variables entails high cost, the next lower tier can be used, until the determination of the data becomes economic and technical feasible.	Greece
17 For small gaps of data due to interruptions of operation of measurement equipment or in the case of absence of metering devices, BREFs must be used or a de minimis approach using a generally accepted calculation method.	Greece

Table 8 Information required for the largest installations in each Member State

Installation	Permit ID code
	Installation ID code
	Main Annex I activity
	Total annual emissions
	Annex I activity
Emission source	Fuel or activity type
	Related emissions
	Activity data
Tier chosen	Emission factor
	Net calorific value
	Oxidation factor
Values and units	Emission factor
	Net calorific value
	Oxidation factor

Table 9 Number of installations contributing to 50 % of the total emissions included in ETS

	No of installations contributing cumulatively to 50 % of the total emissions included in ETS	Emissions of the installations (kt CO ₂)
Austria	6	18 944
Belgium	22	29 162
Bulgaria	5	2 500
Cyprus	13	5 286
Czech Republic	11	43 600
Denmark	6	17 599
Estonia	1	7 698
Finland	13	23 146
France	25	66 059
Germany	27	239 968
Greece	5	35 158
Hungary	5	12 094
Ireland	6	11 730
Italy	30	266 272
Latvia	4	1 766
Lithuania	2	2 688
Luxembourg	2	1 015
Malta	2	1 986
Netherlands	5	17 088
Poland	12	107 778
Portugal	4	16 869
Romania	0	0
Slovak Republic	2	12 743
Slovenia	2	5 472
Spain	28	91 025
Sweden	6	9 102
United Kingdom	14	127 860
Total	258	1 174 607

annual emissions above 25 kt CO₂. However, Cyprus and Lithuania also included sources with annual emissions below that threshold. For Belgium various biofuels (wood dust, wood pellets) have been added.

Emissions shown in Table 9 are calculated from total annual emissions reported for each installation. Total annual emissions of installations might be equal to the sum of related emissions of source streams but also higher, in the case of small source streams which do not have to be mentioned, or lower in the case of transferred CO₂.

Austria reported that data provided in the questionnaire have not been subject to detailed scrutiny whilst those of Germany are not finally verified either. In the case of the Netherlands, annual emissions are given per facility (site). Only the sources or source streams that do not meet the required tiers are aggregated. The information about the tiers is included in the validated monitoring plans by the operators. There is no national database with required and achieved tiers per facility and source (stream). For that reason, information about all permits, installations, sources and variables is hard to supply.

In the Monitoring and Reporting Guidelines, minimum tiers are defined which should be used for the calculation of activity data, emission factor, net calorific value and oxidation factor of an installation, depending on the activity, magnitude of emissions and fuel used.

In the questionnaire, detailed information about activities is not requested; therefore only for three activity sectors (E1, E2 and F2) has it been possible to check for all emission sources, if the minimum tiers have been used. In the following table the results of this analysis are shown.

In all but four Member States (Cyprus, Ireland, Latvia, Slovenia), at least for one source stream of the largest installations, a lower tier than required by MRG has been used for the estimation of the emissions. Romania did not report any data and the data of Netherlands could not be checked because several relevant details have not been reported

(related emissions of emission sources, tiers used for EF, NCV and Oxidation Factor). In consideration of all installations for which lower tiers have been accepted — in all countries but Cyprus, a lower tier than required by MRG has been used for at least one source stream.

Percentages per sector are shown in Table 11.

For source streams above 500 kt, for more than one quarter of all emission and oxidation factor calculations, lower tiers than required have been used in sector E1, and in sector E2 for one fifth of all activity data calculations.

High deviations can also be found in emission group 50–500 kt in activity sector E1: Nearly for half of all oxidation factor calculations (43 %) and for more than one fourth of all emission factor calculations lower tiers have been used.

For source streams between 25 and 50 kt in sector E2, lower tiers than those foreseen in the MRG have been used in almost a quarter of all activity data calculations. In activity sector F2, in all emission groups, only small deviations from required tiers for calculations of activity data could be detected (at most 4 %).

Denmark refers to the Danish Authority's Report regarding exemptions in connection to the competent authority approval of permits and monitoring plans for installation with yearly CO₂ emissions exceeding 500 000 t. For these installations a combination of the highest tiers of monitoring methodologies is not applied. The mentioned report accounts for the majority of the applied tiers for installations with the biggest emissions.

Greece states that there are deviations in the use of tiers for the determination of CO₂ emissions for the year 2006 in electricity producing installations for the determination of the lower heat values and emission factor for lignite, heavy and light fuel oil because of a shortage of EN 17025 accredited laboratories. In the case of activity data of lignite the deviations are allowed only for the year 2006.

Table 10 Deviation of tiers used from Monitoring and Reporting Guidelines

	Minimum tier according to MRG	Lower tiers applied than requested	Number of source streams	Countries
> 500 kt				
E 1				
Activity data				
Combustion (gaseous, liquid)	4a/4b	2a, 2b, 3, 3a, 3b	19	Belgium, Bulgaria, Germany, Hungary, Italy, Malta
Combustion (solid)	3a/3b	1, 2a, 2b	11	Greece, Poland
Emission factor				
Combustion (gaseous, liquid)	3	2, 2a, n.a.	12	Belgium, Bulgaria, Italy, Luxembourg, Malta, Portugal
Combustion (solid)	3	1, 2, 2a, 2b, no information	46	Czech Republic, Germany, Estonia, Finland, Greece, Poland, Slovakia
Net calorific value				
Combustion (gaseous, liquid)	3	2, no information	10	Belgium, Bulgaria, Denmark, Malta, Spain, Sweden
Combustion (solid)	3	2,1, no information, n.a.	19	Denmark, Finland, Greece, Poland, Slovakia, Spain
Oxidation factor				
Combustion (gaseous, liquid)	1	0, n.a.	3	Germany, Italy
Combustion (solid)	2	1, no information	55	Czech Republic, Germany, Finland, France, Italy, Poland, Slovakia
E2				
Activity data				
Mass balance	4	1, 2a/2b, 2b, 3a/3b	4	Austria, Italy
Cokers	2	1	1	Italy
F2				
Activity data				
Mass balance	3	2a	1	Belgium
50–500 kt				
E1				
Activity data				
Combustion (gaseous, liquid)	3a/3b	2, 2b, n.a.	5	Germany, Finland, Poland, Spain
Emission factor				
Combustion (gaseous, liquid)	2a/2b	0, 1, n.a.	5	Estonia, Italy, Poland
Combustion (solid)	3	2, 2a	50	Germany, Finland
Net calorific value				
Combustion (gaseous, liquid)	2	1, no information	7	Finland, Germany, Poland, Spain, Sweden
Oxidation factor				
Combustion (gaseous, liquid)	1	0, 1, n.a., no information	23	Austria, Finland, France, Germany, Italy, Poland, Sweden
Combustion (solid)	2	1	62	Finland, France, Germany, Sweden
E2				
Activity data				
Mass balance	4	2a/2b, 3a, de minimis	3	Austria, France, Italy
Cokers	2	1	1	Italy
Emission factor				
Cokers	2	1	1	Lithuania
Net calorific value				
Mass balance	1	de minimis	1	Austria
F2				
Activity data				
Mass balance	2	1, de minimis	2	Austria, United Kingdom

Table 10 Deviation of tiers used from Monitoring and Reporting Guidelines (contd)

	Minimum tier according to MRG	Lower tiers applied than requested	Number of source streams	Countries
25–50 kt				
E1				
Activity data				
Combustion (gaseous, liquid)	2a/2b	1	5	Poland, Spain
Combustion (solid)	1	n.a.	1	Germany
Emission factor				
Combustion (gaseous, liquid)	2a/2b	1, n.a.	6	Italy, Poland
Combustion (solid)	2a/2b	0, 1	2	Poland
Net calorific value				
Combustion (gaseous, liquid)	2	1, n.a., no information	8	Denmark, Poland, Spain, Sweden
Combustion (solid)	2	no information	1	Poland
Oxidation factor				
Combustion (gaseous, liquid)	1	no information	1	Lithuania
Combustion (solid)	1	0	1	Poland
E2				
Activity data				
Mass balance	4	1, 2, 3a	4	France, Spain

Table 11 Sectoral distribution of installations for which lower tiers than minimum tiers required in the MRG are used

	Number of source streams which use lower tiers than minimum tiers (percent of all installations in activity sector and emission group)			
	Activity data	Emission factor	Net calorific value	Oxidation factor
> 500 kt				
E1	30 (13 %)	58 (26 %)	29 (13 %)	58 (26 %)
E2	5 (20 %)			
F2	1 (3 %)			
50–500 kt				
E1	5 (3 %)	55 (28 %)	7 (4 %)	85 (43 %)
E2	4 (5 %)	1 (1 %)	1 (1 %)	
F2	2 (4 %)			
25–50 kt				
E1	6 (7 %)	8 (9 %)	9 (10 %)	2 (2 %)
E2	4 (22 %)			
F2				

5.3 Accepted tiers below the minimum tiers specified in Table 1 in section 4.2.2.1.4 of Annex I to Decision 2004/156/EC

Fourteen Member States (see Table 12) reported that lower tiers than those included in the MRG were applied during the reporting period. Overall, 1289 monitoring parameters of 596 installations were reported. The highest number of installations for which tiers below the minimum were accepted has been reported by Germany followed by United Kingdom and the Czech Republic.

The reasons given for adopting lower than minimum tiers were, amongst others: unreasonably high costs (Belgium, Finland, Malta, United Kingdom), technically non-feasible (Finland, Ireland, Latvia, Luxembourg, Malta, United Kingdom), relates to sources contributing less than 1 % or 5 % of total annual emissions of the installation (Bulgaria), exceptions (Czech republic), a requirement for improved metering (Belgium, United Kingdom), ongoing meter replacement programmes, not being included in permit, variation pending, site not yet operational, site emits category A emissions but is

Table 12 Number of installations and number of monitoring parameters for which it has not been feasible to use the minimum tiers listed in Decision 2004/156/EC

	Number of installations	Number of monitoring parameters
Austria	33	41
Belgium	15	19
Bulgaria	41	178
Czech Republic	55	100
Finland	14	20
Germany	211	276
Ireland	4	6
Italy	60	60
Latvia	2	4
Luxembourg	2	8
Malta	2	5
Slovenia	3	3
Spain	21	42
United Kingdom	133	527
Total	596	1 289

listed as category B, awaiting verifier inspections (all United Kingdom) and that the same EF be used nation-wide (Luxembourg).

Austria reported that data provided in the questionnaire have not been subject to detailed scrutiny. The submitted data refer to major sources only. The values of CO₂ emissions refer to emissions for the particular parameter. Information on biofuels or minor/de-minimis sources is not given in the case of data from Finland because Finland is using minor/de-minimis rule for the monitoring of biomass utilisation in every installation where biomass is used⁽¹⁴⁾. For Italian data, values reported as 'total annual emissions' refer to emissions of the whole plant, while the emissions of the sources monitored with a lower tier than the minimum specified in Decision 2004/156/EC add up to less than half the total.

In the Netherlands, tiers below the minimum tiers have only been accepted for some of the more complex installations emitting more than 500 kt CO₂ annually. None of the A and B category installations has been allowed to deviate from the minimum tiers. Denmark stated that it was not possible to respond to this question by the required deadline as it would require an evaluation of all monitoring plans. Portugal reported that the required information is not yet fully processed. It

is not able to report the required information in the 2007 report. Data submitted by Sweden does not include data for installations that are allowed to apply tiers below the minimum based on the general derogations specified in the national regulations. These exceptions apply to minor source streams, de-minimis source streams and pure biomass among others. Finland has not listed these exceptions either.

Poland accepted tiers below the minimum level temporarily in GHG permits, although there is no complete information about individual installations. Romania only joined the EU ETS in 2007 and could not report on this issue.

Estonia, France and Slovakia clearly indicated that there are no installations with tiers below the minimum.

5.4 Installations that temporarily applied different tier methods than those agreed with the competent authority

Ireland, Italy, Lithuania, Sweden and the United Kingdom provided detailed data on 24 installations that temporarily applied different tiers than those agreed with the competent authority (Table 13).

⁽¹⁴⁾ The rationale for this is that emissions from biomass are not included into the ETS and hence a precise figure does not provide any major interest. The number of installations is not given since biomass is used as an additional fuel in a variety of installations and would be very extensive.

Table 13 Number of installations and affected monitoring parameters for which different tiers than those agreed with the competent authority were temporarily applied

	Number of installations	Number of affected monitoring parameter	Reported parameters
Ireland	4	4	AD, EF, NCV
Italy	11	14	AD, EF, NCV
Lithuania	1	2	EF, NCV
Sweden	6	6	AD
United Kingdom	2	2	AD
Total	24	28	

Most of these installations are located in Italy. Overall 28 monitoring parameters were affected, whereas in Sweden and the United Kingdom only activity data were reported.

Denmark reported that it was not possible to respond to this question by the required deadline as it would require an evaluation of all monitoring plans. In Italy the temporary application of monitoring methods below the minimum required concerns, in most cases, only some processes or streams of the total installation. Poland reported that several installations applied partly different tier methods than those laid down in the GHG permits. The reasons for those deviations were lack of clarity of GHG permit's conditions and delay in implementing the EU ETS. However, the information is not sufficient to prepare a precise list.

Austria, Belgium, Estonia, Finland, France, Latvia, Luxembourg, the Netherlands, Portugal, Slovenia and Slovakia reported that there are no such installations in their countries.

Mostly the use of lower tiers was not applied for more than some months; only in one case the requested tier had not been reinstated at the reporting date. For Sweden and Italy the exceptions lasted no longer than a few days each.

In the majority of cases the reason for a temporary change has been failure in measurement devices (22) or, in four cases, a temporary lack of data. Only for six activities no other tier has been used, in four cases the same tier could be used. If the normal tier could not be used, the temporarily applied tier was on average just over one tier below the approved method.

5.5 Application of continuous emission measurement

Seven Member States submitted information on the application of continuous emission measurement (Table 14). There are at least 30 installations that apply continuous emission measurement (CEM).

Table 14 Number of installations applying continuous emissions measurement

	> 500 kt		50–500 kt				< 50 kt	Total
	E 1	E 2	E 1	E 2	M 3	O 2	E 1	
Finland		1						1
Germany		5	1	1			1	
Poland	3							3
Spain	3	1	2				2	8
Sweden					1			1
Slovak Republic						1		1
United Kingdom	7	1						8
Total	13	8	3	1	1	1	3	30

Among the installations applying CEM, nineteen are combustion installations with a rated thermal input exceeding 20 MW (E1), while nine are mineral oil refineries (E2). One installation operates in each of the ceramics (M3) and paper and board (O₂) sectors. Among the 30 installations, three emit less than 50 kt CO₂ annually, six emit between 50–500 kt CO₂, while twenty-one emit more than 500 kt CO₂. Five Member States did not answer this question in their reports.

5.6 Carbon dioxide transfer

Most Member States did not provide any information on CO₂ transfer outside plant boundaries. Twelve Member States submitted the detailed data summarised in Table 15. In total, data on CO₂ transfer from 69 installations were provided. Of these, 30 are in the energy industries, thirteen are in ferrous metal production, nine are in the pulp and paper industry and four are in the mineral industry. Thirteen each are in coke ovens and installations for the production of pig iron. The total CO₂ transferred from the 69 installations reported by Member States was 111 417 kt CO₂, over three times that reported in the previous year (31 393 kt CO₂), although the number of installations only slightly increased (from 54 to 69). Carbon transferred outside plant boundaries is mainly used for combustion and electricity generation (coke oven gas, blast furnace gas and other combustible gases), for precipitating calcium hydroxide into calcium carbonate, as a

component of natural gas in gaseous or liquefied form, for carbonation of beverages and for the greenhouse industry.

As Germany announced last year, the sum of CO₂-transfers reported by operators has tripled, because the data quality has increased from the previous to the current reporting year.

According to the information provided by Member States, CO₂ is not transferred by any installation covered by the trading scheme in Belgium, Cyprus, Estonia, France, Ireland, Lithuania, Latvia and Luxembourg. Integrated steel mills in Austria account for CO₂ transfer in their mass balance approach. Portugal indicated that information on CO₂ transfer is not systematized yet. Romania only joined the EU ETS in 2007 and could not report on this issue.

5.7 Biomass combusted or utilised in industrial processes

Nineteen Member States and one Belgian region submitted detailed data on biomass combusted or employed in industrial processes (Table 16). In total, over 5 344 449 TJ of biomass was combusted in those Member States. The largest amounts were in Sweden (3 437 608 TJ), Slovakia (1 195 656 TJ) and Finland (262 377 TJ). Combustion occurred mainly in the energy (63 %) and pulp and paper industries (34 %).

Table 15 CO₂ transferred from installations

	Number of installations	CO ₂ transferred in total (kt CO ₂)	Main Annex I Activity
Belgium	2	4 545	F1, F2
Czech Republic	3	45 056	F2
Finland	9	264	E1, E2, F2, M1 O1 & O2
Germany	25	22 985	E1, E2, E3, E3 & F2, F2
Hungary	2	1 228	F1, O2
Italy	7	28	E1, E2
Netherlands	2	262	E1, E2
Poland	4	882	E3, M1
Slovenia	1	2 034	E1
Spain	5	1 201	E1, E2, F2
Sweden	6	2 425	F1, F2, O1, O2
United Kingdom	3	30 508	E1
Total	69	111 417	

The total reported biomass utilised in industrial processes amounted to 116 726 kt. Here, the largest contributions, those exceeding 1 000 kt, came from Italy, Austria, Spain, United Kingdom and the Czech Republic.

The survey of biomass utilisation was ambiguous. On the one hand it was not clearly defined if combusted biomass mentioned in the first column shall be reported in terms of physical quantities in the following columns or if only biomass should be reported which is not combusted. In addition, data on biomass reported in the volume-related unit of m³ might only refer to biogas but it is also possible that solid or liquid biomass has been reported as well.

Five Member States submitted data in volume related units (Austria, Poland, Spain, Sweden and

the United Kingdom). The largest amounts were reported by the United Kingdom (over 339 Mm³), Austria (over 41 Mm³) and Spain (over 21 Mm³).

Only Austria reports that the values in m³ refer to biogas only, the numbers given in tonnes refer to solid and liquid biomass. In cases of mixtures of fossil fuels and biomass, only the biomass content is accounted for. The numbers on biomass used in Austria were provided in energy units (TJ) as well as in mass (t) and volume units (m³). The assumption was made that the fuel quantities as reported by operators correspond to the fuel amount used for combustion. Other Member States did not provide information on distinction between biomass used for combustion and for processes or whether only biogas has been reported.

Table 16 Biomass combusted or otherwise utilised

	Biomass combusted	Main Annex I activity	Biomass employed	Main Annex I activity	Biomass employed	Main Annex I activity
	(TJ)		(t)		(m³)	
Austria	47 799	E1, O1, O2	5 492 499	E1, M1, O2	41 465 000	E1, O2
Belgium (Reg. of Wallonia)	19 014	E1, O1				
Bulgaria	-		-		-	
Cyprus	61	M1	3 686	M1		
Czech Republic	19 578	E1, O1	1 730 921	E1, O1		
Denmark	not available		not available		not available	
Estonia			236 611	E1		
Finland	262 377	E1, M1, O1, O2, opt-in				
France	unknown		unknown		unknown	
Greece			56 754	M1		
Germany	65 718	E1, M1, M3, O1, O2	557 481	E3/F2, F2, M2, M3	-	
Hungary	39 036	E1	91 309	M2, M3		
Ireland	6 075	E1, M1				
Italy	118 809	E1, M1	101 790 653	E1		
Latvia	2 423	E1				
Lithuania			282 180	E1, O2		
Luxembourg	942					
Malta	0	E1	-		-	
Netherlands	not available		not available		not available	
Poland	35 369	E1, O2	497 918	E1	3 774 326	O2
Portugal	not available		not available		not available	
Romania	not available		not available		not available	
Slovak Republic	1 195 656	O2				
Slovenia	2 355	E1, O2	1 579	M3		
Spain	43 755	E1, M1, M2, M3, O1, O2	3 304 405	E1, M1, M2, M3, O1, O2	21 437 854	E1, M2, O2
Sweden	3 437 608	E1	70 465	M1	199 430	E1
United Kingdom	47 873	E1	2 609 412	E1	339 485 256	E1
Total	5 344 449		116 725 874		406 361 866	

The total amount of biomass employed in volumetric units reported by five Member States was 406 361 866 m³, which is a very high increase compared to reported data (68 212 054 m³) from the previous year, mainly due to the large increment reported by the United Kingdom of 11 to 339 Mm³.

Finland did not report the biomass fraction of mixed fuels. In Belgium (Regions of Flanders and Brussels), Denmark, France, the Netherlands and Portugal information on biomass combustion and use is not yet available. Romania only joined the EU ETS in 2007 and could not report on this issue.

In Table 17 the distribution of biomass combusted and employed in activities is shown, where the predominance of the use in combustion installations can be seen.

The amount of biomass used in combustion installations seems to be very high (93 % of all biomass employed). As discussed above, some countries also reported combusted biomass in mass or volume-related units, which leads to double counting.

It is also possible that installation operators only transmit data for biomass used in combustion facilities in mass or volume units because they do not know the heating value of the combusted biomass.

5.8 Waste used as fuel or input material

Sixteen Member States submitted detailed data on the use of waste as fuel or input material (Table 18). In total, over 20 367 kt of solid or liquid waste were used or deployed in those countries, nearly twice the amount reported last year. Last year Italy reported the use of 1 463 Mm³ of waste in gaseous state compared to this year when only liquid or solid waste has been mentioned. In the current report Sweden is the only Member State which reports the use of gaseous waste. Most of the waste and residues used came from the pulp and paper industry, metal production and waste management facilities. Some Member States (Germany, Spain, Ireland, Italy, Latvia, Poland, Slovenia, Slovakia and Sweden) provided EWC codes from the European List of Wastes. The largest contributions in terms of waste amount came from Germany, Poland, Sweden, Italy and Austria. In each of these five Member States the amount of waste used exceeded one megaton CO₂ annually. In Table 19 the ten biggest single activities which have been reported by Member States are shown.

The used waste generated almost 7.5 Mt of fossil CO₂ emissions and another 630 kt of CO₂ from biomass. The five largest contributions came from Germany, Poland, Lithuania, Austria and Spain. Biomass-based CO₂ emissions were reported by Austria and Italy. Only Italy provided data on

Table 17 Biomass combusted and otherwise utilised by sector

Main Annex I activity	Biomass combusted (TJ)	Biomass employed (t)	Biomass employed (m ³)
E1	3 360 999	108 907 809	375 246 252
E2	0	0	0
E3	0	0	0
E3/F2	0	19 934	0
F1	0	0	0
F2	0	1 101	0
M1	136 744	486 275	0
M2	2 942	190 043	10 571 279
M3	23 410	1 047 970	5 565
M1 & M2	820	0	0
O1	374 287	3 346 348	6 804 000
O2	1 253 619	2 725 148	13 734 770
O1 & O2	191 378	0	0

Table 18 Waste used or deployed

	Quantity used/ deployed (t)	Quantity used/ deployed (m ³)	CO ₂ emissions (t CO ₂)	CO ₂ emissions (biomass) (t CO ₂)	Quantity used/ deployed (TJ)
Austria	1 004 701		439 664	521 451	
Belgium					Not available
Bulgaria					Not available
Cyprus	3 686		6 762		
Czech Republic	-	-	Less than 100 000		
Denmark					Not available
Estonia	-	-	-		
Finland	338 913		145 701		
France					Unknown
Greece	92 672		44 951		
Germany	7 947 614	-	4 611 330		
Hungary	224 077		146 578		
Ireland	4 776		12 160		
Italy	1 066 436	-	11 635	108 395	247 060
Latvia	8 594		21 887		
Lithuania	365 000		579 000		
Luxembourg					Not available
Malta					Not applicable
Netherlands					Not available
Poland	5 957 096	-	926 847		
Portugal					Not available
Romania					Not available
Slovak Republic	73 021		120 783		
Slovenia	17 034		33 401		
Spain	140 969		194 341		
Sweden	3 028 447	1 623	17 000		
United Kingdom	93 829		163 398		
Total	20 366 864	1 623	7 475 438	629 846	247 060

Table 19 Waste types used by ten biggest activities reported

	Quantity used/deployed (t)	Waste type
Poland	2 686 559	Divers
Sweden	2 507 069	Wastes from pulp, paper and cardboard production and processing (0303)
Poland	2 254 865	Wastes from the iron and steel industry (1002)
Germany	1 919 655	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified (1912)
Germany	965 523	Wastes from waste water treatment plants not otherwise specified (1908)
Germany	689 042	Wastes from pulp, paper and cardboard production and processing (0303)
Germany	682 965	Wastes from the iron and steel industry (1002)
Germany	679 306	Wastes from pulp, paper and cardboard production and processing (0303)
Italy	451 042	Divers
Austria	396 879	Paper and pulp (-sludges)

energy content (247 060 TJ) of used wastes (this amount is identical with reported data from last year).

Belgium, Bulgaria, Denmark, France, Luxembourg, Malta, the Netherlands and Portugal indicated that information on waste used as fuel or input material is not yet available. For Romania the information was not available due the fact that in 2006, the provisions for the monitoring and reporting of GHG emissions were not applied, taking into account that Romania joined EU on 1 January 2007.

Italy reported data that had been collected within the emissions report for 2006 where reporting of detailed data was not mandatory. For this reason quantities reported are underestimated. Estonia clearly indicated that waste was not used as fuel in ETS installations.

It should be stressed that the reporting on the use of waste seems to be incomplete in some Member States, which might be due to either incomplete information provided by operators or due to national definitions. For example, contributions of wood waste could be reported as 'biomass' by some Member States, and iron scrap used for steel making may be defined as waste in others.

5.9 Submission of sample monitoring and reporting documents from some temporarily excluded installations

Belgium, the Netherlands and the United Kingdom attached monitoring plans for temporarily excluded installations or provided internet links. All other reporting Member States except Hungary and Slovenia indicate clearly that they have no such installations.

5.10 Coordination of ETS reporting with other emission reporting requirements

All reporting Member States but Bulgaria submitted information on coordination of EU ETS reporting requirements with other reporting obligations (Table 20). More than half of the reporting Member States coordinated reporting requirements under the Emissions Trading Directive with other reporting requirements or are planning and preparing to do

so. In Austria and Spain coordination is planned, in Belgium and Finland coordination happens only partially and no coordination is reported in the Czech Republic, Germany, Greece, Lithuania, Luxembourg, Hungary, Ireland, Italy, Portugal, Romania and Sweden.

Austria uses ETS data for reporting to the UNFCCC and under Decision 280/2004/EC, plans to use it for the European Pollutant Emission Register (EPER, Commission Decision 2000/479/EC) and Large Combustion Plants Directive (LCP, Directive 2001/80/EC), while ETS data are already used for public statistics purposes. In Finland and in Belgium (regionally), installation level emission data were used for reporting under the UNFCCC, EPER, Integrated Pollution Prevention and Control Directive (IPPC, Directive 96/61/EC), National Emission Ceilings Directive (NEC, Directive 2001/81/EC), LCP, Co-operative Programme for Monitoring and Evaluation of the Long-range Transmission of Air pollutants in Europe (EMEP), regional covenants and were used by statistical offices.

Cyprus, Latvia, Slovenia and the United Kingdom coordinate all specially mentioned reporting requirements except voluntary covenants and other trading schemes (the United Kingdom: IPCC and LCP partially). The Czech Republic and Sweden only report on the use of ETS data by statistical offices.

Denmark coordinated ETS reporting with voluntary covenants and public statistics while Estonia and Poland only with the latter. France coordinated ETS reporting with UNFCCC, EPER, IPPC, NEC, and LCP reporting. Slovakia coordinated ETS data with UNFCCC and public statistics.

Germany evaluated possibilities to use the data from emission reports for the preparation of national inventory reports under the UNFCCC; Italy with public statistics.

The Netherlands coordinated ETS with the domestic trading scheme and public statistics. Luxembourg and Malta coordinate ETS data with UNFCCC requirements (although Luxembourg indicated no coordination at all in first column), in Luxembourg ETS data can be used by statistical offices.

In Ireland ETS data are cross-checked for EPER requirements and additionally they are public and can be used by statistical office. Portugal mentioned no coordination and that it is uncertain if ETS data can be used by statistical offices.

Several Member States indicate that monitoring reports will be submitted electronically by operators to facilitate the reporting of plant-level data for various purposes and obligations. Malta and Slovakia announced that they envisage further coordination to minimise the reporting burden.

Table 20 Coordination of ETS reporting with other reporting requirements

	Other requirements	UNFCCC	EPER	IPPC	NEC	LCP	EMEP	Voluntary covenants	Other trading schemes	Use by statistical office
Austria	Yes, planned	Yes	Yes, planned	No	No	Yes, planned	No	No	No	Yes
Belgium	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes	No	Yes, partially
Bulgaria	-	-	-	-	-	-	-	-	-	-
Cyprus	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Czech Republic	No	No	No	No	No	No	No	No	No	Yes
Germany	No	evaluated	No	No	No	No	No	No	No	No
Denmark	Yes	No	No	No	No	No	No	Yes	No	Yes
Estonia	Yes	No	No	No	No	No	No	No	No	Yes
Finland	Yes, partially	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
France	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	No
Greece	No	No	No	No	No	No	No	No	No	No
Hungary	No	No	No	No	No	No	No	No	No	No
Ireland	No, cross checking	Yes	No, cross checking	No	No	No	No	N/A	N/A	ETS data are public
Italy	No	No	No	No	No	No	No	No	No	Evaluated
Latvia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Lithuania	No	No	No	No	No	No	No	No	No	No
Luxembourg	No	Yes	No	No	No	No	No	No	No	Yes
Malta	Yes	Yes	No	No	No	No	No	No	No	No
Netherlands	Yes	No	No	No	No	No	No	No	Yes	Yes
Poland	Yes	No	No	No	No	No	No	No	N/A	Yes
Portugal	No	No	No	No	No	No	No	No	No	Not checked
Romania	No	No	No	No	No	No	No	No	No	No
Slovakia	Yes	Yes	No	No	No	No	No	No	No	Yes
Slovenia	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Spain	Yes, planned	No	No	No	No	No	No	No	No	No
Sweden	No	-	No	No	No	No	No	No	No	Yes
United Kingdom	Yes	Yes	Yes	Yes, partially	Yes	Yes, partially	Yes	N/A	No	Yes

Box 1 Supplementary analysis: Consistency of ETS data with reported emissions in annual GHG inventories

- In general, the analysis for the year 2005 does not indicate any serious problems with consistency of CO₂ emission data reported under the EU ETS and GHG inventories.
- One key area in which the comparability should be improved is the separate reporting of combustion emissions from process emissions under the EU ETS.
- In the GHG inventories, additional voluntary source categories for combustion emissions from cement, glass and ceramics production could be used to enhance transparency of reporting as done by some Member States.

The majority of Member States (15 of 23) already used the verified CO₂ emissions re-reported under the European emissions trading scheme (EU ETS) in the first year in which it became available (2005) for the purpose of verifying and improving national greenhouse gas (GHG) inventories. Key areas of inventory improvement were the estimation of emission sources in the national inventory for which previously no data was available, the identification of gaps in the inventory reporting, an improved allocation of fuels and input materials to source categories, improved emission factors as well as improved information on the types, amounts and composition of non-commercial fuels and input materials used in the sectors covered by the EU ETS.

Emission factors

Different CO₂ emission factors (EF) for fuels or other emission sources can potentially be one of the major reasons for discrepancies in CO₂ emissions from ETS installations and in national inventories. For the reporting in 2005, many Member States already used the information reported under the EU ETS to refine and update the fuel-specific emission factors used in the inventories and reported such activities in recent national inventory reports. A detailed comparison of three Member States (Finland, France, the Czech Republic) in this respect revealed a high consistency of fuel-specific emission factors and oxidation factors between ETS and inventory data. Member States also used the new information to improve emission factors used in the estimation of process emissions, in particular for the emissions from mineral products.

Problems in correspondence

General inconsistencies of CO₂ emissions reported under both schemes arise from a number of general differences in the coverage of emissions between the two reporting schemes. These differences lie in:

- the capacity thresholds used for the participation in the EU ETS and the different importance of small installations in Member States;
- variations in scope of the installation definitions applied in the first year of the ETS;
- the relevance of CO₂ emissions from waste incineration plants with energy recovery across Member States which are not included in the ETS; and
- the accounting for transferred CO₂ under both reporting schemes.

These general differences complicate the comparison of both data sets.

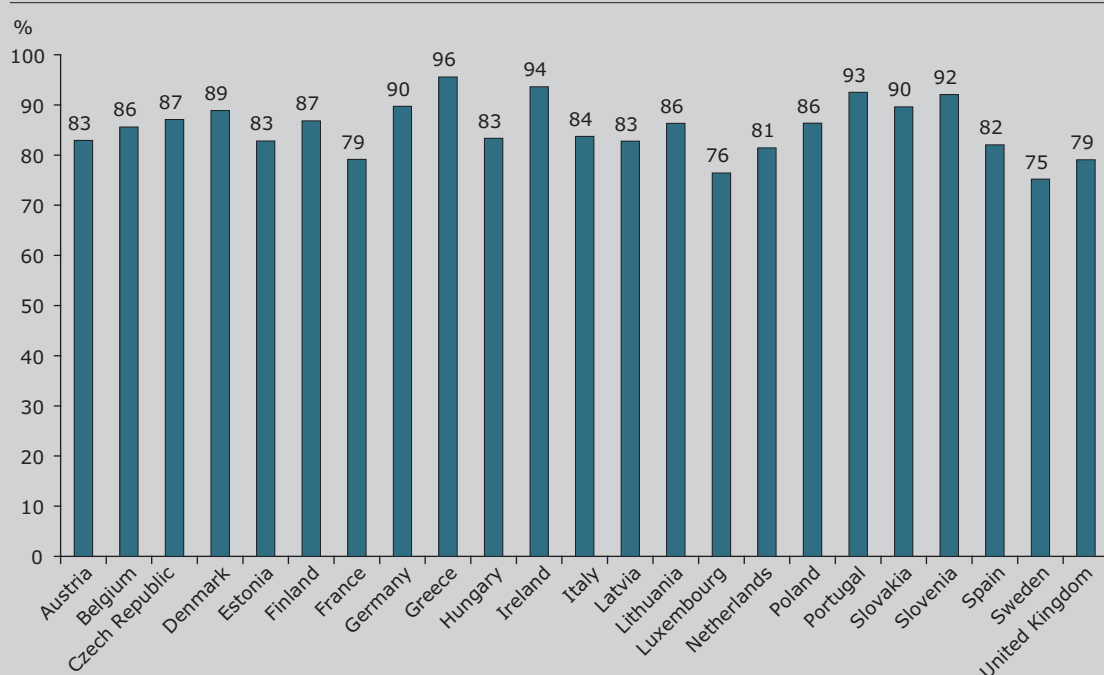
Quantified differences between ETS data and inventory data

Some Member State provided a quantitative assessment of the differences that they found when they compared the ETS emissions for 2005 with the inventory estimates for particular sectors or source categories. The differences encountered were relatively small. France quantified the differences in relation to the total national GHG emissions with < 0.56 % of total emissions. Denmark indicated a difference of 0.16 % for combustion emissions, Germany a difference of 3 % for emissions from public electricity and heat and of 6 % for CO₂ emissions from Pipeline Transport. The Czech Republic analysed the difference for Cement and Lime Production and found a discrepancy of 4 %.

As a general indicator of consistency, the total verified emissions in 2005 (ETS total) were divided by the CRF emissions from relevant source categories to calculate the share of verified emissions related to the inventory emissions. The resulting shares of ETS emissions in CRF emissions for 2005 are presented in Figure 5.1.

The sum of emissions in the GHG inventory from the relevant CRF categories is always higher than the verified ETS emissions due to the fact that the inventory includes all plants and does not use any threshold criteria for the inclusion of installations. The calculated proportion of the ETS total in the CRF total ranges from 75 % (Sweden) to 96 % (Greece). The average share of the ETS total in the CRF total emissions is 85.4 % for EU-23. For 13 Member States, the national shares are within a range of 5 % of the EU-23 average value and for 19 Member States they are within a 10 % range of the EU-23 average. With few exceptions, the CO₂ emissions covered by the ETS represent a relatively similar share in comparison to inventory emissions across Member States which can be regarded as indirect proof of consistency of both data sets. The proportion below 80 % can be explained by the use of narrow installation definitions in the first ETS phase for the Member States concerned. It is likely that the very high shares of ETS emissions relative to CRF emissions for Greece and Portugal are related to small installations below the ETS capacity thresholds having a lower importance in these Member States. It is difficult to make a comparison between the CO₂ emissions from fuel combustion in ETS data and GHG inventories because of different ways of sectoral allocation of these emissions. Under the ETS, the combustion sector covers combustion installations which have a rated thermal input exceeding 20 MW; however, emissions from fuel combustion are also part of the reported CO₂ emissions of the remaining ETS categories. In the production and processing of ferrous metals and mineral industry, combustion emissions under the ETS are reported together with process emissions. Therefore, no detailed analysis of the consistency of reported CO₂ emissions from fuel combustion could be performed.

Figure 5.1 Share of ETS emissions relative to inventory emissions from relevant source categories for the year 2005



Source: Calculations based on Member States' GHG inventories for 2005, submitted in 2007 to the UNFCCC secretariat and data contained in the CITL on 5 July 2007.

Figure 5.2 compares the CO₂ emissions reported for 'Mineral Oil Refineries' under the EU ETS with the CO₂ emissions reported in the GHG inventory for 'Petroleum Refining' for the year 2005. For 11 of the 18 Member States, ETS data match well with inventory data (Austria, Finland, France, Greece, Ireland, Italy, Lithuania, the Netherlands, Portugal, Spain and the United Kingdom). Most of these Member States also reported efforts to analyse the data consistency between GHG inventories and the EU ETS.

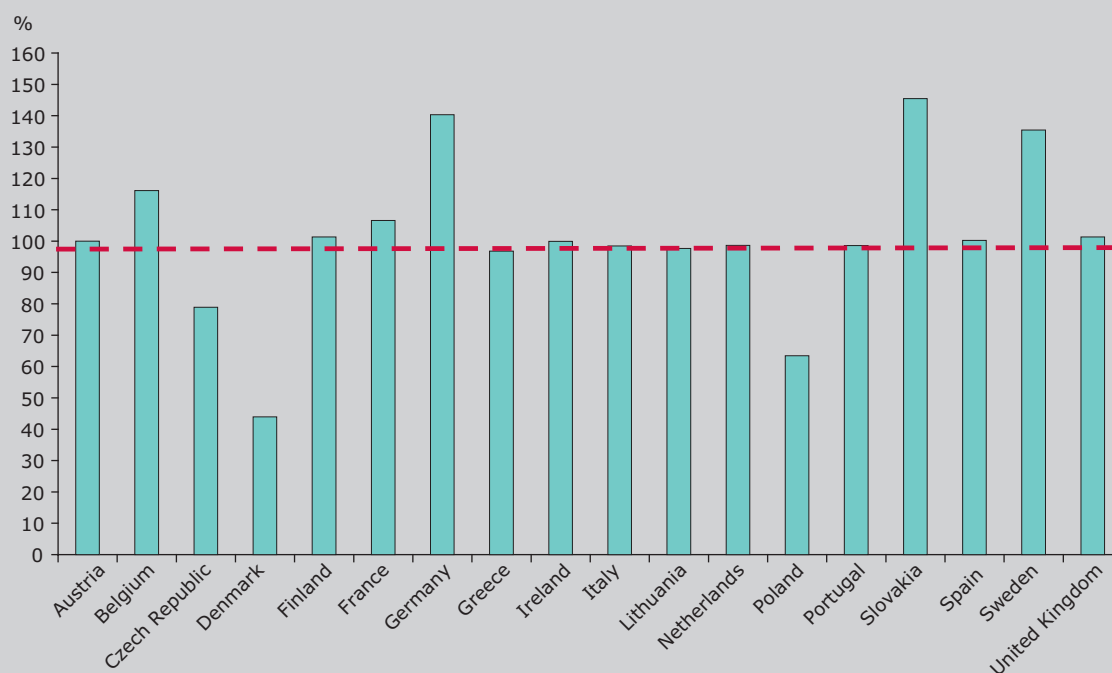
The combustion plants of refineries may be part of one refinery installation, but they may also be outsourced to an independent operator. The results of the comparison of emissions will largely depend on the allocation of industrial combustion plants to the refineries or to the combustion sector under the ETS and in the GHG inventory. When ETS emissions from mineral oil refineries are lower than emissions reported in GHG inventories (the Czech Republic, Denmark, Poland), combustion-related emissions may be reported under combustion. When ETS emissions from mineral oil refineries are higher than emissions reported in GHG inventories (Belgium, Germany, Slovakia or Sweden), it may indicate a different allocation of combustion emissions to the refining sector in the national energy statistics, but could also be due to some reporting gaps or incomplete reporting in the GHG inventory, e.g. for fugitive emissions from flares or refining storage under 1B2a and c.

Conclusions

In general, the analysis of the year 2005 does not indicate any serious problems with consistency of CO₂ emission data reported under the EU ETS and GHG inventories. However, the analysis was limited at sectoral level due to correspondence and allocation problems. Further activities should be undertaken to enhance the comparability of both data sets in the future.

One key area in which the comparability should be improved is the separate reporting of combustion emissions from process emissions under the EU ETS.

Figure 5.2 Proportion of ETS emissions from mineral oil refineries relative to inventory emissions from relevant source categories for the year 2005



Notes: The inventory data included in the comparison is a sum of relevant CRF categories including 1A1b as well as 1B2a and 1B2c, depending on the information provided in Member States national inventory reports on the allocation of emissions from refineries.

Source: Calculations based on Member States' GHG inventories for 2005 submitted in 2007 to the UNFCCC secretariat and data contained in the CITL on 5 July 2007.

At the moment, the sectoral disaggregation of ETS data leads to one sector — combustion — having a very large share of emissions. It would be useful to further disaggregate the large share of emissions in the combustion sector in the reporting under the ETS.

In the GHG inventories, additional voluntary source categories for combustion emissions from cement, glass and ceramics production could be used to enhance transparency of reporting. Some Member States included very detailed assessments of comparability and the use of ETS data in the national inventory reports (e.g. Austria, Ireland or Finland). It is strongly recommended that Member States that have not yet done so follow their example and add relevant information on the use of ETS data in the national inventory reports. Such improved transparency will strongly contribute to the credibility and reliability of national GHG inventories.

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1st workshop on data consistency between National GHG inventories and reporting under the EU ETS under WG1 and WG2 of the Climate Change Committee, 9–10 February 2006, EEA Copenhagen: Workshop presentations and recommendations at http://air-climate.eionet.europa.eu/docs/meetings/060209_cons_GHGinv_rep_EU-ETS_WS/meeting060209.html.

2nd workshop on data consistency between National GHG inventories and reporting under the EU ETS under WG1 and WG2 of the Climate Change Committee, 13–14 September 2007, EEA Copenhagen: Workshop presentations and recommendations at http://air-climate.eionet.europa.eu/docs/meetings/070913_cons_ghg_inv_rep_eu-ets_ws/meeting070913.html.

5.11 What procedures or measures have been implemented to improve monitoring and reporting by operators

All reporting Member States apart from Bulgaria, the Czech Republic and Lithuania report measures and procedures to improve monitoring and reporting by operators. Seven Member States (Germany, France, Ireland, Latvia, Luxembourg, Malta and the Netherlands) suggest the inclusion of comments from operators for the next reporting cycle. Slovakia is the only Member State which reported on independent evaluations of last year's reports. The application of new forms is also mentioned by Estonia, Hungary and Spain whilst Germany, Italy and Spain indicated that meetings have been established (regularly in the case of Germany and Spain) where reporting, verification and monitoring issues are discussed. In Poland and Spain training courses on various aspects of the EU ETS have been provided for operators and other market participants.

Support material published on the Internet, electronic helpdesks and telephone support have

been mentioned by eight Member States (Austria, Germany, Denmark, Greece, Italy, Poland, Spain and Sweden). Standard solutions and examples are developed in Austria, Germany and Denmark.

The use of electronic reporting formats is mentioned as an improvement by Austria, Belgium, Finland and Portugal. Germany evaluated most of the reports and improved the electronic reporting forms for 2006 on this basis, and published a summary (lessons learned) of typical mistakes in form and content by the operators. In Belgium and the Netherlands, reports are verified by subordinated organisations to help to improve reporting.

Spain also reported on an ongoing process to harmonise the application of monitoring and reporting by the competent authorities of the Spanish regions. In the United Kingdom regulators have worked with Group C installations and set requirements for improvements to be made to ensure that they meet Tier 1 requirements.

Table 21 Procedures and measures to improve monitoring and reporting by operators

Procedures or measures which have been implemented to improve monitoring and reporting by operators	Member States
Inclusion of comments from operators for next reporting session	Germany, France, Ireland, Latvia, Luxembourg, Malta, the Netherlands, the United Kingdom
Independent evaluation of 2006 report	Slovakia
Development of new forms	Estonia, Hungary
Meeting to discuss reporting, verification and monitoring issues	Germany, Italy
Trainings for operators and other market participants	Poland
Support material in Internet (guidelines, report on FAQ), telephone support	Austria, Denmark, Germany, Greece, Italy, Poland, Sweden
Development of standard solutions and examples	Austria, Denmark, Germany
Electronic format	Austria, Belgium, Germany, Finland, Portugal
Verification of reports by subordinated organisations	Belgium, the Netherlands
Harmonisation of the application of the MRG between different regional administrations	Spain
Setting of requirements for improvements to be made to ensure that Group C installations meet Tier 1 requirements	The United Kingdom

6 Arrangements for verification

- *In all reporting Member States, with the exception of Belgium (Flanders), Cyprus, Estonia and Romania, independent verifiers can be accredited or accepted according to national rules.*
- *All Member States indicated that verified emission reports may be subject to additional checks to ensure the quality of the verification process. Additional checks were undertaken in twenty countries.*
- *Seventeen Member States have developed verification guidance and two more are in the process of doing so.*
- *Approximately 160 installations did not submit a report at all. An additional 30 installations did not submit an emission report verified as satisfactory by 31 March 2007. Most of these cases were solved within three months.*
- *Compared to the previous reporting period more complete information has been provided. The number of emission reports not verified as satisfactory was reduced by 75 % whereas the number of emission reports not submitted in time remained constant.*

As operators would profit from monitoring reports which underestimate actual emissions and also to align monitoring made at different installations, independent verification of these reports is required. The Emissions Trading Directive and the monitoring and reporting guidelines only regulate some fundamental requirements and aspects of the verification process. Details are left to individual Member States. This section provides some overview of the verification framework, elaborated guidance documents and provisions for the accreditation of verifiers already accredited in another Member State.

6.1 Verification framework and the role of competent authorities

Independent verifiers are accredited or accepted by accreditation bodies in accordance with national rules in almost all Member States. The only exceptions are Belgium (Flanders), Cyprus, Estonia and Romania where, for example, in Estonia and Flanders only one verifier is accepted. In Hungary

different approval procedures for individual and institutional verifiers have been implemented. Individual verifiers are only permitted to conduct verification activities for small or medium-sized installations mainly combusting liquid or gaseous fuels.

In Austria and Finland, the verifier has to be notified *ex-ante* to the competent authority for approval. In Austria, Belgium (Wallonia), Cyprus, Estonia, Hungary and Luxembourg the competent authority has the right to appoint a different verifier if it has substantial doubts about the independence of a verifier.

In Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, France, Hungary, Ireland, Italy, Luxembourg, Portugal, Romania, Slovakia and United Kingdom verifiers must recommend improvements on monitoring and reporting procedures to operators. Verifiers operating in Germany, Finland and Lithuania are encouraged to do so but are under no legal obligation.

6.2 Verification guidance documents and supervision of verifiers

Most Member States have implemented standards and procedures to ensure and improve the quality of the verification process. Seventeen Member States (Austria, Belgium, Germany, Denmark, Finland, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Spain, Sweden, Slovenia and United Kingdom) developed specific national verification guidance. Out of these, all Member States except Austria, Belgium (Brussels, Wallonia), Hungary and Portugal based their rules and procedures on the criteria for the accreditation contained in the guidelines of the European Cooperation for Accreditation (EA) and the related EN 45011. Only Cyprus, Estonia, France, Greece, Luxembourg, Malta, Romania and Slovakia decided not to develop national guidance; Bulgaria and the Czech Republic reported that national guidance is under preparation.

In all Member States except Greece, the competent authority or another agency may check verified

emissions reports. This includes Denmark, which has decided to accept all verified reports without further evaluation if the declaration of verification is satisfactory. In all Member States except Finland, France, Greece, Poland, Romania and Sweden authorities also have the right to adjust the verified emission reports if deemed unsatisfactory. The competent authority in the United Kingdom estimates emissions only for installations where the verification opinion statement is 'not verified'.

The work of the verifiers is supervised through spot checks, training courses or other quality assurance and quality control procedures in nineteen Member States. The Czech Republic, France and Luxembourg indicated that this will be done in the future whereas Denmark, Latvia, Malta and Slovakia have no such plans.

6.3 Procedures of accreditation and mutual recognition of accreditation

Five Member States (Austria, Italy, Latvia, Portugal and Sweden) reported that all verifiers had to be accredited or accepted through the national process, independent of prior accreditation. Austria explained that this was necessary as verifiers were not accredited but only accepted under national legislation. In Belgium (Brussels), Bulgaria, Cyprus, Denmark, Finland, Greece, Hungary, Ireland, Malta, the Netherlands, Slovenia and Slovakia verifiers already accredited in another Member State were not subject to an additional accreditation process.

Six Member States (Germany, France, Lithuania, Spain, Ireland and the United Kingdom) reported that verifiers could work without additional accreditation, if prior accreditation was in accordance with the national legislation. In the United Kingdom and Ireland, such verifiers are subject to an additional on-site audit by UKAS. Some countries referred to EA accreditation guidance as basic requirement. Simplified procedures for verifiers already accredited in another Member State were in place in Belgium (Wallonia), the Czech Republic, Luxembourg, Poland and Romania. Foreign verifiers are not currently accepted for the verification process in Portugal and independent verifiers cannot be accredited in Belgium (Flanders) and Estonia.

Most Member States require knowledge of the national language and relevant national legal provisions from verifiers accredited in other Member States. In Germany and Latvia, knowledge of the legal provisions is sufficient whereas general

legislation in Spain requires the use of official languages in administrative proceedings. No explicit provisions are included in national legislation in Belgium (Wallonia), Cyprus, Estonia, Italy and Lithuania. In Belgium (Flanders), Estonia and Portugal foreign verifiers cannot gain accreditation.

Cyprus and Malta reported that there are no national verifiers in their countries so far.

6.4 Emission reports for 2006

Operators have to submit an emission report verified as satisfactory by 31 March of each year to the competent authority. Some operators were not able to comply with this requirement for 2006 as they either lacked the necessary verification statement or did not submit a report at all. In total Member States reported only 29 installations in breach of their reporting requirements on 1 April. This is a reduction of approximately 75 % compared to last year's report.

In nineteen Member States (Austria, Belgium, Cyprus, the Czech Republic, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovakia, Slovenia) all emission reports for 2006 were considered satisfactory by the verifiers on 31 March 2006. In five Member States, at least one emission report remained unsatisfactory by that deadline. The EU ETS only started in 2007 in Bulgaria and Romania (Table 22).

Only Denmark, Spain and the United Kingdom saw a need to correct emissions as reported by operators. Germany remarked that although all emission reports were verified as satisfactory, some might still be erroneous although it is anticipated that the competent authority will ultimately detect these. In 2005, the DEHSt identified 83 reports which were not satisfactory despite a positive verification statement.

Apart from the lack of a positive verification statement, some operators did not supply an emission report at all. This occurred in thirteen Member States (Table 23). In twelve countries (Belgium, Cyprus, the Czech Republic, Estonia, Finland, Greece, Latvia, Lithuania, Luxembourg, Netherlands, Slovakia, Slovenia) all operators submitted reports on time.

In Austria, Greece, Ireland, and Malta all outstanding reports were submitted within a few days and no further action was taken by the

Table 22 Emission reports not considered satisfactory by 31 March 2007

	Number of installations	Emissions reported	Allowances surrendered (t CO ₂)	Correction of verified emissions by CA
Austria	None			
Belgium	None			
Bulgaria	n.a.			
Cyprus	None			
Czech Republic	None			
Denmark	1	3 194	3 194	3 194
Estonia	None			
Finland	None			
France	None			
Germany	None			
Greece	None			
Hungary	None			
Ireland	None			
Italy	4	25 903	14 532	
Latvia	None			
Lithuania	None			
Luxembourg	None			
Malta	None			
Netherlands ^a				
Poland	None			
Portugal	None			
Romania	n.a.			
Slovakia	None			
Slovenia	None			
Spain ^b	11	2 168 499	1 922 212	545 897
Sweden	9	115 294	14 599	
United Kingdom ^b	4	95 267	96 385	3 234

Notes: ^a All cases could be solved before 30 April 2006. No information was provided on the number of installations or the emissions reported.

^b The corrected verified emissions were not reported for all installations and are therefore not comparable to the emissions reported.

Table 23 Installations without an emission report by 31 March 2007

	< 50 000 t CO ₂ e			50 000 to 500 000 t CO ₂ e			> 500 000 t CO ₂ e		
	Number of reports not provided	Allocation	Allowances blocked	Number of reports not provided	Allocation	Allowances blocked	Number of reports not provided	Allocation	Allowances blocked
		(t CO ₂)	(t CO ₂)		(t CO ₂)	(t CO ₂)		(t CO ₂)	(t CO ₂)
E1	80	1 321 980	1 870 355	12	2 118 884	3 439 567			
E2	2	26 500	71 443						
E3	1	31 900	72 758	1	336 700	885 853	1	1 598 200	3 533 888
F1						439 504			
F2	1	12 256	33 388						
M1	3	13 615	35 917	4	827 122	1 324 352			1 660 017
M2	5	121 840	192 685	1	54 600	126 089			
M3	29	367 452	549 733						
O1	2	45 258	12 597						
O2	18	227 142	289 760			74 085			
Total	141	2 167 943	3 128 636	18		6 289 450	1	1 598 200	5 193 905

competent authorities. Denmark, the Netherlands and Spain sent reminders and formal warnings on sanctions to installations which did not supply a report by 31 March. Operator accounts were blocked in France, Germany, Hungary, Italy, Poland, Portugal, Sweden and the United Kingdom. Hungary and Sweden imposed fines on operators that did not submit an emission report in time whilst Germany and the United Kingdom are still evaluating whether fines have to be imposed and have not yet finished the assessment. Competent authorities in Germany, Italy, Portugal, Sweden and Spain initiated a process for estimating emissions from the concerned installations.

Emission reports from closed installations presented a problem in several Member States. In France, four installations were permanently closed in early 2006 and no legal representative was able to proceed with the reporting as required by the directive. Each of these installations emitted only some hundred tons of CO₂ in 2006 and the competent authority decided that the verified emissions for these installations should be set to zero to close the procedure. In the Czech Republic, all outstanding emission reports were related to closures and the competent authority was not able to find out the relevant information.

In Malta, the reason for late submission of the verified emission report in time was the limited availability of foreign verifiers in the country. Poland reported that only 4 emission reports were outstanding in mid-June.

Overall, approximately 1.5 % of all installations did not submit a report at all on 31 March to the respective competent authorities. Compared to 2005 the proportion has not changed which is surprising, as the first year suffered from the late start of the trading scheme in many countries and from the lack of experience of all concerned.

Most of the competent authorities carried out independent checks on verified reports. The only exceptions were Belgium (Flanders), Cyprus, the Czech Republic, Denmark, Estonia and Greece.

The checks undertaken varied substantially across Member States. All reports were checked for internal consistency through a desk review in Austria, Belgium (Brussels, Wallonia), Germany, France, Hungary, Ireland, Latvia, Malta, Netherlands, Poland, Portugal, Slovakia, Spain and Sweden. In Austria, an outlier analysis of all reports was followed by a detailed assessment of a quarter of all installations, focusing on installations that had problems in the previous year. Apart from checking all verification statements Germany also checked all reports of installations with annual emissions over 1 Mt CO₂. In Finland, 60 working reports of verifiers were selected randomly for thorough analysis. In France 50 emission reports, especially for the largest installations, were checked in detail and 50 random visits at installations were carried out. In the Netherlands, emission reports were compared with NAP data and reports under the national NO_x trading scheme. In Luxembourg, the competent authority participated in one verification audit and more checks are foreseen next year. Spanish authorities evaluated 277 reports that included site visits, analysis of completeness and documentation and the steps taken by the verifier. Representatives from the competent authorities accompanied some site visits by verifiers and did additional spot checks at installations to ensure compliance with the obligations included in the permit as well as to assess whether an installation had been closed. Sweden checked the completeness of all reports and analysed 40 in more detail whilst in Slovakia approximately one third of all reports were checked in detail. All reports verified with comments were assessed in the United Kingdom.

These checks have resulted in a correction of verified emissions by the registry administrator in Denmark, Spain and the United Kingdom. In total 552 kt CO₂ were affected by this, but total emissions were only 0.5 kt CO₂ higher than the value reported in the emission reports. Germany, Hungary, Ireland and the Netherlands reported that the checks were not yet completed and corrections for 2006 might still be made.

7 Operation of registries

- Overall, 25 Member States elaborated specific terms and conditions for the use of their national registries compared to 21 last year.
- Procedures and standards to safeguard registries and their data have been implemented in 23 Member States. Only three Member States, one less than last year, reported on detected security threats in 2006.
- Almost all registries were operating during the reporting period. Unscheduled downtime has increased by 127 % compared to last year's report while scheduled downtime decreased by 11 %. On average, each registry was offline for approximately 3.4 hours/month.
- In the previous reporting period, many registries were not operating or only commenced operation in the second half of the year. This has improved during 2006 and might be one of the reasons for the increased overall downtime of registries compared to last year.

Registries provide the necessary infrastructure for tracking emission rights, transferring allowances between market players and surrendering emission rights. To ensure smooth operation, specifications for registries are laid down in detail in the registries regulation⁽¹⁵⁾. This section of the questionnaire therefore focuses on issues related to the daily operation of registries, such as terms and conditions as well as technical aspects like malfunctions or security alerts.

7.1 Terms, conditions and identity checks of account holders

Operators as well as individuals can open accounts in the national registries. With the exception of Sweden, all Member States elaborated on the specific terms and conditions for the use of their national registries, which have to be signed or accepted by account holders. The terms and conditions vary from 2 pages (e.g. Denmark) to over 20 pages (e.g. Austria, United Kingdom).

Nineteen Member States implemented different identity checks on operators or persons holding an account. Procedures for both types are the same in Denmark, Greece, Ireland, Latvia, Malta, the Netherlands and the United Kingdom. Sweden reports that only individuals can get access to the registry. In nine countries (Cyprus, Estonia, Germany, Greece, Lithuania, Malta, Sweden, Slovenia and Slovakia) national residents applying for a personal holding account have to identify themselves in person either to the registry administrator or to a third person such as a notary; the same applies for operators in Cyprus, Greece, Lithuania and Malta. In most other countries, it is sufficient for applicants to provide a (certified) copy of their passport or identity card. In all but five Member States (Denmark, Estonia, Greece, Latvia and Malta) applications for operator holding accounts need to be further substantiated by a copy from the company register or similar documentation. In Sweden, this obligation is limited to foreign participants. In 25 countries, requests for the opening of operator holding accounts have to be backed by documentation proving the right to represent the company. This is not necessary in Denmark and Latvia. Denmark explained that a copy from the company register and documentation showing the right to represent the company were already a requirement for applying for a CO₂ emission permit and not requested for a second time when opening an operator holding account.

Most Member States do not differentiate between national residents and residents of other countries in their rules for the opening of an account. In Estonia and Greece, only applicants living outside the country need to identify themselves in person. In Germany these applicants have to identify themselves at a German consulate. In Austria applicants for personal holding accounts residing outside the European Economic Area need to legalise their documents in an Austrian consulate. For operator holding accounts the identity of applicants has to be verified by the respective

⁽¹⁵⁾ Commission Regulation of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council OJ L 386/1 dated 29.12.2004.

national administration or an officially recognised certification body.

7.2 Security alerts, downtime and registry upgrades

National registries and the community independent transaction log (CITL) are connected to the Internet to exchange information on transactions and to enable account holders to access their accounts. Special routines, standards and procedures have been implemented in almost all Member States to protect the registries and accounts from unauthorised access and data manipulation. Slovakia did not report on this questions; the Bulgarian and Romanian registry were not operational in 2006 as these countries only joined the scheme in 2007.

Three countries discovered attempts to breach the security of the registry or vulnerabilities of the software requiring action. Spain reported on two security alerts due to the server software used. Both were detected by the administration and solved within a few minutes; according to the registry administer the security of the system was never actually compromised. Italy reported on general threats to any system connected to the Internet. The firewall was subject to around 50–300 unauthorised login attempts per day and regular port scanning activities were identified. In Slovenia a certificate error took three days to resolve.

Most registries experienced scheduled or unscheduled downtime in 2006. The average cumulated downtime for all registries together varied between 20 hours/month and 150 hours/month with no clear pattern over the year. Scheduled and unscheduled downtime contributed approximately with equal shares to the unavailability of the registries. Compared to last year, scheduled downtime decreased by 11 %, unscheduled downtime increased by 127 % and total downtime increased by 29 %. These increase might partly be due to a more complete reporting for

2006 than for 2005. In the first year of the ETS many registries were not yet operating and therefore not included in the analysis.

Scheduled and unscheduled downtime ranged between zero and over 1 000 minutes/month between different countries. On average, the Swedish (17.9 hours/month) and the French (17.5 hours/month) registry had the highest downtime. In France, the main reason was reconciliation problems with the CITL which took place throughout the year although the reasons for these technical difficulties cannot solely be attributed to the French registry alone but could also have originated from the CITL. In Sweden, the total scheduled and unscheduled downtime was limited to three months with full availability of the system for the rest of the year. In Austria, Cyprus, Estonia, Finland, Greece, Italy, Latvia, Lithuania, Poland, Portugal, Slovakia and Spain the registry were unavailable to users for less than only one hour per month on average. The registry of Malta was not operational; the Polish registry was connected to the CITL in July 2006.

The registry software used in most Member States (Seringas, GRETA) is scheduled for upgrades in collaboration with the French Caisse des Dépôts et Consignations (CDC) and the UK Department for Environment Food and Rural Affairs (DEFRA) respectively, who supply the registry software. Reasons given for upgrades, apart from complying with the registry specifications, included increased user-friendliness and enhanced functionality. A major update planned for late 2007 in all Member States is the connection to the independent transaction log (ITL) of the UNFCCC secretariat, which is necessary for the accounting during the first commitment period under the Kyoto Protocol. This requires modifications in the Member States' registries. Thirteen Member States have allotted regular time slots for system works. Most other registries post a notice a few days in advance of planned work to inform users about potential access problems to the system.

8 Arrangements for the allocation of allowances, new entrants and closures

- *The need for harmonisation of the allocation rules, such as the definition of a combustion installation and the treatment of new entrants and closures, is mentioned by several Member States.*
- *The need to simplify the allocation process in order to enhance clarity of the rules and reduce the workload of authorities as well as companies, was mentioned as the main lesson learned; the same points were raised in the two previous reports.*
- *Twenty Member States allocated a combined total of approximately 25.9 million EUA to new entrants in the reporting period.*
- *Only three Member States (Denmark, Hungary and Ireland) auctioned allowances in 2006.*
- *Compared to the previous reporting period less information has been reported by Member States. This is mainly because the lessons learned and improvements for future allocation rounds had already been reported in the first two sets of reports and that the allocation and notification process for the second trading period had not been finished at the time of reporting.*

The development of the NAP and the allocation of allowances are the core of the directive's implementation. These decisions may influence the competitive positions and profits of the companies covered by the scheme and are therefore often controversial. Hence, it is very important to have a clear picture about how this process was carried out in each Member State and what results have been achieved. This section addresses relevant issues related to allocation. It covers the experience gained with the accomplished allocation process and suggestions made for future processes, allocation to new entrants, closures of installations and auctioning.

8.1 The allocation process: experiences gained and main lessons learned

All questions related to the allocation process only require an answer at the end of each notification and allocation process as laid down in Articles 9 and 11 of Directive 2003/87/EC. Many Member

States therefore only provided short answers or did not answer at all, as the allocation process for the second trading period was still ongoing at the time of reporting in most Member States. Other Member State's replies related to the allocation process for the first trading period. Only the aspects included by Member States in this year's questionnaire are presented in this section.

Several countries reported of practical problems with the allocations to new entrants. Allocations to known new entrants will no longer be included in future Flemish NAP due to uncertainty on the start of operations. Denmark commented that adequate *ex-ante* allocation rules can be difficult in some cases, e.g. for installations with very few operational hours. In Spain, the administration of the reserve proved more difficult than expected and a better definition of new entrants is needed for future allocation plans. Spain also merged its three different new entrant reserves to facilitate the administration.

Questions on the workload and complexity of the allocation process were raised by several Member States. The Czech Republic commented that the absence of experience with emission trading schemes by stakeholders, the lack of government capacities, the lack of reliable historic data and disagreement within the government, were the main obstacles for preparing the national allocation plan. In addition, the period between the preparation of the first and second national allocation plans was seen as too short. According to the Finnish constitution, the basics of allocation have to be included in a law requiring several hearings of individual operators. This resulted in a huge workload affecting the timeliness of the notification of the second NAP. France had to develop a second allocation plan including a second public consultation process for the first period after the initial one had been rejected due to an interpretation of the definition of combustion installation.

One of the main lessons learnt in Italy was to have simpler and more transparent criteria for the second national allocation plan, especially concerning the installation level allocation. In light of the difficulties with the Commission, Luxembourg decided not to include *ex-post* adjustments in the

second national allocation plan. In Romania there was little awareness and knowledge about the ETS at government and industry early on. A continuous dialogue between different government agencies, operators and other stakeholders was established to be able to enter the scheme in time. Spain mentioned that the allocation process was complex and difficult because of conflicting environmental and economic interests. Consequently, it was hard to comply with the deadlines established in the directive. Sweden commented on the general lack of time and difficulties with the interpretation of some provisions. The UK central government had difficulties in coping with the data collection and management in the allocation process and decided to delegate the task to its regulators in the future.

Only Cyprus reported that no major difficulties were encountered in the process of allocating emission rights to its thirteen installations. Luxembourg and Malta highlighted the challenges of small countries where single projects might have a major impact on the emissions in the trading scheme.

8.2 Allocation process: suggestions for the improvement

Many Member States argued for more harmonisation of some or even most aspects of the allocation. Denmark, the Netherlands, Spain, and the United Kingdom called for greater harmonisation of allocation rules to new entrants giving companies incentives to invest in low carbon technologies without distorting competition. Full auctioning to new entrants would set the highest investment incentive in low carbon technologies but as long as some Member States keep new entrants reserves, investors might evade countries where they would need to buy all allowances (see also Box 2, Supplementary analysis about innovation incentives of allocation provisions). Benchmarking would also lead to a more level playing field. Italy, Luxembourg, the Netherlands, Romania, Spain, Sweden and the United Kingdom also argued for a uniform approach in the allocation to existing installations, possibly based on EU-wide benchmarks or auctioning; the Netherlands and Sweden suggested limiting free allocation through benchmarking to sectors with strong international competition only. Romania favoured benchmarks but highlighted that the allocation process should take national circumstances into account. The United Kingdom believes that all Member States should

move towards full auctioning in the long term. Italy and the Netherlands proposed that a central EU-wide cap would avoid cumbersome discussions on national burden sharing.

The Czech Republic and the Netherlands called for clear and precise definitions of installations and the scope of the directive to ensure uniform coverage in all Member States. The Netherlands suggested changing the scope of the directive to include fewer installations but more CO₂ emissions.

The Netherlands and the United Kingdom also highlighted the need to increase and ensure certainty for companies concerning future allocation rules to guide them in their investment decisions. Furthermore, the Netherlands also asked for harmonisation of enforcement and compliance and the inclusion of carbon capture and storage into the ETS.

The lack of transparency in the NAP assessment and the basis for NAP Decisions of the Commission was criticised by Hungary and Malta. Finland suggested that Member States should be allowed to preliminarily notify national allocation plans without installation allocation and commented on the bureaucratic procedure of opt-in applications.

8.3 New entrants reserve

Table 24 gives an overview of the number of allowances (EUA) remaining in the new entrants reserve (NER) at the end of 2006:

Austria, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, the Netherlands, Portugal, Slovenia, Spain, Sweden and the United Kingdom allocated in total approximately 25.9 million EUA to 395 new entrants from the NER for 2006. In Germany, a mechanism has been introduced to buy allowances from the carbon market to supply any further new entrants. The reserves of Germany and Slovakia were depleted in 2006 whilst in Finland and Italy less than 10 % of the allowances still remain in the respective reserves. Belgium, Cyprus, Greece, Malta, Poland and Portugal reported that the share of allowances remaining in the NER was still 100 % ⁽¹⁶⁾. In Cyprus, the NER is reserved for a new ceramic installation which did not start operation in 2006 as planned. For more detail on the number of new entrants see Section 3.4.

⁽¹⁶⁾ Portugal reported at the same time, that it allocated approx. 2.8 mn EUA to new entrants in 2008 (see Section 3.4).

8.4 Auctioning

Pursuant to Article 10 of the Emissions Trading Directive, 95 % of the allowances must be allocated free of charge in the first trading period. Correspondingly, only 5 % of the allowances can be sold or auctioned. Only Denmark, Hungary and Ireland reported that they made use of this provision. Denmark sold 2 762 500 EUA in 2006 and will continue with further sales in 2007. The intention is to use the revenues to lower the fee on EUAs in Denmark (see Section 11.2). This is not yet implemented as it has not yet been approved by the Commission. Hungary auctioned 1 197 000 EUA on 11 December 2006 at a clearing price of 7.42 EUR/EUA. Approximately EUR 2.5 million were used by the government to

fund measures reducing CO₂ emissions and the rest was used by the central budget for general purposes. Ireland held two auctions, vending a first batch of 250 000 EUA at 26.30 EUR/EUA and a second batch of 963 000 EUA at 6.87 EUR/EUA. The proceeds arising from closures in 2005 went to the treasury whereas the revenue from other allowances is used for the administration of the scheme.

The auctions/sales in all three countries were open to all bidders with an account in a Community registry. The auctions in Hungary and Ireland were organised as sealed bids with a uniform price. This means, that all bidders propose a maximum price per allowance and the number of allowances to be bought. The lowest bid, which will still receive at

Table 24 Number and share of allowances remaining in the new entrants reserve at the end of 2006

	Number of allowances left (1 000 EUA)	Share of allowances remaining in the NER (%)
Austria	946	96
Belgium	7 638	100
Cyprus	60	100
Czech Republic	331	32
Denmark	1 895	63
Estonia	371	65
Finland	188	8
France	14 605	97
Germany	0	0
Greece	8 611	100
Hungary ^a	716	38
Ireland	1 149	79
Italy	4 100	9
Latvia	1 099	70
Lithuania	1 018	55
Luxembourg	376	97
Malta	2 288	100
Netherlands	6 550	74
Poland	2 472	100
Portugal	3 789	100
Slovakia	0	0
Slovenia	101	51
Spain	3 813	39
Sweden	1 999	83
United Kingdom	7 460	84

Notes: ^a Value from June 2007 and not 31 December 2006.

Bulgaria and Romania are not included because they did not participate in the EU ETS in 2006.

least one allowance, determines the closing price which has to be paid by all successful bidders. Denmark did not elaborate on the way the allowances were sold.

Lithuania reported that 1.5 % of the total allowances (551 825 EUA) have been earmarked for auctioning.

8.5 Treatment of allowances that had been allocated but were not issued

Several approaches exist across Member States for the treatment of allowances of installations which

closed down or left the scope of the directive due to partial closures. Five Member States explained that no installations were closed during the reporting period. In the Czech Republic, Germany and Poland the allowances were put in a Party holding account. Any allowances not issued due to closures were put in the new entrant reserves in Denmark, Estonia, Finland, France, Hungary, Italy, Lithuania, Portugal, Spain and the United Kingdom. In the Netherlands and Sweden, operators receive full allocation for the entire trading period even if an installation closed down, since this can be a measure to reduce greenhouse gas emissions. Ireland will auction all allowances not issued in 2007 due to closures in 2005/2006.

Box 2 Supplementary analysis: Innovation incentives of allocation provisions

- A new entrant provision improves the incentives for innovation.
- Under fuel-specific new entrant provisions, total CO₂ emissions will be higher than under a uniform benchmark.
- A closure provision reduces innovation incentives because it extends the lifetime of old installations.
- Most member states apply new entrants and closure provisions at the same time

EU Emissions Trading — An Open Scheme Promoting Global Innovation to Combat Climate Change is the title of a brochure which the EC (2004) published shortly before the start of the EU ETS. Promoting innovation is obviously one of the major aims of the scheme. Taking electricity, the sector with the largest share in total CO₂ emissions covered by the scheme, as an example it will be scrutinised in this Supplementary analysis how different allocation provisions contribute to innovation.

In the short-term emissions trading may induce several changes in the management of electric utilities and in the operation of their installations such as shifting generation from installations with higher to installations with smaller emissions rates or substituting fossil fuels by biomass. However, it is obvious that these changes would not be sufficient for achieving the long-term reduction requirements. Emissions trading's long-term contribution to achieving these reduction will depend on its ability to direct investment towards generation technologies which emit substantially less or no greenhouse gas emissions. In this sense, investment can be considered as a precondition and thus also as an indicator for innovation. The question of which innovation incentives are promoted by the different allocation provisions can therefore be addressed through scrutinizing the incentives for investment created by individual provisions. For example, to what extent do such incentives foster investment in generation technology and, more specifically, which technologies are encouraged by particular provisions?

Investment decisions primarily depend on the expected profitability of alternative options. An investment is economically feasible if the expected costs are smaller than the expected revenues. In addition to the variable generation costs (fuel, maintenance, etc.) and the costs for capital recovery (interest service and redemption), under emissions trading, investors also have to take into account the cost for emissions which have to be covered by allowances. If allowances are auctioned, or if new entrants have to purchase all allowances on the market, it is obvious that these costs are to be considered in the investment decision. Auctioning leaves the investment incentives, which are created by the scarcity of allowances due to the definition of a cap, largely unchanged. Therefore, it serves effectively as a reference point to which the other allocation provisions will be compared.

New entrants provision

If allowances are allocated free of charge to new entrants, investors have to include the value of those allowances as additional revenue. Compared to the situation where new entrants have to buy allowances, more investment options will be economically attractive if new entrants are allocated with allowances free of charge. A new entrant endowment functions effectively as a subsidy to investment in new generation capacities (Ellerman, 2006: 9). Investment will, therefore, be greater under a new entrant provision than under auctioning. A new entrant provision reduces the economic efficiency of an emissions trading scheme because it induces more investment in new installations than would be efficient if allowances have to be purchased. However, since it fosters investment in new generation capacities it principally yields additional options for technological innovation.

In addition to enhancing generation capacities a new entrant provision also contributes to the closure of old installations which operate at the margin. This is mainly the case because electricity demand is usually very inelastic. Higher capacities would normally induce more supply and thus result in lower prices and higher demand. However, if the demand is rather inelastic, a reduced price will not result in higher demand. The output will be virtually unchanged. Older installations operating marginally will therefore be crowded out to adapt the enhanced capacity to the largely unchanged demand. Since older installations usually have higher emission rates than new installations, the demand for allowances and their price will be smaller. As consequence, demand and emissions will shift from electricity to those sectors where demand reacts more elastic on price changes. In summary, a new entrant provision encourages the replacement of old by new plants, resulting in (slightly) lower power and allowances prices which shifts demand and emissions to sectors with more price-elastic demand than in the power sector.

This holds if old power plants are replaced by more efficient plants with the same fuel or if lignite or hard coal plants are replaced by gas power plants. However, if natural gas as a fuel with relatively low carbon content is replaced by hard coal, or even by lignite with its significantly higher carbon content, the picture might be substantially different. This could be the case if the development of the expected divergence between coal and gas prices makes coal more attractive than gas, or if allowance endowments to new entrants depend on the fuel used in the new installation. The first case depends on price developments on international fuel markets but is independent of the allocation provisions. The latter case, however, depends on the design of the allocation provisions.

Fuel-specific benchmarking

Under fuel-specific benchmarking, allowances are allocated more or less proportionate to the carbon content of a fuel or to the emission rates of the competing generation technologies. In general, new investments which emit more greenhouse gas emissions will receive relatively more allowances than installations with lower emission rates. Since a new entrant endowment as such, effectively functions as an investment subsidy, fuel-specific new entrant provisions will subsidise technologies with higher emission rates even stronger than those with smaller specific emissions. This way, fuel-specific benchmarks eliminate — at least partly — the incentive to shift investments towards technologies which use fuels with a relatively smaller carbon content such as combined cycle gas turbines (Cames and Weidlich, 2006: 47-49).

From an environmental economics perspective fuel-specific new entrant endowments do not make any sense because they perversely create incentives for technologies with comparatively higher emission rates. However, the proponents of this provision argue that otherwise emissions trading would advantage natural gas to hard coal and lignite. As a consequence, the structure of the primary energy consumption for electricity generation would substantially shift from hard coal and lignite towards natural gas. This is seen as a risk for the security of supply because natural gas will in the future mainly be exported by countries considered politically less stable or even untrustworthy. In this sense, a fuel specific new entrant endowment can be seen as a flanking measure which compensates for unintended side effects of emissions trading. However, fuel-specific benchmarking is not without cost. Compared to grandfathering or undifferentiated benchmarking it results in higher emissions of the electricity sector and thus higher allowance prices and overall compliance costs (Matthes *et al.*, 2006: 100).

Closure provision

While new entrant provisions tend to promote investment in new technology and thus also fosters innovation, a closure provision, according to which allowances have to be returned if an installation plant is closed, disincentives innovation because it extends the lifetime of existing installations which operate at the margin. This effect can be best explained in comparison to emissions trading without a closure provision. Without

this provision, operators will decide to continue operation of a plant if their revenues exceed the generation costs and the costs for emissions. Whether they have received allowances free of charge or not does not matter. This is because they have received the allowances without any conditions so that they are free to sell them if unused. The value of allowances is therefore not taken into account if operators decide whether to continue operation or not. However, if operators use freely allocated allowances in their own installations, they have to take into account the value which they forego if they do not sell these allowances, the so-called opportunity costs.

Under a closure provision, however, the value of allowances is taken into account. If operators have to return the allowances which they had received free of charge, they cannot sell them after decommissioning their installation. Consequently, they have to take into account the value of the allowances received free of charge in their considerations on continuing operation or not. This is because allocation under a closure provision is contingent on operation of the installation. As well as sales revenues, and generation and emission costs, they also have to take into account the value of the allowances as additional income from generation. Revenues are consequently higher compared to the situation without a closure provision. Installations that would be closed without a closure provision, because their emission costs are too high for continuing operation, can continue operating under the closure provision since their higher emissions costs are offset by the additional income from the allowances. Under emissions trading, emissions are always considered as additional cost. However, only with a closure provision are allowances considered as additional income from electricity generation, which offsets the emission costs. A closure provision will therefore result in an extended operation of installations which would already be closed without such a provision.

Proponents of a closure provision argue that it is not fair to leave allowances which companies have received free of charge with these companies if they do not need them any more because they decommission their installation. Some also denote the option to retain allowances in the case of plant closure as a 'closure premium' which might also promote the dislocation of production to countries not covered by the EU ETS. However, whether production will be dislocated outside the EU depends on the degree of international competition on the specific market, which again depends among others from the transportability of a product. For electricity, which is responsible for almost two thirds of the EU ETS' greenhouse gas emissions, transportability is — at least in the short and medium-term — not given because the necessary transmission capacities are not existent. The closure provision might cure this minor or even not exiting problem. However, at the same time it undermines promoting innovation.

As a result, it can be concluded that closure provisions definitively do not increase innovation incentives of emissions trading. On the contrary, they decelerate the innovation process because they extend the lifetime of old installations which operate at the margin and because they increase the available generation capacities so that the expected electricity price will be lower. This again will decrease investment opportunities for new innovative generation technologies and this way inhibit or delay the diffusion of advanced generation technologies into the market.

Investment incentives resulting from allocation rules for incumbents

The allocation rules for incumbents can also have an influence on the incentives for investing in new plants and for the technology choice in doing so. Two aspects predominate here:

- a) The expected allocation rule for a new installation after 'expiration' of the new entrant rule is likely to play an important role. Usually, new installations receive an allocation according to new entrant rules only temporarily and an allocation as an incumbent thereafter. The allocation rule applied for incumbents — grandfathering according to historical emissions, fuel (or technology) specific benchmarks, technology-independent benchmarks — also influences the incentives to invest in a new plant and the selection of appropriate technology. The arguments put forward above under 'fuel-specific benchmarking' apply here as well. Benchmarking also sets more efficient incentives than grandfathering (Matthes *et al.*, 2006).
- b) The allocation amount foregone when closing an old plant, and replacing it by a new one with a lower allocation, also depends on the allocation rule for incumbents. The higher the allocation to the old installations that would be shut down, the less attractive is replacement (unless the allocation for the

replacing plant is identical to that of the replaced plant). This has, under plausible conditions, certain consequences for the choice between benchmarking and grandfathering according to historic emissions. Thus, when incumbents are allocated according to benchmarks, old, inefficient plants (which can be assumed to be the first to be closed) as a rule receive less allowances than under grandfathering, as long as both methods refer to identical or comparable base periods. Their owners therefore 'lose' less allowances under benchmarks compared to grandfathering when they close an old plant and replace it by a new one (Cremer and Schleich, 2006; Gagelmann, 2006). Benchmarking thus provides stronger incentives for plant replacement, as long as it leads to lower allocation to old plants, than grandfathering — which is usually the case.

Allocation provisions compared

The Emissions Trading Directive (2003/87/EC) allows for auctioning of up to 10 % of a Member State's total allowances in the second trading period. However, only 10 Member States make use of this provision. In average only 3.7 % of all allowances are auctioned. In most Member States, existing installations are allocated according to historic emissions in a certain base period (grandfathering). Two fifth of the Member States apply benchmarking for incumbents, particularly in the electricity industry.

All Member States allocate allowances to new entrants free of charge based on some kind of benchmark multiplied by an installation-specific estimate or standard activity factor. Due to the diversity of products covered by the scheme, these benchmarks have to be differentiated by technologies. However, 13 Member States differentiate their benchmarks not only by technologies but by fuels as well.

The directive allows for issuing of allocated allowances until the end of a trading period even if the installations was decommissioned after the start of the trading period. This would reduce the incentive to extend the lifetime of old installation to some extent. Yet, almost all Member States do not continue to issue allowances after closure of an installation.

In 16 Member States, operators of closed installations are able to transfer those allowances to new installations. From the operators perspective this rule is attractive if the old installations received more allowances than the new would receive. Although the transfer rule mitigates the effects of the closure provision, it does not fully eliminate the distorting effects (Ellerman, 2006: 13).

Conclusion

Auctioning leaves the innovation incentive, which is induced by the definition of an allowance cap, undistorted. A new entrant provision basically improves the incentives for innovation. However, whether it will result in lower greenhouse gas emissions from the electricity sector depends on external factors such as the development of the disparity between coal and gas prices and on the specific design of the new entrant provision. In the case of a fuel-specific new entrant provision, the total greenhouse gas emissions of the electricity industry will be higher than under a uniform benchmark despite the substantially higher efficiencies of new power plants. A closure provision would, in contrast, reduce innovation incentives because it extends the lifetime of old installations. Most Member States apply both rules at the same time. The net effect on incentives for innovation can theoretically not be determined. However, compared to auctioning or pure grandfathering, both provisions result in higher generation capacities in Europe and reduce thus the overall efficiency of the EU ETS.

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Table 25 Supplementary analysis 1: Overview on allocation provisions for 2008–2012

Member State	Allocation to existing installations	Auctioning (% of cap)	Allocation to new entrants	Closures	Transfers
Austria	Electricity: benchmark (uniform) Industry: grandfathering	1.3 %	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Belgium		0.3 %			
Flanders	Electricity: benchmark (uniform) Industry: Benchmarking Covenant	0.5 %	Electricity: benchmark (uniform) Industry: Benchmarking Covenant	No further issuance	Yes
Wallonia	Electricity: benchmark (uniform) Industry: grandfathering	-	Electricity: benchmark (uniform) Industry: benchmark (technology- and fuel-specific)	No further issuance	No
Brussels	Grandfathering	-	Projected Emissions	No further issuance	No
Bulgaria	Grandfathering	-	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Cyprus	Electricity: benchmark (technology- and fuel-specific) Industry: projection	-	n.a.	No further issuance	Yes
Czech Republic	Grandfathering	-	n.a.	No further issuance	Yes
Denmark	Electricity: benchmark (uniform) Industry: grandfathering	-	Benchmark (technology-specific)	No further issuance	No
Estonia	Grandfathering	-	n.a.	n.a.	No
Finland	Grandfathering	-	Benchmark (technology- and fuel-specific)	No further issuance	No
France	Grandfathering	-	Benchmark	n.a.	No
Germany	Electricity: benchmark Industry: grandfathering	8.8 %	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Greece	Grandfathering	-	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Hungary	Electricity: benchmark (technology- and fuel-specific) Industry: grandfathering	5.0 %	Electricity: benchmark (technology- and fuel-specific) Industry: benchmark (technology-specific)	No further issuance	Yes
Ireland	Grandfathering	0.5 %	Benchmark (technology- and fuel-specific)	Retain up to 75% (25,000 allowances per annum) until the end of the period	No
Italy	Electricity: benchmark (technology- and fuel-specific) Industry: grandfathering	6.1 %	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Latvia	Benchmark (technology- and fuel-specific)	-	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Lithuania	Grandfathering	2.7 %	Benchmark (technology-specific)	No further issuance	No
Luxembourg	Grandfathering	-	Benchmark (technology-specific)	No further issuance	Yes
Malta	Projection	-	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Netherlands	Grandfathering	4.0 %	Benchmark (technology-specific)	No further issuance	Yes
Poland	Benchmark (technology- and fuel-specific)	1.0 %	Benchmark	No further issuance	Yes
Portugal	Grandfathering	-	Benchmark (technology-specific)	No further issuance	No
Romania	Grandfathering	-	Benchmark (technology- and fuel-specific)	No further issuance	Yes
Slovakia	Electricity: grandfathering Industry: negotiations, projected production	-	Benchmark (technology- and fuel-specific)	No further issuance	No
Slovenia	70% grandfathering 30% benchmark (technology- and fuel-specific)	-	Benchmark (technology- and fuel-specific) Heat: benchmark (uniform)	No further issuance	No
Spain	Electricity: benchmark (technology- and fuel-specific) Industry: benchmark (technology- and fuel-specific)	-	Electricity: benchmark (technology- and fuel-specific) Industry: benchmark (technology-specific)	No further issuance	No
Sweden	Grandfathering Basic Oxygen Furnace steel: benchmark (uniform)	-	Benchmark (technology-specific)	No further issuance	No
United Kingdom	Electricity: benchmark (technology- and fuel-specific) Industry: grandfathering	7.0 %	Benchmark (technology-specific)	No further issuance	Yes

Source: National allocation plans, NAP decisions of the European Commission, Schleich *et al.*, 2007; compiled by Öko-Institut.

9 Surrender of allowances by operators

- *Only in two Member State (the Czech Republic and Belgium) was an account closed in a registry because there was no reasonable prospect of further allowances being surrendered by the installation's operator during this reporting period.*
- *As in the previous report, some Member States reported specific problems related to the surrender of allowances and the status of installations in the CITL as non-compliant.*

In some cases, a Member State might need to close an operator holding account even if it has a negative balance because there is no reasonable prospect of further allowances being surrendered. For example., this can happen if an operator has to file for bankruptcy and has fewer EUA in the account than needed to cover the emissions of the affected installations.

In the Czech Republic, one account was closed because the installation fell below the capacity threshold with the amount of outstanding allowances at 10 kt CO₂. In Belgium (Flanders)

one installation was closed and the amount of allowances that would have been issued was transferred to the new entrants reserve where 8 kt CO₂ were outstanding.

Three countries reported of other issues concerning the surrender of allowances. In Spain due to the Commissions Decision as of 27 December 2004, concerning the Spanish NAP 210, new installations entered the emissions trading scheme from 1 January 2006 onwards. Not all of them could comply with the surrender of allowances in time. Additionally, 59 units entered the system belonging to installations already included in the NAP. In Italy, the registry was not fully functional at the end of June 2006 due to technical problems with software customization. The release of 2005 and 2006 allowances was not completed for all operators at the time so the deadline for surrendering allowances for 2005 emissions was postponed to 15 September 2006. In the Netherlands, one operator mistakenly surrendered allowances for the year 2006 on the account for 2007, consequently the compliance status was shown incorrectly as non-compliant.

10 Use of Emission Reduction Units (ERUs) and Certified Emission Reductions (CERs) in the Community scheme

- *No ERUs or CERs were reported as having been used by operators for the reporting period.*
- *Seventeen Member States require adherence to the criteria and guidelines contained in the World Commission on Dams (WCD) Final Report (2000) for the approval of hydro-electric JI or CDM projects and most of these Member States reported on a verification procedure in place.*
- *Compared to the previous reporting period six additional Member States have included a legal obligation to project participants to adhere to the WCD guidelines.*

The first certified emission reduction units (CERs) were issued by the Executive Board of the Clean Development Mechanism (CDM) on 20 October 2005. Emission reduction units (ERUs) from Joint Implementation (JI) projects will only be issued after the start of the first commitment period of the Kyoto Protocol in 2008. No EUA had to be cancelled because of JI or CDM projects reducing directly or indirectly the emission levels of installations under the EU Emission Trading Scheme.

10.1 Double Counting reserve

No country has issued ERUs or CERs for which an equal number of allowances had to be cancelled pursuant to Article 11(b)(3) or (4) of Directive 2003/87/EC, because the Joint Implementation (JI) or Clean Development Mechanism (CDM) project activities reduce, or limit directly or indirectly, the emission level of installations falling under the scope of that Directive. The Czech Republic and Hungary indicated they intend to issue ERUs from 1 January 2008 onwards.

10.2 Eligibility of project based mechanisms

Directive 2004/101/EC (Linking Directive) amending Directive 2003/87/EC (Emissions Trading Directive) does not allow CERs and ERUs generated from nuclear facilities or land use, land-use change and forestry projects in the emissions trading system.

Additionally Member States have the possibility to restrict the use of specific project types if so desired.

Only Slovakia reported on limitations to the type of project based mechanisms allowed in their country. Projects have to meet the obligations specified in the national air protection legislation.

10.3 Provisions for large hydro-electric power production JI or CDM projects

Directive 2004/101/EC (Linking Directive) requires relevant international criteria and guidelines including those contained in the World Commission on Dams (WCD) Final Report (2000) to be respected during the development of hydro-electric power production projects with a generating capacity exceeding 20 MW. In 2007, almost all Member States reported on the transposition and enforcement of this requirement. Belgium (Flanders), Bulgaria, Germany, Denmark, Finland, France, Greece, Hungary, Ireland, Latvia, Malta, the Netherlands, Spain, Sweden and the United Kingdom included a legal obligation for project participants to adhere to the WCD guidelines. All of these Member States have some verification procedure in place to check the adherence to the WCD guidelines or are developing such procedures (only the United Kingdom did not provide further information on the verification procedure). Portugal provided no information whether project participants are legally obliged to adhere to the WCD guidelines but stated that the adherence is verified. Austria and Belgium (Brussels, Wallonia) reported that, on the one hand that no legal requirement to project participants to adhere to the guidelines existed but on the other hand, described a verification procedure. Luxembourg reported that only projections adhering to the criteria will be allowed. The Czech Republic, Italy and Poland stated that there is neither a legally binding obligation nor a verification of the adherence to the WCD guidelines. Slovakia has decided not to issue any ERUs for hydro-electric power production projects with a generating capacity exceeding 20 MW. No such projects exist or are planned in Estonia and Lithuania.

11 Fees and charges

- *As presented in the last report, most Member States recover at least some of the administrative costs of the Trading Scheme through fees and charges to operators and personal account holders. This is carried out through charges for services such as the issue of permits, issuing of allowances or the use of the registry. Additionally, two countries have a general subsistence fee.*
- *Fees and charges for the same service differ substantially between Member States. This is due to different approaches to cost recovery and differences in the areas where fees are charged. In general, resulting costs for operators are small.*
- *In the previous reporting period, not all Member States provided information on the fees and charges but this year's report is more complete. In general, the picture has not changed much.*

Implementing and operating an emissions trading scheme requires a capable administration. Tasks include the issuing of permits, operation of registries, allocation of allowances and the management of new entrant reserves. Member States have chosen different paths to finance their administrations. The following section gives an overview of fees and charges operators have to pay for the issue and update of permits, the allocation of allowances and the use of registries. No final picture on total administrative costs for operators can be drawn because some Member States also impose other charges to operators.

11.1 Issuance and update of permits

In eleven Member States operators are charged fees for the issuing and updating of greenhouse

Table 26 Overview of fees charged for the issuance and update of permits

	Fees	Issuance of permit	Update of permit
Austria	Yes	Normally less than EUR 100	Normally less than EUR 100
Belgium	No	-	-
Bulgaria	Yes	Not specified	Not specified
Cyprus	No	-	-
Czech Republic	Yes	EUR 357	
Denmark	No		-
Estonia	No	-	-
Finland ^a	Yes	EUR 250–2 500	EUR 100
France	No	-	-
Germany	Yes	Depending on state	Depending on state
Greece	No		
Hungary	Yes	EUR 200–400	EUR 67–133
Ireland	No	-	-
Italy	No	-	-
Latvia	No	-	-
Lithuania	No	-	-
Luxembourg	No	-	-
Malta	No		
Netherlands	No	-	-
Poland	Yes	EUR 20	
Portugal ^a	Yes	EUR 316–1 264	EUR 184–774
Romania	No		
Slovakia			
Slovenia	Yes	Not specified	Not specified
Spain ^b	Yes	EUR 0–777	EUR 0–311
Sweden	No	-	-
United Kingdom ^a	Yes	EUR 1 800–8 130	EUR 355–1 150

Notes: All fees were converted to Euro for this table.

^a Depending on installation size or type.

^b Depending on region.

gas emissions permits although fifteen countries have decided not to do so (Table 26). In Austria, the costs are normally below EUR 100. The United Kingdom charges fees only for issuances and update of permits requested after 1 February 2005 with the fees varying with the size of an installation and the kind of update required. In Portugal, the size of an installation determines the applicable fees. Costs in Finland depend on the type of installation. Only three out of the seventeen Spanish autonomous communities charged fees in 2006. In Poland, operators have to pay a nominal fee of EUR 20 for the issue of the permits. Romania decided not to charge fees for permit issue or update for 2007 but intends to do so during the second trading period.

11.2 Issuance of allowances

Only five Member States charge fees for the issuance of allowances to operators, whilst eighteen countries did not (Table 27).

While Austrian operators only pay a token fee of EUR 6.50 for the installation allocation decision, costs in the five other countries depend on the

individual allocation and can be substantial. In Germany, fees consist of a fixed amount and a variable sum depending on the number of allowances granted. The latter decreases from EUR 0.035 /EUA for the first 150 000 allowances to EUR 0.015 /EUA for the quantity of allowances exceeding 15 million. Very small installations with an allocation below 3 000 EUA are exempt from the fees. A typical installation with an allocation of 1.5 million EUA for the first trading period would have to pay approximately EUR 50 000. Spanish operators were charged 0.45 ct/EUA for the issuance in 2006 for the first time in 2006, with the total fee being capped at EUR 12 000/yr. Denmark charges 2 ct/EUA while France charged 0.85 ct/EUA in 2005 and 2006 and increased the fee to 0.91 ct/EUA in 2007.

11.3 Use of the registry

The use of the registry is free of charge in Cyprus, Estonia, Italy and Luxembourg only. In the twenty-three Member States where fees are charged, these often differentiate between opening fees and annual maintenance charges, and between operators

Table 27 Overview of accumulated fees charged for the issuance of allowances during the first trading period

	Fees	Minimum (EUR)	Maximum (EUR)
Austria	Yes	6.50	6.50
Belgium	No	-	-
Bulgaria			
Cyprus			
Czech Republic	Yes	0.006 per EUA	0.006 per EUA
Denmark	Yes	0.02 per EUA	0.02 per EUA
Estonia	No	-	-
Finland	No	-	-
France	Yes	0.0085 per EUA	0.0091 per EUA
Germany	Yes	0	9 600 + 0.035 to 0.015 per EUA
Greece	No	-	-
Hungary	No	-	-
Ireland	No	-	-
Italy	No	-	-
Latvia	No	-	-
Lithuania	No	-	-
Luxembourg	No	-	-
Malta	No	-	-
Netherlands	No	-	-
Poland	No	-	-
Portugal	No	-	-
Romania	No	-	-
Slovakia			
Slovenia			
Spain ^a	Yes	0.0045 per EUA	24 000
Sweden	No	-	-
United Kingdom	No	-	-

Notes: All fees were converted to Euro for this table.
^a Only charged for 2006 and 2007 allocation.

and individuals (Table 28). In Austria, Denmark, France, Greece, Hungary, Malta and Slovakia the maintenance fee for operators depends on the allocation received by an installation. In Finland, the fee varies with the number of allowances held and applies to operators and individuals alike. Compared to the value of the allowances held fees are small for most operators in all countries. Only in some Member States could minimum maintenance costs be considered high for very small installations.

The maintenance costs in Denmark only apply to allowances received free of charge. In Spain, the use of the registry was free of charge in 2005. The figures included in the table apply for 2006 onwards. In the United Kingdom, operators have to pay an annual subsistence fee which is also used to finance the operation of the registry. Changes or

additions of authorised representatives cost EUR 70. The generation of a new password and unblocking access to a registry costs EUR 40 in Slovakia. Latvia reports that it charges fees for the right to transfer allowances out of an account. The fee has to be paid once per trading period and depends on the average annual allocation. It starts at EUR 504 per transaction for installations with an allocation below 10 000 EUA per year. Operators of installations which received at least 150 000 EUA per year and owners of personal holding accounts have to pay EUR 4 030 per trading period. Surrender of allowances is free of charge.

Total fees for creating and maintaining a personal holding account for the first trading period are below EUR 500 in most Member States. In Austria, Belgium and Lithuania individuals have to pay between EUR 1 000 and EUR 1 500 for the three-year

Table 28 Overview of the fees charged for opening and maintaining accounts in national registries

	Operator holding account			Person holding account		
	Opening fee		Maintenance	Opening fee		Maintenance
	EUR	Due ^a	EUR/a	EUR	Due ^a	EUR/a
Austria	0	n.a.	992–11 577	0	n.a.	348
Belgium	461		461	461		461
Bulgaria	n.a.		n.a.	n.a.		n.a.
Cyprus	0	n.a.	0	0	n.a.	0
Czech Republic	18		21	29		21
Denmark	0	n.a.	0.02 per free EUA	26.7	on	26.7
Estonia	0	n.a.	0	0	n.a.	0
Finland	50	on	50–1 000	50	on	50–1 000
France	150		75 + 0.00835 per EUA	150		75
Germany	200	tp	0	200	tp	0
Greece	0	n.a.	100–300	150	on	150
Hungary	0	n.a.	80–2 440	0	n.a.	140
Ireland	150			150		
Italy	0	n.a.	0	0	n.a.	0
Latvia ^b	0	n.a.	0	336		0
Lithuania	1 014	tp	70	1 014	tp	70
Luxembourg	0	n.a.	0	0	n.a.	0
Malta	215–644	on	0.00043 per EUA	43	on	21
Netherlands	50	tp	0	50	tp	0
Poland	120	tp	0	120	tp	0
Portugal ^c	0	n.a.	800	0	n.a.	125
Romania	200		0	200		0
Slovakia	0	n.a.	200 + 0.0065 per EUA	0	n.a.	200
Slovenia	100		100	50		50
Spain	0	n.a.	100	100	an	100
Sweden	0	n.a.	0	54	on	54
United Kingdom	250	on	0	250	on	0

Notes: All fees were converted to Euro for this table.

^a Opening fee is due annually (an), once (on), per trading period (tp) or not applicable (n.a.). If left empty the relevant period was not reported.

^b In addition to the opening fee an activation fee has to be paid once per trading period for the right to transfer allowances out of an account. For operators the fee depends on the average allocation and varies between EUR 504 and 4 030. For personal holding accounts the activation fee is EUR 4 030 per period.

^c VAT not included.

period although, depending on the allowances held, costs could rise up to EUR 3 000 in Finland. The costs for owning and using a personal holding account are highest in Latvia with EUR 4 366 per trading period. These are very moderate figures for investment banks, trading firms or other companies who need to open accounts for their transactions.

11.4 Additional remarks

The additional remarks reported by Member States are similar to those reported last year. Mainly through the charges for the issuance of allowances Germany expects to raise about EUR 44 million during the first trading period. Administrative costs are estimated at EUR 43.5 million for the three years. Approximately 60 % of the revenue is used for staff, 25 % for the use of the software and the registry in the EU ETS and 15 % for material expenses.

Denmark and the United Kingdom charge a subsistence fee to operators. In Denmark this is

limited to operators who received free quotas under the allowances act who have to pay approximately EUR 3 125/year. In the United Kingdom, the charge depends on the emissions of an installation, the total number of installations included in the scheme and the year. Absolute values vary from EUR 2 500 to EUR 12 850. Total income generated from operators and registry account holders by the Environment Agency in 2006 was EUR 2 651 000. The income was used to fund staff working on permits, monitoring plans, annual emission reports, Registry administration New Entrant Reserve Management and development of all the tools and procedures necessary for operation of the scheme.

Austria and Finland reported that verifiers are charged for the accreditation or acceptance. Italy intends to do so in the future. In Catalonia (Spain) operators need to pay EUR 230 for the validation of the verified emission reports by the competent authority. Italy intends to charge fees for the issuance and update of permits as well as for the accreditation of verifiers in the future.

12 Issues related to compliance with the directive

- *Penalties for infringements of national provisions deviate substantially across Member States. The same breach of an obligation has fines less than EUR 600 in Lithuania and up to EUR 15 million in Ireland (on indictment). In addition, operators might receive prison sentences in seven countries.*
- *Three Member States (Italy, Hungary and Spain) imposed fines for infringements of national provisions in 2006.*
- *Danish, Finnish, Portuguese, Swedish and British authorities identified operators in breach of their obligation to surrender sufficient allowances by 30 April 2007 for the previous year. In the last set of reports for 2005, the same was reported by Denmark and Portugal. The United Kingdom issued at the end of 2006, civil penalty notices for failure to surrender sufficient allowances by 30 April 2006 in respect of 2005 emissions.*

Operators of installations covered by the EU ETS must comply with the national legislation implementing the directive. However, this can only be assured if adequate penalties are applied in case of contravention. The minimum penalties relating to excess emissions are provided in Article 16 of the directive. Breaches of other administrative provision are regulated by the Member States. The following sections provide a synopsis of these legal provisions and a summary of the application of penalties.

12.1 Legal provisions with regard to penalties

Most Member States reported on legal provisions and penalties for infringements of national provisions. Out of these, additional seven Member States gave details on fines and imprisonment for specific cases compared to the previous year (Table 29). Generally, the financial and penal sanctions vary substantially between Member States. While maximum fines for installations operating without a permit are around EUR 3 000 in Estonia, Latvia and Greece and even lower in

Lithuania⁽¹⁷⁾, they can be as high as EUR 2 million in Spain and EUR 15 million in Ireland. In seven countries, operators may also be sentenced to prison, hence in Luxembourg the maximum sentence is 6 months while French and British courts may imprison operators for up to two years. In Cyprus and Wallonia the prison sentence can be as high as three years. For convictions on indictment, a prison sentence can be up to ten years in Ireland. Infringements of monitoring and reporting obligations, as well as omissions to notify changes to installations, have similar penalties in most countries.

Some Member States also impose fines for other infractions of national provisions. Austrian operators who do not provide the information required for opening an operator holding account in the national registry can be fined up to EUR 15 000. In Germany false information in the application for a greenhouse gas emissions permit, the application for allowances and other duties of disclosure can cost up to EUR 50 000. Finnish operators are not allowed to transfer allowances if no verified emission report has been submitted by 31 March. In Greece, in addition to the fines mentioned above, a temporary closure of the installation for 5–20 days is possible. In Hungary sanctions include fines, temporary closure of an installation or parts thereof, withdrawal of emission permits and the blocking of registry accounts. Furthermore, Hungary will deduct the excess emissions from next year's issuance of allowances in addition to the penalties set out in the Emissions Trading Directive. Exceeding the emission limit indicated in the national allocation plan or the infringement of the rules for greenhouse gas trading attracts a fine in Lithuania.

Operators providing false historical data in their allocation application have to pay EUR 10 per t CO₂ misstated in Italy. The same breach is punishable with up to one year of prison in Sweden. In Malta, the failure to surrender an allowance is fined on a first conviction between EUR 1 165 and EUR 2 330 and on consequent conviction between EUR 2 330

⁽¹⁷⁾ The highest fine in Lithuania applies to exceeding the emission limit indicated in the National Allocation Plan and amounts to EUR 1 448 maximum.

and EUR 4 660, or by imprisonment for up to two years, or both.

Spain differentiates between very serious, serious and slight infringements. Very serious infringements may be fined with a penalty of up to EUR 2 million while serious or slight infringements could receive fines of EUR 50 000 or EUR 10 000 respectively. In addition to financial penalties, the installations of Spanish operators who infringe obligations of the

emissions trading law may be totally or partially closed for a period up to one year for serious cases and for up to two years in very serious cases. Other options include revoking a greenhouse gas emission permit, temporary closure of an installation and the naming and shaming of the responsible operator. In the United Kingdom, various offences including use of false or misleading information is punishable by two years in prison and a fine of up to EUR 7 175. Operators in Slovakia face fines up to EUR 13 000 for

Table 29 Overview of penalties for infringements of national provisions

	Operation without permit				Infringement of monitoring and reporting obligations				Omission to notify changes			
	Fines (EUR)		Prison (months)		Fines (EUR)		Prison (months)		Fines (EUR)		Prison (months)	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Austria		35 000				7 000				5 000		
Belgium ^a	3	62 500	0	36	3	62 500	0	36	3	62 500	0	12
Bulgaria												
Cyprus	0	34 200	0	36		34 200		36		34 200		36
Czech Republic	0	178 571	0	0	0	71 429	0	0	0	17 857	0	0
Denmark	-	-	-	-	-	-	-	-	-	-	-	-
Estonia	1 917	3 195			1 917	3 195			1 917	3 195		
Finland												
France	0	150 000	0	24	0	75 000	0	6	0	75 000	0	6
Germany	5	50 000		0		0		0	5	50 000		0
Greece	1 500	3 000			1 500	3 000			1 500	3 000		
	+ 16 000 in case of temporary closure				+ 16 000 in case of temporary closure				+ 16 000 in case of temporary closure			
Hungary	80	400			200	2 000			200	2 000		
Ireland ^b	0	15 000 000	0	120	0	15 000 000	0	120	0	15 000 000	0	120
Italy	25 000	250 000										
	+ 40 EUR/t CO ₂ emitted											
Latvia	142	2 846			71	1 423			71	1 423		
Lithuania	289	579	-	-	145	289	-	-	43	87	-	-
Luxembourg	251	100 000	0.3	6	251	100 000	0.3	6	251	100 000	0.3	6
Malta												
Netherlands	10 000	450 000			1 000	450 000			1 000	450 000		
Poland ^c	40 EUR/t CO ₂ emitted											
Portugal ^d	1 500	44 890			1 500	44 890			1 500	44 890		
Romania	7 910	15 820										
Slovakia		14 793				14 793				14 793		
Slovenia	1 250	375 000			1 250	375 000			1 250	375 000		
Spain	50 001	2 000 000				2 000 000			50 001	2 000 000		
Sweden ^e				12				12				12
United Kingdom ^f	0	7 175	0	24	0	7 175	0	24	0	7 175	0	24

- Notes:** Denmark and Finland reported on national provisions but did not give details on the fines. For more details see text.
- ^a Brussels: EUR 2.5–25 000 and 8–12 months imprisonment for all three types of infringements if prosecuted by the attorney general or an administrative fine of EUR 625–62 500. Flanders: EUR 2.5–12 500 and 1 week to one year imprisonment for all three types of infringements. Wallonia: Fines range from EUR 2.5–25 000 and one week to three years imprisonment for operating without permit or infringements of reporting obligations. For omission of notifying changes up to EUR 12 500 may be charged.
- ^b Maximum fines applicable for convictions on indictment only. For summary convictions maximum fines are EUR 3 000 and/or 12 months of imprisonment.
- ^c There is no penalty on infringements of monitoring and reporting obligations or on the omission to notify changes to the installation. However these actions may result in imposing a 40 EUR penalty for each tonne of CO₂ emitted without a held allowance.
- ^d Information on imprisonment not available.
- ^e Detailed information is only available after court trials took place.
- ^f The maximum fine is on summary conviction and on indictment.

failures to submit emission reports and surrender allowances on time. If the provisions of the GHG permit are not met by the operator in Romania, the permit is suspended after a formal notice in advance of 30 days which allows the operator to fulfil his obligation. The suspension period shall be maintained until the causes are removed, but for no more than 6 months. If the causes which lead to the permit suspension are not removed, the competent authority may decide to cancel the GHG permit and to cease the activity of the installation, after the deadline of suspension expired.

12.2 Penalties imposed for infringements of national provisions

Spain, Hungary and Italy reported that penalties were or will be imposed for infringements of national provisions in 2006. In Spain, an EUR 2 000 fine had to be paid by an operator failing to report the use of a particular fuel. Other proceedings are ongoing and the penalties to be imposed have not yet been determined in these cases. In Hungary an EUR 160 fine was due for any operation without a permit and in Italy EUR 25 000 for unreported verifiable emissions.

The other Member States reported that no penalties were imposed during 2006.

12.3 Operators for which excess emission penalties were imposed

According to Article 16(3) of the directive, operators who did not surrender sufficient allowances by 30 April for the preceding year shall pay a fine of

EUR 40 for each tonne of carbon dioxide by which emissions exceed surrendered emission rights. In addition, the names of these operators shall be published. Starting with the second trading period in 2008 the fine will rise to EUR 100 per tonne.

In Denmark, Finland, Portugal, Sweden and the United Kingdom together 22 operators did not surrender allowances in time. Danish authorities published the operator name on the webpage of the Danish Emissions Trading Registry. The British authorities issued civil penalty notices for failure to surrender sufficient allowances by 30 April 2006 and, by the data specified in a Surrender or Revocation Notice, also in respect of emissions caused during 2005. Finland and Germany indicated that the imposition of excess emissions penalties is still pending.

Austria, Belgium (Flanders and Wallonia), Cyprus, the Czech Republic, Estonia, France, Greece, Malta, Lithuania, Latvia, Luxembourg, the Netherlands, Sweden and Slovenia reported that there were no cases of operators in non-compliance.

12.4 Additional remarks

Romania has transposed the directives 2003/87/EC and 2004/101/EC by the Governmental Decision 780/2006 before becoming a Member of the EU on 1 January 2007. The provisions regarding penalties had to be modified in order to comply with national legislation on penalties but the Decision will be amended to comply with EU Directive. Sweden reported that from the year 2007 onwards the EPA can decide upon a delay charge (EUR 2 200) for delayed emission reports.

13 The legal nature of allowances and fiscal treatment

- *No agreed international guidance exists on the treatment of allowances for accounting purposes. Allowances are regarded as intangible or financial assets in eleven Member States; in four countries allowances are treated as commodities or stock. Only nine Member States reported on having adopted specific accounting rules for allowances.*
- *For the purpose of financial legislation, some Member States consider allowances to be commodities, which do not fall under the responsibility of the financial services authority (FSA). However, futures or other derivatives of these commodities are regarded as financial instruments and their transactions are supervised by the FSA. In other Member States, the allowance itself is considered to be a financial instrument.*
- *In all Member States except Cyprus, transactions of allowances are subject to value added tax (VAT). The issue of allowances free of charge is exempt from VAT in all Member States. Six Member States have indicated that VAT would apply to allowances allocated for payment; in the current trading period this is relevant to only few Member States as most allocate all allowances for free.*
- *Profits and losses from transactions in allowances are subject to income or corporate tax. No Member State established separate rules for allowances; the same regulations as for all other profits and losses are applied.*

The CO₂ allowances are often called a new 'currency' for the use of environmental services. Accordingly, they have to be clearly defined and integrated into already existing financial legislation and institutions. To date there is no clear guidance from accounting standard setters on the treatment of allowances in accounting. The International Financial Reporting Interpretations Committee (IFRIC) issued guidance (IFRIC 3, emission rights) ⁽¹⁸⁾ in December 2004, but it was withdrawn by the International Accounting Standards Board (IASB) consequently, the legal

status of allowances differs between Member States. In the majority of EU countries the tax treatment follows the accounting treatments. In contrast, there has been an agreement on the treatment of emissions trading for value added tax (VAT) purposes in the EU VAT Committee.

13.1 Legal status of allowances

In comparison to last years report more Member States have provided information on the legal nature of allowances although for most Member States the information remains the same. In Austria, Finland, France, Germany, Italy, Poland, Portugal and Spain allowances are treated as commodities for the purpose of financial regulation. Commodities are tradable goods without qualitative differentiation across a given market. Allowances are considered as (intangible) assets in Cyprus, the Czech Republic, Denmark, Hungary, Lithuania, Malta, the Netherlands and Slovakia. Sweden regards allowances as financial instruments which are supervised by the financial service authority (FSA). In the United Kingdom, spot trading of commodities does not need authorisation of the FSA. However, trading for forward physical delivery of allowances can be a specified investment and therefore may require authorisation (although contracts that are made for commercial and not investment purposes may fall within an exemption from regulation). Trading in derivatives may also fall within the classification of specified investments and be subject to financial regulation. In Finland, allowances on forward markets are considered a financial instrument whereas on spot markets they are considered a commodity. In Ireland the status depends on the kind of contract. In Luxembourg allowances are considered as B-services. No legal provisions for the purpose of financial regulation were implemented in Bulgaria, Estonia, Greece and Slovenia. In Romania the legal nature and fiscal treatment is under examination by the Ministry of Economy and Finance; a decision is outstanding.

⁽¹⁸⁾ IFRIC 3 specified that allowances are an intangible asset. The allocation of allowances free of charge by a government is considered a government grant (intangible asset at fair value). When the entity emits CO₂ during the year a liability is recognised for the obligation to deliver allowances at the end of the year corresponding to those emissions (liability at current market value of the allowances) (see IASB 2007: Emission Trading Schemes, September 2007, <http://www.iasb.org/NR/rdonlyres/D0D0B44A-254A-4112-9FCE-34178B236D07/0/EmissionrightsprojectupdateSept07.pdf>).

Eleven Member States (Cyprus, the Czech Republic, Denmark, Estonia, Spain, Finland, Italy, Malta, Poland, Portugal and Slovakia) regard allowances as intangible or financial assets for the purpose of accounting. Four Member States (Austria, France, Germany and the Netherlands) reported that allowances are to be recorded as commodity or stock. Hungary specified that depending on the purpose of utilization in the future the allowances are either to be treated as intangible assets within invested assets or as stock within current assets.

Greece, Lithuania and the United Kingdom have not defined how allowances should be accounted. The United Kingdom explained that listed companies in the United Kingdom must apply international financial reporting standards. As the model is not finally agreed at international level, the UK Accounting Standards Board has not yet issued mandatory guidance on the accounting treatment consequently different accounting approaches are being adopted by UK companies. To public sector installations, the Financial Reporting Advisory Board has issued a guidance based on IFRIC 3 in the Government's Financial Reporting Manual.

Belgium, the Czech Republic, Finland, Germany, Hungary, Poland, Portugal, Slovakia and Spain have adopted specific accounting rules for allowances. In Belgium, the operator can choose between two accounting methods, a gross method more suitable for operators trading allowances and a net method for operators using allowances to cover their emissions mainly without trading. In Slovenia an explanatory note has been published by the government.

13.2 Taxation of allowances

At the 75th meeting of the EU VAT Committee it was agreed unanimously that the transfer of allowances when made for consideration by a taxable person

is a taxable supply of services falling within the scope of Article 9(2)(e) of Directive 77/388/EEC and therefore subject to VAT with the respective rates. All reporting Member States except Cyprus use this approach. There are exemptions in four Member States. In Slovakia and Lithuania, transfers of allowances are subject to VAT at national level and free of VAT for international transactions. Italy states that transactions are subject to VAT depending on the territorial characteristic of the transaction/actors. In France VAT is not applicable if the transfer is carried out on a purely no-charge basis between independent entities or allowances are transferred between installations from the same legal entity and therefore is considered a movement interns not subjected to the VAT.

In all reporting Member States the issuances of allowances free of charge are not subject to VAT. As in the previous report most Member States have not specified whether allowances allocated for payment would be subject to VAT because allocation is free of charge only in most Member States; Denmark, Hungary and Ireland are the only Member States that auctioned allowances in 2006 (see Section 8.4). In Denmark, Italy, Hungary, Poland, Slovenia and Spain VAT is, or would be applicable, if allowances were sold or auctioned.

The treatment of profits and losses from transactions of allowances are subject to income or corporate tax at the respective rates in all Member States except Finland which did not provide further detail on their rules. The profits or losses are to be calculated as the difference between the acquisition and the sale price of the allowances. Special tax rates for incomes from transfers of allowances have not been reported by any country.

13.3 Additional remarks

No Member State reported additional remarks.

14 Access to information pursuant to Article 17

- *As has previously been reported, most Member States publish their national allocation plan, allocation rules and installation allocation on the Internet.*
- *Monitoring reports are in the majority of cases available upon request only. In six Member State and one Belgian region these reports will be published on the Internet. Access is not possible at all in five countries.*
- *Information on project mechanisms in which a Member State participates or authorises private or public entities to participate is published on the Internet in eighteen countries.*
- *Again, access to information has generally improved compared to the previous reporting period and more details have been reported by Member States.*

Article 17 of the Emissions Trading Directive, as amended by the Linking Directive, requires that decisions relating to the allocation of allowances, information on project activities in which a Member State participates or authorises private or public entities to participate, and the reports of emissions required under the greenhouse gas emissions permit be made available to the public. Access to this information is easiest if available on the Internet. An alternative is inclusion in official journals. An assessment by third parties is hardest if data is only available upon request, normally at the competent authority.

14.1 Availability of information

Almost all Member States publish their allocation rules, installation allocation and information required by Annex XVI of the Registries Regulation on the Internet and/or official journals (Table 30). Only in Estonia allocation rules are not published; in Malta access is upon request only. These two together with Belgium (Brussels and Wallonia), Bulgaria, the Czech Republic, Finland, Poland, Portugal and Slovakia are also the only countries which do not include this information in official journals. Installation allocation figures are available to the public in all Member States. With the exception of Malta, they are published on the

Internet and in sixteen Member States and two Belgian regions in journals as well.

Records of changes to the list of installations are published in nineteen Member States and one of the Belgian regions and are available upon request only in six countries and two regions. Only in Romania, they are not published at all. In Germany, the manner of publication is not yet resolved permanently.

Verified emission reports are not generally accessible in most Member States. Only Bulgaria, Cyprus, Denmark, Estonia and Latvia upload the reports on the Internet. In Ireland they are published through public paper files. For the Netherlands, it is reported that verified emissions reports are available for perusal at the office of the Dutch Emissions Authority except for those reports for which the operator has requested confidentiality. The availability of verified emissions and the possibility to peruse the report is made in an official journal. Cyprus is, besides the Netherlands, the only country which states that verified emission reports are published in an official journal. Portugal, which in the previous report indicated that these reports are published on the Internet, now indicates that the emission reports are only available on request. In thirteen countries and all three Belgian regions interested persons can apply for the right to access the data. In the Czech Republic, Italy, Poland and Romania it is not possible to view the reports at all. Information on project mechanisms in which a Member State participates or authorises private or public entities to participate is published on the internet in eighteen countries. In Belgium (Brussels), the Czech Republic, France, Italy, Luxembourg and Malta this information is available upon request only. Ireland and the United Kingdom report that this does not yet apply to them and two Belgian regions (Flanders and Wallonia) remain undecided.

Data that give more detailed information on specific installations are often also accessible but with more restrictions. In Cyprus, Denmark, Estonia, Finland, Ireland, Italy, Latvia, Netherlands, Portugal and Romania the greenhouse gas emission permits are available to the public through the Internet. Access is also granted if not deemed commercially sensitive

in Belgium, France, Germany, Hungary, Lithuania, Luxembourg, Malta, the Netherlands, Slovakia, Slovenia, Spain, Sweden and the United Kingdom but data is not generally published. Only Austria, the Czech Republic and Poland do not allow third parties to assess greenhouse gas emission permits.

Information on verified emissions, surrendered allowances, transactions and account holders as specified in Annex XVI of the Registries Regulation is generally available in 21 Member States. In France, Hungary, Luxembourg and Malta access to this information is available only upon request. Greece did not report on this issue, for Belgium only the statement of Federal Government is reported.

14.2 Additional remarks

Several Member States (Hungary, Netherlands and Romania) commented that Directive 2003/4⁽¹⁹⁾ on public access to environmental information and national transpositions can be used to access data held by the competent authorities. Information can only be withheld by authorities for reasons such as public interest and commercially sensitive information.

In the United Kingdom regulations were amended to ensure that verified annual emissions reports prepared by operators can be used in the development of the national greenhouse gas inventory and the energy statistics.

⁽¹⁹⁾ OJ L 41, 14.02.2003, p. 26

Table 30 Access to information by the public

Allocation rules	NAP table			Changes to list of inst.			Verified emission reports			Project activities			GHG emissions permit			Annex XVI RegReg		
	Info avail. to public	Info avail. to www	Info avail. to OJ	Info avail. to public	Info avail. to www	Info avail. to OJ	Info avail. to public	Info avail. to www	Info avail. to OJ	Info avail. to public	Info avail. to www	Info avail. to OJ	Info avail. to public	Info avail. to www	Info avail. to OJ	Info avail. to public	Info avail. to www	Info avail. to OJ
Austria	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	✓	Yes	✓	Yes	✓	No	✓	Yes	✓		
Belgium																		
Federal Gov	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Brussels	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	nd	nd	nd	nd	nd	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Flanders	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	nd	nd	nd	nd	nd	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Wallonia	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Bulgaria	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Cyprus	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Czech Republic	Yes	✓	Yes	✓	Upon req	Upon req	No	Upon req	Upon req	Upon req	Upon req	Upon req	No	Upon req	Upon req	Upon req	Upon req	Upon req
Denmark	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Estonia	No	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Finland	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
France	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Germany	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Greece	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Hungary	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Ireland	Yes	✓	Yes	✓	Yes	✓	Yes	✓	No	Upon req	Upon req	Upon req	Yes	✓	Yes	✓	Yes	✓
Italy	Yes	✓	Yes	✓	Yes	✓	No	Upon req	Upon req	Upon req	Upon req	Upon req	Yes	✓	Yes	✓	Yes	✓
Latvia	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Lithuania	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Luxembourg	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Malta	Upon req	✓	Yes	✓	Upon req	Upon req	Upon req	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Netherlands	Yes	✓	Yes	✓	Yes	✓	Partly ^a	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Poland	Yes	✓	Yes	✓	Yes	✓	No	Upon req	Upon req	Upon req	Upon req	Upon req	No	Upon req	Upon req	Upon req	Upon req	Upon req
Portugal	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓	Yes	✓
Romania	Yes	✓	Yes	✓	No	Upon req	No	Upon req	Upon req	Upon req	Upon req	Upon req	Yes	✓	Yes	✓	Yes	✓
Slovakia	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Slovenia	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Spain	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
Sweden	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	Yes	✓	Yes	✓	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req
United Kingdom	Yes	✓	Yes	✓	Yes	✓	Upon req	✓	No	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req	Upon req

Note: ^a Total (aggregated) emissions available, underlying data can be kept confidentially. Abbreviations used: upon req (upon request); nd (not yet decided).

15 General observations

- *Apart from the information on studies conducted by Member States the other observations and concerns raised for this report were similar to those included in last year's version.*
- *Several Member States have initiated studies on the effects of the Emissions Trading Scheme and its extension after 2007.*
- *Competitiveness issues due to the application of the Emissions Trading Directive have been raised by several Member States. Areas identified as problematic include allocation rules, definition of combustion installations and competition with installations from outside of the EU.*

The Article 21 questionnaire might not be able to capture all implementation issues that give raise to concern in a particular country. Member States therefore have the possibility to raise any further issues in the last part of the questionnaire. Especially, Member States are asked to provide information on studies on the implementation and further development of the trading scheme.

15.1 Public studies on the emissions trading scheme

Nine Member States reported on public studies undertaken or initiated in 2006. Germany, Poland and Romania reported on studies for the preparation of their second national allocation plans whilst in Romania the study also covered 2007. Denmark evaluated the work of the Danish Energy Authority's administration of the scheme. The focus in Finland lay on the impact of the trading scheme on the energy sector and the economy as a whole. Spain analysed the compliance in 2005 and reported on a study on the application of the emissions trading scheme in 2006. Slovenia reported that studies have been initiated but not finalised.

Three Member States gave more detail on the research conducted. The Netherlands evaluated the NO_x and CO₂ emissions trading schemes in their country. The overall conclusion was that the systems generally work well but further improvements could still be made. Conclusions include increasing harmonisation across the EU, providing long-term certainty to operators, simplifying the permitting procedure and strengthening compliance. The study is not yet published. Sweden commissioned a study on early experiences with the implementation of the trading scheme⁽²⁰⁾, a report about company strategies for the EU ETS⁽²¹⁾, a report on the development of the EU ETS⁽²²⁾, a report on the inclusion of aviation in the EU ETS⁽²³⁾ and a compilation of status and events on the EU ETS market during 2006⁽²⁴⁾. The United Kingdom initiated several studies on the second national allocation plan including analysis of energy saving opportunities in the in the industrial sector, inclusion of non-CO₂ gases in the trading scheme, use of benchmarks, treatment of combined heat and power and the classification of sectors⁽²⁵⁾. A report due to be published shortly presents the findings on the administrative burdens on operators in ensuring compliance with the administrative requirements of the EU ETS. The report estimates the cost of compliance at about EUR 0.02 to EUR 0.03 per tonne of CO₂. For small installations costs can rise up to EUR 2 per tonne of CO₂. The United Kingdom also chaired an IMPEL project on options for consistency and harmonisation in implementation of the EU ETS. The project produced four good practice guides⁽²⁶⁾.

15.2 Burden to operators and authorities

Several Member States expressed concerns over the burden imposed by the Emission Trading Directive on operators and authorities. This was seen as a problem especially for operators of

⁽²⁰⁾ <http://www.naturvardsverket.se/dokument/hallbar/klimat/utslappshandel/utslappshand/pdf/erfarenhetsrapporten.pdf>.

⁽²¹⁾ <http://www.naturvardsverket.se/Documents/publikationer/620-5679-4.pdf>.

⁽²²⁾ <http://www.naturvardsverket.se/Documents/publikationer/620-5657-3.pdf>.

⁽²³⁾ <http://www.naturvardsverket.se/Documents/publikationer/620-5655-7.pdf>.

⁽²⁴⁾ [http://www.energimyndigheten.se/web/biblshop.nsf/FilAtkomst/ER2006_43w.pdf/\\$FILE/ER2006_43w.pdf](http://www.energimyndigheten.se/web/biblshop.nsf/FilAtkomst/ER2006_43w.pdf/$FILE/ER2006_43w.pdf).

⁽²⁵⁾ Further information available from Defra: eu.ets@defra.gsi.gov.uk.

⁽²⁶⁾ <http://ec.europa.eu/environment/impel/reports/htm>.

small installations. Spain also commented that the timeframe for verification, submission of verified emission reports and the surrender of allowances was too short for the complexity of the task and suggested to discuss the deadlines in the revision of the trading scheme.

15.3 Competitiveness of installations in the emissions trading scheme

Member States proposed increased harmonisation on several issues. This was partly to reduce the burden on national authorities, but mainly to avoid distortion of competition due to differences in the transposition of the directive and to provide more certainty to operators. Areas identified in need of further harmonisation include the allocation to new and/or existing installations and the scope of the directive even after the work done in the last year. Spain commented that verified emissions in 2005 indicated that many installations received more allowances than necessary and requested the Commission to assess carefully in the allocation plans for the second trading period whether discrimination between similar installations in different countries is likely to occur. Italy expressed its concern that European operators might be at a disadvantage on the global market due to the scheme, especially in the light of more stringent caps for the next trading period. Poland favours further harmonisation but believes that national circumstances like different GDP growth rates or fuel mixes need to be taken into account and that convergence is only possible over a long time horizon.

15.4 Other concerns in Member States

Austria and Spain commented that there is currently no way to correct information in the registry if the assessment of a legal situation has changed, e.g. if a court ruling decides that an installation is not covered by the scheme.

Malta reported some problems faced by a small island with only two installations included in the regime: there are no national verifiers which leads to logistical problems for the operators and might lead to late submissions of verified reports. In addition, there is no accredited laboratory in Malta and all samples have to be shipped for analysis.

The Netherlands commented that two issues of concern reported in previous years have been addressed adequately through the review of the Monitoring and Reporting Guidelines and the Registries Regulation. Yet unresolved is the clear role of the competent authority and verifiers, an EU wide legal framework for the accreditation of verifiers and the definition of combustion installations. The latter was also raised by Spain.

Poland expressed its view that future caps under the EU ETS should be closely linked to any international climate regime post 2012. In the absence of an international agreement, targets should be set in a way to avoid competitive distortions with operators outside of the EU and should not lead to leakage. Poland also suggested that removal units from land use, land use change and forestry should be included in the trading scheme as has been done for units from CDM and JI projects.

The United Kingdom stressed that the integrity of the Emission Trading Scheme depends on consistent implementation across the Member States. It sees a crucial role for the European Commission in controlling and ensuring consistency, and requested more information on how this will be achieved in the light of the responses to the questionnaire mandated by Article 21 of the directive. In addition, the United Kingdom sees a need for further harmonisation of verification procedures across Europe to ensure that monitoring and reporting is performed in accordance with the guidelines and that annual emissions are credible.

Abbreviations

Member States (MS)

AT	Austria	IT	Italy
BE	Belgium	LV	Latvia
BG	Bulgaria	LT	Lithuania
CY	Cyprus	LU	Luxembourg
CZ	Czech Republic	MT	Malta
DK	Denmark	NL	The Netherlands
EE	Estonia	PL	Poland
FI	Finland	PT	Portugal
FR	France	RO	Romania
DE	Germany	SK	Slovak Republic
GR	Greece	SI	Slovenia
HU	Hungary	ES	Spain
IE	Ireland	SE	Sweden
		UK	The United Kingdom

Annex I categories

Energy activities

- E1 Combustion installations with a rated thermal input exceeding 20 MW (excepting hazardous or municipal waste installations)
- E2 Mineral oil refineries
- E3 Coke ovens

Production and processing of ferrous metals

- F1 Metal ore (including sulphide ore) roasting or sintering installations
- F2 Installations for the production of pig iron or steel (primary or secondary fusion) including continuous casting, with a capacity exceeding 2.5 tonnes per hour

Mineral industry

- M1 Installations for the production of cement clinker in rotary kilns with a production capacity exceeding 500 tonnes per day or lime in rotary kilns with a production capacity exceeding 50 tonnes per day or in other furnaces with a production capacity exceeding 50 tonnes per day
- M2 Installations for the manufacture of glass including glass fibre with a melting capacity exceeding 20 tonnes per day
- M3 Installations for the manufacture of ceramic products by firing, in particular roofing tiles, bricks, refractory bricks, tiles, stoneware or porcelain, with a production capacity exceeding 75 tonnes per day, and/or with a kiln capacity exceeding 4 m³ and with a setting density per kiln exceeding 300 kg/m³

Other activities

- O1 Industrial plants for the production of
 - (a) pulp from timber or other fibrous materials
- O2 (b) paper and board with a production capacity exceeding 20 tonnes per day

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