EEA Technical report | No 13/2008

Application of the Emissions Trading Directive by EU Member States

— reporting year 2008

ISSN 1725–2237

European Environment Agency

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Cover design: EEA
Layout: Diadeis/EEA

Luxembourg: Office for Official Publications of the European Communities, 2008

ISBN 978-92-9167-984-3
ISSN 1725-2237

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Acknowledgements

The European Environment Agency's Topic Centre for Air and Climate Change (ETC/ACC) compiled and summarised the national reports and provided major input to this report. The coordinating input from the ETC/ACC was provided by Jakob Graichen, Öko-Institut, Germany.

Martin Cames, Anke Herold and Katja Schumacher, from the Öko-Institut, Germany, also contributed to the report.

The EEA project managers were Jan Karlsson and Andreas Barkman.

EEA acknowledges the comments received on the draft report from the national focal points of EEA member countries and the European Commission (DG Environment). These comments have been included in the final version of the report as far as is feasible.

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 provides information for the Commission's review report under Article 30 of the Directive. This information can be used for improvements in future 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. The questionnaire used for this report (2007 trading year) is the same as that used for the 2005 and 2006 trading years respectively ([1]). An updated questionnaire is under development for the 2008 trading year and onwards. By late October 2008, Article 21 reports had been received from all Member States. The responses in those reports were assessed by the EEA and its European Topic Centre on Air and Climate Change (ETC/ACC) and compiled into this report.

The assessment of the fourth set of Article 21 reports completes the first trading period. For the second time all Member States have delivered reports and gaps from previous reports have been filled to a large extent. It has also been possible to draw some general conclusions for the first full trading period (2005–2007). Administrative procedures necessary for running the Emissions Trading Scheme are described, as well as similarities and differences in implementation. Therefore, this report may 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, as well as support discussions on future revisions of the EU ETS.

In some cases the information is unchanged from the previous reports. Nevertheless such information is repeated in this report so that a complete compilation appears in one report.

Main differences compared to the last annual report

A new chapter summarising some information for the entire trading period has been added in this year's report. There is a supplementary analysis on impacts of the EU ETS on industrial competitiveness, the intention of which is to provide background information and more detailed analysis on this specific issue. It is 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 previous years. Some clarifications on the institutional set-up have been made by some Member States but, in general, the implementation of the ETS Directive has not changed much from 2006 to 2007. One major change did occur in Bulgaria and Romania, where, as the newest EU Member States, emissions trading only started in 2007 and their initial practical experiences have been reported, in contrast to last year's report which only contained institutional information from these two countries.

Competent authorities

Nearly all Member States retained the same number of authorities as in last year's report. 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 monitoring of emissions are carried out by regional or local authorities in some countries. The choice may depend on the size and 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 regular meetings of working groups, the development of specific guidance notes, the establishment of an interpretation group or training courses for employees of the competent authorities.

([1]) The term 'reporting period', as used in this report, means the full trading year 2007.

Coverage of activities and installations

The number of installations of different types and the amount of emissions covered under the emissions trading scheme have changed compared to the last report. This happens continuously during a trading period due to new entrants and closures of existing installations. The size of the entire Emissions Trading Scheme will therefore vary, albeit only slightly. A total of 11 908 installations were included in the Community Independent Transaction Log (CITL) ([2]). As in the previous report, one-third of the combustion installations covered by the scheme have a rated thermal input of 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 CO_2 per year account for 7 % of the total number of installations but are responsible for more than 80 % of total emissions. Small installations with emissions of 10 000 tonnes of CO_2 or less per year, account for more than 40 % of the installations and they emitted 11 716 kt CO_2 in 2007. Over 1 200 changes in the list of installations compared to the national allocation plan tables were reported for 2007 (compared to about 700 in 2006). About two thirds of those changes were due to new installations or capacity increases and a quarter of all changes were caused by installations leaving the scheme due to closures and capacity decreases. One application to form a pool was submitted in 2007 and one pool formed.

Permits for installations

Procedures for the issuing and follow up of permits are not expected to change during the same trading period. Member States, apply different measures to ensure o perator compliance with the requirements of their permits. Some Member States report that random spot checks 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 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 over 3 500 changes to permits were reported by Member States for 2007. The share of affected installations ranged from 0 % to 75 % 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 previous years of the trading period.

Application of 'monitoring and reporting guidelines'

In common with the last three reports there are differences in the application of the guidelines between Member States. 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. In nearly all Member States lower tiers were applied in the largest installations that emitted 50 % of the emissions covered by the scheme, at least in one source stream. The number of installations that temporarily applied tiers lower than those agreed with the competent authority more than doubled compared to last year (from 24 to 54). The reported amount of solid or liquid biomass burnt and used has decreased considerably. The quantity of waste reported as used or deployed remains about the same as compared to last year.

Arrangements for verification

Not much has changed compared to the last set of reports. This is understandable, as much of the process is laid down in national legislation and is not easily changed, even if aspects warranting improvement have been identified in previous years. General aspects, such as the possibility to accredit independent verifiers according to national rules, are treated similarly in almost all countries. However, some issues reported by some Member States could be considered by other Member States as well. In sixteen countries verifiers have to make recommendations for the improvement of 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 44 installations did not submit an emission report verified as satisfactory by 31 March 2007; a magnitude similar to last year's figures. An additional 220 installations did not submit a report at all, again a similar number to that in 2006. Most of these cases were solved within three months.

([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 6 October 2008.

Operation of registries

Most registries were operating in 2007 but faced scheduled and unscheduled down time. While some Member States reported no down time at all, other registries were offline for over 200 hours. On average, each registry was unavailable for approx. 4.9 hours/month in 2007, an increase of 55 % compared to last year. Most Member States implemented procedures to safeguard registries. Three Member States detected security threats during 2007.

Allocation, new entrants and closures

As reported in 2005 and 2006, many Member States again welcomed harmonisation of allocation issues, such as the treatment of new entrants, closures of small installations and, above all, harmonization of the definition of a combustion installation. One of the main lessons learned so far is that there is a need to simplify the allocation process to enhance clarity of the rules and reduce the workload of authorities as well as companies. Twenty-one Member States allocated a total of 29.0 million EUA to 819 new entrants in the reporting period. Only Denmark, Hungary, Ireland and Lithuania auctioned allowances in the first trading period. Most Member States cancelled allowances left in the new entrants' reserve at the end of the trading period.

Surrender of allowances by operators

During 2007 accounts with a negative balance were closed in the national registries of six Member States (Czech Republic, Estonia, Lithuania, Romania, Slovakia and Belgium) 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

No project based credits were used by operators during the first trading period. Seventeen Member States reported that they require adherence to the 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

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 for services such as 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. Compared to last year's report many Member States have substantially increased the fees and charges for the use of the national registry.

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. As in last year's report and in contrast to the previous sets of reports, most Member States provided detailed information on penalties which are to be imposed. The maximum fines differ significantly between Member States for similar infringements (from EUR 400 to EUR 15 million). Operators might also receive prison sentences in seven Member States. Five Member States imposed fines for infringements of national provisions in 2007.

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 for 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 derivates of these allowances are viewed as financial instruments. For accounting purposes, allowances are regarded as intangible or financial assets in twelve Member States; in four countries allowances are treated as commodities or stock. In 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 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. There are few changes compared to last year. Most Member States publish their national allocation plan, allocation rules and installation allocation on the internet. Access to monitoring reports has improved, only three remaining Member States (compared to five last year) did not provide access to the public under any circumstances and eight countries published the full reports on the Internet.

General observations

Member States provided information on studies undertaken on the application, effects and further development of the Emissions Trading Scheme. One focus of the work in 2007 was studies on the development of second set of national allocation plans. Issues of competitiveness arising from the application of the Emissions Trading Directive were raised by several Member States. Areas identified as problematic include the definition of combustion installations, verification and branches of industry suffering from competition from installations outside the EU that are not covered by a carbon trading scheme.

Introduction

In accordance with Article 21 of the Emissions Trading Directive 2003/87/EC ([3]) Member States have to report annually on the application of the Directive on the basis of a questionnaire. The 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 European Topic Centre on Air and Climate Change, assessed those Article 21 reports delivered by the EU Member States and the results are presented in this report.

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 Release and Transfer Register ([4]). It might also help to improve the data consistency between ETS data and future top-down reports of the inventories according to the greenhouse gas monitoring mechanism ([5]).

Reporting process

An initial questionnaire ([6]), which was used for the first set of reports submitted by 30 June 2005, was developed under severe time constraints and a possible need for revision was identified. After the experience gained by the use of this questionnaire for the reports covering the first four months of the 2005 trading year the questionnaire was reviewed. The revised questionnaire ([7]) was not formally adopted before the due date for reporting in 2006, thus not all countries were able to use the new version. All reporting Member States used the revised questionnaire for the reports for the current year and last year. A new questionnaire is being developed for the second trading period.

The fourth set of reports on the application of the Directive by Member States was due by 30 June 2008 covering the 2007 trading year. A number of Member States submitted their replies after this deadline — the last report was received on 15 October. This 2007 trading year report is based on the replies to the questionnaire, information contained in the CITL on 6 October 2008 ([8]) and supplementary comments received from Member States during the review process. In some cases information from previous years' replies was used to supplement information

([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]) Regulation (EC) No 166/2006 of the European Parliament and of the Council of 18 January 2006 concerning the establishment of a European Pollutant Release and Transfer Register and amending Council Directives 91/689/EEC and 96/61/EC, http://eur-lex.europa.eu/LexUriServ/site/en/oj/2006/l_033/l_03320060204en00010017.pdf.
([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, 19.5.2005.
([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).
([8]) CITL data is taken form the European Environment Agency CITL viewer (http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=3529).

provided in 2008. This was done especially where Member States only reported that no changes had occurred since the last report.

The report summarizes the answers and tries to identify common patterns and differences in the implementation of the Directive across Member States. In addition, some conclusions covering the full first trading period (2005–2007) are presented in a separate section.

All Article 21 reports have been assessed thoroughly and analysed in detail. However, several Member States did not provide answers to all questions. Therefore, the number of responses does not add up to 27 for all questions. In such cases, either some Member States provided no answer to the question or the answer categories are non-exclusive and overlap. However, this does not mean that the answers from any Member State have been neglected or omitted.

Changes compared to the previous reporting periods

The first report covering a whole trading year (to be delivered by 30 June 2006) was based on information for a full trading year and included experiences in the reporting process of the 2005 emissions ([9]). The report covering the 2006 trading year was somewhat more comprehensive, as all Member States submitted their reports and all used the revised questionnaire. In addition, Bulgaria and Romania were included for the first time with information on their institutional set-up. Trading in these two countries only started in 2007 and their initial experiences with the application of the Directives are included in this year's report. Despite these differences, many chapters in this year's report are similar to those of last two years especially those on institutional organisation. A separate chapter (Chapter 2) has been added in this year's report and draws some conclusions from the whole first trading period.

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

2 Overview of the first trading period 2005 to 2007

In many ways, the first trading period from 1 January 2005 until 31 December 2007 can be seen as an explorative phase, taking into account that the EU ETS is the first multinational emissions trading scheme of this magnitude. Only limited information was available on historic emissions for individual installations during the drafting and assessment of the first national allocation plans. Over the course of the three-year period, increasing knowledge was collected on key figures and experience gained in implementing the Emissions Trading Scheme. A number of lessons were learned that have reshaped the design and implementation of the system and will continue to do so. The conclusions in this chapter are to a great extent taken from the Article 21 reports from Member States but information from other sources is also used.

2.1 Facts and figures of the first trading period

A number of difficulties had to be overcome during the initial implementation phase of the EU ETS both in terms of the institutional as well as the operational set-up. Information from Member States revealed, for example, that issuance of permits and allowances was delayed because of institutional and administrative capacity constraints, registries were not set-up on time or failed to be operational for substantial parts of the initial years, a number of installations were not included in the EU ETS that should have been included and vice versa, penalties for non-compliance were either not fully enforced or were subject to legal clarification. Accordingly, corrections and adjustments were made throughout the first trading period.

By 2007, all Member States had established at least one competent authority responsible for the administration of the Emissions Trading Scheme. These tasks typically include: the allocation process; the issuance (or surrender) of allowances; the operation of registries; reporting, monitoring, accreditation of verifiers; compliance and enforcement; and the provision of public information. The distribution of these tasks to authorities and individual set-ups differ by Member States, so no uniform institutional scheme is available as a point of reference. Similarly, the legal nature and fiscal treatment of allowances has been defined individually by each Member State as no agreed international guidance exists on the treatment of allowances for these purposes. The process of setting up the EU ETS was considered resource and time intensive in most countries and required fast-track capacity building in a number of ways. Most Member States have introduced a system of fees and charges for the issuance of permits or allowances or for the use of registries in order to recover the entire administrative burden or a portion of it.

In total, 11 908 installations participated in the first trading period. The actual number of installations covered under the Emissions Trading Directive changed over time due to new entrants, to the closure of installations, or to new Member States entering the scheme. The overall number of allowances allocated by competent authorities increased from 2 096 million EUAs in 2005 to 2 153 million EUAs in 2007. Compared to the actual verified CO_2 emissions for the same period for the EU-27, an over allocation of allowances by 4 % was observed for 2005 — the first year of the trading period — which decreased to 1 % by 2007.

More detailed analysis shows that there are large differences amongst Member States (Table 1). Verified emissions were higher than allocations in only a few Member States (in Austria in 2005, in Denmark and Slovenia in 2006 and 2007, in Greece in 2007, in Ireland, Italy, Spain and the United Kingdom for the whole trading period). By contrast, allocations exceeded verified emissions by more than 10 % and in at least one year in fourteen Member States, of which eight are EU-12 Member States. There is an apparent difference between EU-15 and EU-12 Member States. On average, EU-15 operators allocated emissions allowances in amounts close to the verified emissions, whereas EU-12 operators, on average, allocated 14 % more than the actual emissions. These country groups are still not homogeneous however. For example, Luxembourg

Table 1 Key figures of the emissions trading scheme 2005–2007

	Number of installations	Allocated allowances (1 000 EUA)			Verified Emissions (kt CO_2)			Difference between allocation and verified emissions (%)			
		2005	2006	2007	2005	2006	2007	2005	2006	2007	2005–2007
Austria	216	32 413	32 649	32 649	33 373	32 383	31 751	– 3	1	3	0
Belgium	341	58 310	59 952	60 429	55 363	54 775	52 795	5	9	14	10
Bulgaria	0	–	–	0	–	–	0	–	–	n.a.	n.a.
Cyprus	13	5 471	5 612	5 899	5 079	5 259	5 396	8	7	9	8
Czech Republic	414	96 920	96 920	96 920	82 455	83 625	87 835	18	16	10	15
Denmark	399	37 304	27 908	27 903	26 476	34 200	29 407	41	– 18	– 5	3
Estonia	50	16 747	18 200	21 344	12 622	12 109	15 330	33	50	39	41
Finland	626	44 666	44 618	44 620	33 100	44 621	42 541	35	0	5	11
France	1 100	150 412	149 967	149 776	131 264	126 979	126 635	15	18	18	17
Germany	1 942	493 482	495 488	497 302	474 991	478 017	487 004	4	4	2	3
Greece	153	71 162	71 162	71 162	71 268	69 965	72 717	0	2	– 2	0
Hungary	254	30 236	30 236	30 236	26 162	25 846	26 837	16	17	13	15
Ireland	121	19 237	19 238	19 240	22 441	21 705	21 246	– 14	– 11	– 9	– 12
Italy	1 044	216 150	205 050	203 255	225 989	227 439	226 369	– 4	– 10	– 10	– 8
Latvia	102	4 070	4 058	4 035	2 854	2 941	2 849	43	38	42	41
Lithuania	110	13 499	10 577	10 318	6 604	6 517	5 999	104	62	72	80
Luxembourg	15	3 229	3 229	3 229	2 603	2 713	2 567	24	19	26	23
Malta	2	2 086	2 167	2 286	1 971	1 986	2 027	6	9	13	9
Netherlands	405	86 452	86 388	86 477	80 351	76 701	79 875	8	13	8	9
Poland	869	237 558	237 558	237 543	203 150	209 616	209 618	17	13	13	15
Portugal	265	36 909	36 909	36 909	36 426	33 084	31 226	1	12	18	10
Romania	244	–	–	74 343	–	–	69 605	–	–	7	7
Slovakia	190	30 471	30 487	30 487	25 232	25 543	24 517	21	19	24	21
Slovenia	99	9 138	8 692	8 246	8 721	8 842	9 049	5	– 2	– 9	– 2
Spain	1 066	172 161	166 186	159 717	183 627	179 700	186 534	– 6	– 8	– 14	– 9
Sweden	763	22 289	22 484	22 846	19 382	19 889	15 348	15	13	49	24
United Kingdom	1 105	206 072	206 005	215 875	242 515	251 151	256 569	– 15	– 18	– 16	– 16
EU-27	**11 908**	**2 096 444**	**2 071 741**	**2 153 048**	**2 014 017**	**2 035 608**	**2 121 647**	**4**	**2**	**1**	**2**
EU-25	11 664	2 096 444	2 071 741	2 078 704	2 014 017	2 035 608	2 052 042	4	2	1	2
EU-15	9 561	1 650 248	1 627 234	1 631 391	1 639 169	1 653 323	1 662 586	1	– 2	– 2	– 1
EU-10	2 103	446 196	444 507	447 314	374 848	382 284	389 457	19	16	15	17
EU-2	244	–	–	74 343	–	–	69 605	–	–	7	7

Notes: Exact numbers show small variations through time, due to new entrants, closures, corrections and other reasons. The table provides verified emissions for all installations with open or closed accounts in CITL, as of 06 October 2008 (i.e. including new entrants and closed installations). As the CITL is constantly receiving information (including corrections of verified emissions data, new entrants and closures), aggregations carried out after 6 October 2008 might give a different result. Bulgaria and Romania only entered the EU ETS in 2007, data for Romania are for 2007 only; the Bulgarian registry was still not operational at the time of writing and no data was available. Belgium: Verified emissions include installations which Belgium opted to exclude temporarily from the scheme in 2005. United Kingdom: Verified emissions for 2005 do not include installations which the United Kingdom opted to exclude temporarily from the scheme in 2005 but which will be covered in 2008 to 2012 and are estimated to amount to some 30 Mt.

Source: Community independent transaction log (CITL) (6 October 2008) ([10]).

([10]) The data contained in the CITL is undergoing constant change due to, e.g. installations entering or leaving the EU ETS, addition of missing information, correction of emission reports, inaccurate data in national registries and court decisions on allocation decisions. CITL data may deviate from actual allocations because the NAP tables, which form the basis for the data in the CITL, do not track all changes in allocation., e.g. in cases of new entrants, capacity extensions and closures (no changes for the whole period) and only partly in cases of corrections in allocation. Further cases of deviations between the CITL and actual allocations are – in some cases - installations which after allocation turned out to never have been obliged for participation, installations 'assembled' and split. In most cases these differences are small and will have no significant effect on the overall analysis. However, in specific cases differences may be of larger scale.

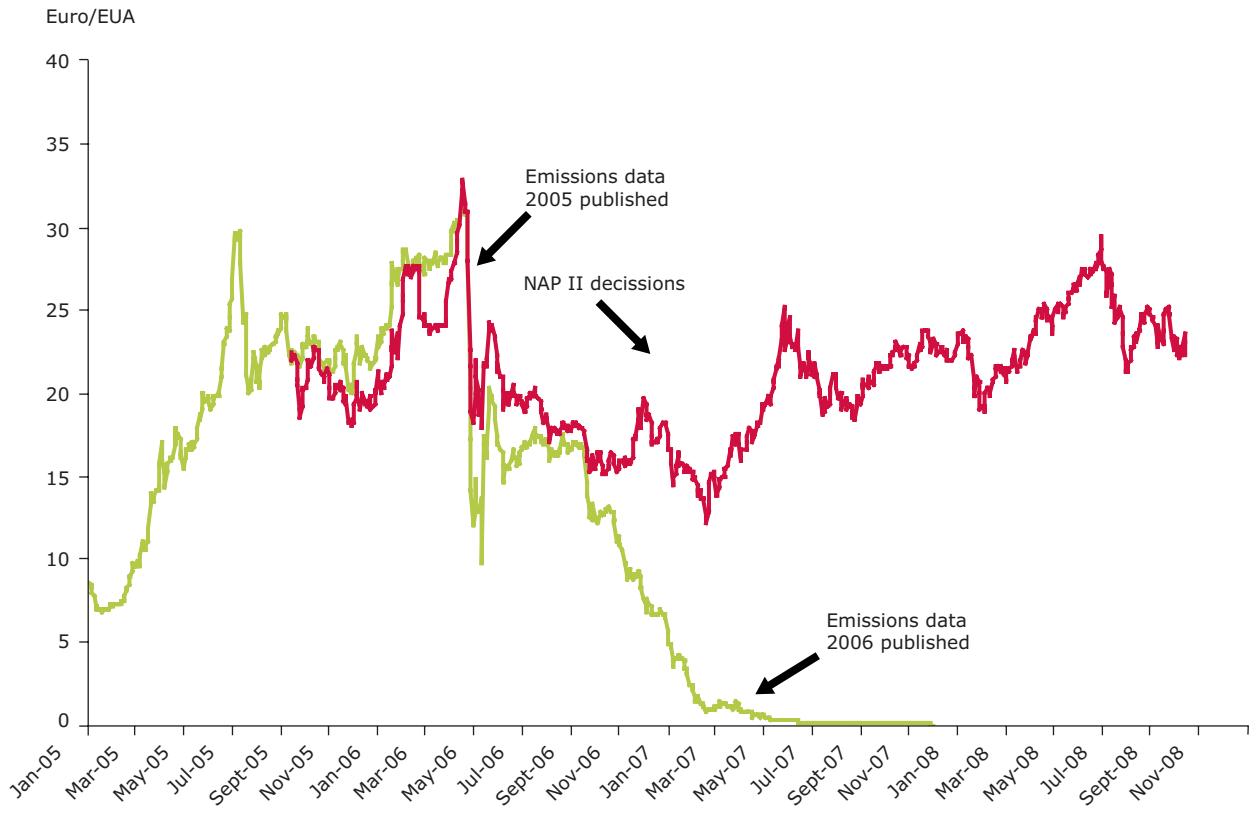
allocated between 16 % and 21 % more EUAs than verified emissions, while Slovenia allocated up to 10 % less than was emitted. A sector by sector analysis also shows large differences in allocation of allowances and verified emissions.

The limited ex-ante knowledge about the new EU allowance (EUA) market and its effect on the Emissions Trading Scheme was visible in the volatile development of EU allowance prices. The price for one tonne of carbon dioxide started at around EUR 7 per EUA, rose to a maximum of approximately EUR 30 per EUA and dropped sharply after the publication of the first verified emissions in April 2006 to below EUR 10 per EUA. The warm winter of 2006–2007 confirmed that overall emissions would be less than allocations and the EU carbon market for the period 2005–2007 would remain long ([11]); as a result the price dropped to below EUR 1 per EUA in spring 2007 (see Figure 2.1). With the absence of the possibility to use allowances from the first trading period for the subsequent period the excess allowances had no value to operators anymore.

2.2 Lessons learned in the first trading period

The experience gained in the first trading period is multilevel ranging from institutional aspects of implementation procedures to monitoring and verification processes. Facts and figures from the first trading period indicate that the process of allowance allocation was at the core of the Directive's implementation. This is underlined by the ETS review proposal for the post-2012 trading period ([12]). According to the Commission proposal, one of the main differences between the previous and current trading periods is that an EU-wide cap is supposed to

Figure 2.1 EU ETS OTC (over-the-counter) closing prices 2005–2008



Source: Point Carbon (various dates, www.pointcarbon.com).

([11]) A sector is short of allowances in case that verified emissions are higher than allowances allocated to the sector. It is long if allocated allowances exceed verified emissions.

([12]) Proposal for a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading system of the Community.

replace the current 27 targets. Another main difference relates to the share of allowances that will be required to be auctioned rather than allocated free of charge.

Retrospectively, arising from the first trading period, Member States pointed out the need for a simplification of allocation processes and harmonization of allocation rules. Harmonization to ensure uniform coverage and a more level playing field in all Member States is needed in the definition of the term 'combustion installation', the scope of the system, and the treatment of new entrants and closures. Furthermore, simplified, clear and transparent rules with fewer exceptions and greater standardization (such as benchmarks) are considered essential to reduce transaction costs in terms of time and resources for companies and authorities involved in the trading scheme. Certainty about future allocation rules was regarded as an important prerequisite to ensuring a sufficient planning horizon for investment decisions.

Reporting, monitoring and verification guidelines, and their accurate application are important for the effectiveness and efficiency of the scheme. Member States report on a number of different procedures and measure they have implemented to harmonize and improve monitoring and reporting by operators. These include among others: training courses; internet or telephone help lines; regular meetings; development of new forms and standardized solutions and examples, and verification of reports by subordinated organizations. Standardization of these procedures among Member States would be highly desirable. Moreover, Member States adopted varying levels of rigidity in ensuring compliance with the Directive, which points to another possible distortion.

To summarize, a number of lessons have already been learned and addressed in the second trading period. These refer primarily to the information that was acquired on historic emissions data and institutional set-ups, and the adjustment in allocations of emissions allowances to ensure the environmental effectiveness of the scheme. A number of lessons may still need to be taken into consideration to improve the efficiency of the scheme. These relate to the simplification and harmonization of institutional arrangements, implementation rules and monitoring and verification processes. To some extent, Member States have stated their specific needs to improve upon these issues. Many of these have been recognized by the European Commission, and are addressed in the current EU ETS review proposal.

3 Competent authorities

- As has been shown in the two latest reports, it appears that more than one competent authority is responsible for administrative tasks of the Emissions Trading Scheme in all Member States.
- Approximately half of the Member States also involve regional or local authorities in the administration of the trading scheme (e.g. by granting permission for installations, monitoring, reporting and verification).

The administration of the Emissions Trading Directive follows the subsidiary principle to a differing degree in the 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 their competent authorities 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. Table 2 gives an overview of the competent authorities in each Member State responsible for these tasks.

More than one competent authority is involved in the administration of the Emissions Trading Scheme in all Member States. 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 also involved. The highest number of competent authorities (six) has been reported by France, Lithuania, Poland, Romania and Spain. Portugal has reduced the seven authorities reported last year to two, but the task table shows several more abbreviations which were not introduced in Chapter 2.1. Eleven authorities are mentioned by Belgium where six authorities are involved for the Flanders region alone. The second column of Table 2 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 the 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, the Department of Environment, Food and Rural Affairs (DEFRA) is also responsible for opt-out applications under the national climate change agreements and the national emissions trading scheme. In Denmark Energistyrelsen (ENS) is also responsible for monitoring, emission reports and the use of CERs and ERUs. Latvia stated that the Ministry of Environment (MoE) is also responsible for the elaboration of the NAP. In Romania the Ministry of Economy and Finance (MEF) supervises accredited verifiers.

The number of competent authorities has decreased slightly, from 121 to 115, compared to last year. Luxembourg reported two authorities for the first time whereas Denmark listed one less than last year. The United Kingdom Accreditation Service carries out the role of the accreditation of verifiers; it is not listed as a competent authority for the purposes of the EU ETS. The same goes for the Irish National Accreditation Board.

Table 2 Competent authorities and their tasks ([13])

		Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising veri-fied em. reports	Accredit. of verifiers	Registry	Compli-ance and enforce-ment	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compli-ance	Admi-nistration of new entrants reserve	Infor-mation to the public	Auctio-ning	Admi-nistration of opt-ins	Admi-nistration of pooling	Zähl-hilfe	MS	No CA	
AT		– Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Division V/4 – Air soil and climate change (BMLFUW)	Local permitting authority	BMLFUW	BMLFUW	Local permitting authority	BMLFUW	BMLFUW[a]	BMLFUW	Local permitting authority, BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	BMLFUW	AT	AT	2	AT
		– CA responsible for the permitting of the installation (local administrative bodies, in some cases federal state governments) (Local permitting authority)																AT	BE	11	BE
BE	Fed Gov	– The Registry Administrator (FED)							FED									BE	BG	5	BG
	Brussels	– Gouvernement de la Région de Bruxelles-Capitale (GBC)	IBGE	GBC	IBGE	IBGE	IBGE	IBGE		IBGE	Regions and federal	Regions and federal	GBC	IBGE, Federal	-	-	-	BE	CY	5	CY
		– Institut Bruxellois pour la Gestion de l'Environnement (IBGE)		GBC														BE	CZ	4	CZ
	Flanders	– Flemish Government (FL-FG)	FL-PE, FL-ANREH, FL-VBBV	FL-FG, FL-FME	FL-FCA	FL-ANREH	FL-VBBV, FL-FCA	-		FL-EI, FL-VBBV, FL-ANREH	-	FL-FG	FL-FCA	FL-FCA, FL-ANREH	-	-	-	BE	DK	2	DK
		– Flemish Minister of the Environment (FL-FME)																BE	EE	4	EE
		– Flemish Competent Authority (FL-FCA)					FL-VBBV	-		FL-FEA, FL_VBBV, FEA-DAC,FL-FCA								BE	FI	5	FI
		– Flemish Air, Nuisance, Risk Management, Environment and Health Division (FL-ANREH)																BE	FR	6	FR
		– Benchmarking Verification Bureau of Flanders (FL-VBBV)																BE	DE	3	DE
		– Provincial Executive(s) of the Provincial Council(s) (FL-PE)																BE	GR	4	GR
	Wallonia	– Walloon Government (GW)	GW, Munici-palities	GW	GW	GW	DGRNE	DGRNE		DGRNE	DGRNE, FED	DGRNE, FED	DGRNE, GW	DGRNE	GW, DGRNE	GW, DGRNE	GW, DGRNE	BE	HU	2	HU
		– Directorate General for Natural Resources and for Environment (DGRNE)																BE	IE	1	IE
BG		– Bulgarian Ministry of environment and water (MoEW)	MOEW	CMRB	MOEW	EEA	EEA	EABSA	EEA	MOEW, AEE,REI	MOEW	MOEW	MOEW	CMRB, MOEW, EAA, EABSA	CMRB	-	-	BG	IT	4	IT
		– Environmental executive agency (EEA)																BG	LV	5	LV
		– Executive agency Bulgarian ac-creditation service (EABAS)																BG	LT	6	LT
		– Council of Ministers of the Republic of Bulgaria (CMRB)																BG	LU	2	LU

([13]) For a list of the abbreviations for Member States see p. 81.

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising veri-fied em. reports	Accredit. of verifiers	Registry	Compli-ance and enforce-ment	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compli-ance	Admi-nistration of new entrants reserve	Infor-mation to the public	Auctio-ning	Admi-nistration of opt-ins	Admi-nistration of pooling	Zähl-hilfe	MS	No CA	
	– Regional environ-mental inspector-ates (REIW)																BG	MT	2	MT
CY	– Ministry of Agriculture, Natural Resources and Environment (MANRE)	MANRE	MANRE	MANRE	MANRE	MANRE	-	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	MANRE	CY	NL	3	NL
	– Ministry of Labour and Social Insurance (MLSI)																CY	PL	6	PL
	– Ministry of Commerce, Industry and Tourism (MCIT)																CY	PT	2	PT
	– Ministry of Communication and Works (MCW)																CY	RO	6	RO
	– Cyprus Scientific and Technical Chamber (ETEK)																CY	SK	4	SK
CZ	– Ministry of Environment of the Czech Republic (MoE CR)	MoE CR	MoE CR	MoE CR	MoE CR, CHMI	MoE	MoE CR	EMO	MoE CR	MoE CR	MoE CR	MoE CR	MoE CR	-	MoE CR	MoE CR	CZ	SI	4	SI
	– Czech Environmental Inspection (CEI)																CZ	ES	6	ES
	– Electricity Market Operator (EMO)																CZ	SE	5	SE
	- Czech Hydrometerological Institute (CHMI)																CZ	GB	0	GB
DE	– Federal Ministry for the Environment, Nature Conserva-tion and Nuclear Safety (BMU)	LA	BMU, DEHSt	DEHSt	LA	LA, DEHSt	LA	DEHSt	DEHSt	DEHSt	DEHSt	DEHSt	BMU, DEHSt, LA	–	–	DEHSt	DE			
	– German Emissions Trading Authority (DEHSt)																DE			
	– Authorities re-sponsible for the implementation of the Federal Immission Control Act (BImSchG) under Land law (central and local government envi-ronment agencies, district chief executives, trades offices) (Land authorities)																DE			
DK	– Danish Energy Agency (Energistyrelsen) (ENS)	ENS	ENS	ENS	ENS/ Verifiers	ENS	DANAK	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	ENS	DK			
	– The Danish Accreditation and Metrology Fund (DANAK)																DK			
EE	– Ministry of the Environment (MoE)	MoE	MoE, EEIC	EEIC	'MoE, EEIC, County env. Depart-ments'	EEIC, MoE	MoE	EEIC	MoE, EEIC	MoE	MoE	MoE	MoE, EEIC	MoE	MoE	MoE	EE			
	– Estonian Environment Information Centre (EEIC)																EE			
	– Estonian Environmental Inspectorate (EEI)																EE			
	– Country environ-mental depart-ments ()																EE			
ES	– Consejerías de las Comunidades Autónomas (CCAA)	CCAA	AGE	AGE	CCAA	CCAA	CCAA, Accredi-tation entities	OECC	AGE, CCAA	AGE	AGE	AGE	all	AGE	AGE	AGE	ES			
	– Administración General del Estado (AGE)																ES			

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising veri-fied em. reports	Accredit. of verifiers	Registry	Compli-ance and enforce-ment	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compli-ance	Admi-nistration of new entrants reserve	Infor-mation to the public	Auctio-ning	Admi-nistration of opt-ins	Admi-nistration of pooling	Zähl-hilfe	MS	No CA
	– La Autoridad Nacional Designada para los mecanismos basa-dos en proyectos del Protocolo de Kioto (AND)																ES		
	– Oficina Española de Cambio Climático (OECC)																ES		
	– 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)																ES		
	– Grupo Interministerial de Cambio Climático (Órgano de coordinación entre autoridades competentes de la Administración General del Estado) (GICC)																ES		
FI[b]	– Energy Market Authority (EMV)	EMA, NGA	TEM	EMA	EMA, NGA	EMA, NGA	FINAS	EMA	EMA, NGA	MoE	EMA	TEM	EMA, NGA	-	EMA	-	FI		
	– Ministry of Employment and the Economy (TEM)																FI		
	– Finnish Accreditation Service (FINAS)																FI		
	– Ministry of the Environment (MoE)																FI		
	– The National Government of Åland (NGA)																FI		
FR	– Ministère de l'Ecologie, de l'Energie, du Développement durable, et de l'Aménagement du territoire (MEEDDAT)	DRIRE, PREF	MEDD	CDC	MEEDDAT, DRIRE, PREF	MEEDDAT, DRIRE	MEEDDAT	CDC	MEEDDAT, DRIRE, PREF, CDC	MEEDDAT, MINEFE	MEEDDAT, MINEFE	MEEDDAT	MEEDDAT, DRIRE, MIES, CDC	-	MEEDDAT	MEEDDAT, CDC	FR		
	– Caisse des Dépôts et Consignations (CDC)																FR		
	– Préfectures de département (PREF)																FR		
	– Directions Régionales de l'Industrie, de la Recherche et de l'Environnement (DRIRE)																FR		
	– Mission Interministérielle de l'Effet de Serre (MIES)																FR		
	– Ministère de l'Economie, de l'industrie et de l'Emploi (MINEFE)																FR		
GR	– Ministry of Environment, Physical Planning and Public Works, General Directorate of Environment, Directorate of Air Pollution and Noise Control (MoE)	MoE	MoE, ICOM	MoE	MoE	MoE	ESYD	NCESD	MoE	MoE	MoE	MoE	MoE		MoE, ICOM	MoE, ICOM	GR		
	– Interministerial Commitee (ICOM)																GR		

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising 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	Zähl-hilfe	MS No CA
	– National Center for the environment and sustainable development (NCES (ΕΚΠΑΑ))																GR	
	– Hellenic Accreditation system S.A. (ESYD)																GR	
HU	– Ministry of Environment and Water (MEW)	NIENW	MEW	MEW, NIENW	NIENW	NIENW	NIENW	NIENW	NIENW			MEW	MEW, NIENW	MEW	MEW	MEW	HU	
	– National Inspectorate for Environment, Nature and Water (NIENW)																HU	
IE	– Environmental Protection Agency (EPA)	EPA	EPA	EPA	EPA	EPA	INABb	EPA	EPA	n/a	EPA	EPA	EPA	EPA	EPA	EPA	IE	
IT	– Ministry for the environment, land and sea – Department for environmental research and development (MATTM-RAS)	Committee	Committee	Committee	Commitee	Committee	Committee	APAT	Committee	n/a	Committee	Committee	Committee	Committee	Committee	Committee	IT	
	– Agency for the environment and technical services (APAT)																IT	
	– Ministry for economic development (former Ministry for productive activities) - Department for energy and mineral resources (MSE-ERM)																IT	
	– Committee for the implementation and management of Directive 2003/87/EC (Committee)																IT	
LT	– Ministry of the Environment of the Republic of Lithuania (AM)	RAAD	AM, ŪM	RAAD, LAAIF	RAAD	RAAD, LAAIF	NAB	LAAIF	RAAD, LAAIF, IV	LAAIF	LAAIF	AM	AM, ŪM, LAAIF, RAAD, VAAI	LAAIF	AM	AM	LT	
	– Ministry of Economic Affairs of the Republic of Lithuania (ŪM)																LT	
	– Lt. Environmental Investment Fund (LAAIF)																LT	
	– National Accreditation Office under the Ministry of the Environment (NAB)																LT	
	– Regional Environmental Protection Departments (RAAD)																LT	
	– State Environmental Protection Inspectorate (VAAI)																LT	
LU	– Ministère de l'Environnement (MEV)	AEV	AEV	AEV	AEV	AEV	AEV	AEV	AEV, MEV	AEV, MEV	AEV, MEV	AEV	AEV, MEV	-	AEV, MEV	AEV, MEV	LU	
	– Administration de l'Environnement (AEV)																LU	
LV	– Ministry of the Environment of the Republic of Latvia (MoE)	SES	MoE	MoE	SES	SES	LATAK	LEGMA	LEGMA, SES	MoE	MoE	MoE	LEGMA	Not decided	SES, MoE	LEGMA, SES	LV	
	– State environmental Service (SES)																LV	
	– Environment State Bureau (ESB)																LV	
	– Latvian Environment, Geology and Meteorology Agency (LEGMA)																LV	

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising veri-fied em. reports	Accredit. of verifiers	Registry	Compli-ance and enforce-ment	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compli-ance	Admi-nistration of new entrants reserve	Infor-mation to the public	Auctio-ning	Admi-nistration of opt-ins	Admi-nistration of pooling	Zähl-hilfe	MS No CA
	– Latvian National Accreditation Bureau (LATAK)																LV	
MT	– Malta Environment and Planning Authority (MEPA)	MEPA	MEPA	MEPA	MEPA	MEPA	NAB-Malta in case of realisation	MEPA	MEPA	-	MEPA	MEPA	MEPA	Not applicable to date but MEPA in case of realisation			MT	
	– National Accreditation Board - Malta (NAB-Malta)																MT	
NL	– Dutch Emissions Authority (NEA)	NEA	EZ, VROM	NEA	NEA	NEA	Council of Accredi-tation	Nea	NEA	NEA	NEA	VROM, EZ, NEA	VROM, EZ, NEA	EZ, VROM	VROM, EZ, NEA	-	NL	
	– Ministry for Housing, Spatial Planning and the Environment (VROM)																NL	
	– Ministry for Economic Affairs (EZ)																NL	
PL	– Council of Ministers (RM)	S/W	RM, S/W	KASHUE	S/W	KASHUE, S/W	PCA	KASHUE	S/W, A, KASHUE	-	KASHUE	KASHUE	MŚ, KASHUE	-	S/W	MŚ, W	PL	
	– Minister of Environment (MŚ)																PL	
	– National Administration of the Emissions Trading Scheme (KASHUE)																PL	
	– Polish Centre for Accreditation (PCA)																PL	
	– The body competent for issuing permits to take part in the trading scheme (sta-rost (county gover-nor) - S, or in the case of plants incor-porating an installa-tion which qualifies as an undertaking likely to have a significant impact on the environment envir (S/W)																PL	
	– Accredited auditor/ Regional Environmental Protection Inspector (A)																PL	
PT	– Direcção Geral de Energia e Geologia (DGEG)	APA, SRAA, SRAM		APA	APA, SRAA, SRAM	APA, SRAA, SRAM	APA	APA	APA, IGAOT	-	Climate Change Com-mission	APA, DGEG	APA	-	-	-	PT	
	– Agência Portuguesa do Ambiente (APA)																PT	
RO	– Ministry of Environment and Sustainable Development (MESD)	LEPA, REPA	MESD	NEPA	NEPA	NEPA	MEF	NEPA	NEG	NEPA, MESD	MESD	NEPA	MESD, NEPA	Romanian Gover-nment		MESD, NEPA	RO	
	– National Environmental Protection Agency (NEPA)																RO	
	– 8 Regional Environmental Protection Agencies (REPA's)																RO	
	– 42 Local Environmental Protection Agencies (LEPA's)																RO	
	– National Environmental Guard (NEG)																RO	
	– Ministry of Economy and Finance - Directorate of Quality Infrastructure and Environment Protection (MEF)																RO	
SE	– Swedish Agency for Economic and Regional Growth (NUTEK)	CAB	SEPA	SEA	CAB	SEPA	SWEDAC	SEA	SEPA	SEA	SEA	SEA	SEA, SEPA	-	SEPA, SEA, MoE	-	SE	

	Competent authorities	Issuance of permits	Allocation of allow.	Issuance of allow.	Validation of monit. meth.	Receiving and super-vising veri-fied em. reports	Accredit. of verifiers	Registry	Compli-ance and enforce-ment	Issuance of ERU as a host country	Approval of the use of CERs & ERUs for compli-ance	Admi-nistration of new entrants reserve	Infor-mation to the public	Auctio-ning	Admi-nistration of opt-ins	Admi-nistration of pooling	Zähl-hilfe	MS No CA
	– Swedish Environmental Protection Agency (SEPA)																SE	
	– Swedish Energy Agency (SEA)																SE	
	– County Administration Boards (CAB)																SE	
	– Swedish Board for Accreditation and Conformity Assessment (SWEDAC)																SE	
SI	– Ministry of Environment and Spatial Planning, Dunajska 48, Ljubljana (MOE)	ARSO	ARSO	ARSO	ARSO	ARSO	SA, ARSO	ARSO	Insp.	-	MOE	ARSO	MOE, ARSO; Inspec-torate	MOE	MOE	MOE	SI	
	– Agency for Environment, Vojkova 1a, Ljubljana (ARSO)																SI	
	– Slovenska Akreditacija, Šmartinska 140, Ljubljana (SA)																SI	
	– Inspectorate of RS for Environment and spatial Planing, Dunajska 47, Ljubljana (Inspectorate)																SI	
SK	– Ministry of the Environment of the Slovak Republic (MoE)	DOE	MoE	MoE	DOE	DOE	MoE	MoE, NREK	MoE, ROE, DOE	MoE	MoE	MoE	MoE	MoE	MoE	MoE	SK	
	– 8 Regional Offices of the Environment (ROE)																SK	
	– National Registry Administrator Dexia Banka Slovensko (NREK)																SK	
	– 46 District Offices of the Environment (DOE)																SK	
UK	– Department for Environment, Food and Rural Affairs (Defra)	EA, SEPA, DOENI, BERR	Defra EA	EA, SEPA, DOENI, BERR	EA, SEPA, DOENI, BERR	EA, SEPA, DOENI, BERR	UK Accredita-tion Service	EA	EA, SEPA, DOENI, BERR	Designated National Authority – Defra	-	EA	EA, SEPA, DOENI, BERR	Defra/ BERR	DEFRA	n/a	UK	
	– Environment Agency (EA)																UK	
	– Department for Business, Enterprise and Regulatory Reform (BERR)																UK	
	– Scottish Environment Protection Agency (SEPA)																UK	
	- Chief Inspector – Department of Environment – Northern Ireland (DOENI)																UK	

Notes: [a] Authorisation, no Accredit-ation via EA in Austria.
[b] Information partly from last years answers.
[c] Irish National Accreditation Board, they are not considered a CA in the meaning of the Directive.

4 Coverage of activities and installations

- A total of 11 908 installations were included in the Community Independent Transaction Log (CITL) at the beginning of October 2008.
- 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 preceding years.
- Installations with emissions of more than 500 000 tonnes of carbon dioxide (CO_2) 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 10 000 tonnes of CO_2 or less per year account for 0.6 % of the emissions but comprise 40 % of the total number of installations.
- Over 1 200 changes in the list of installations compared to the national allocation plan (NAP) table were reported for 2007. Of these, 68 % concerned installations entering the Emissions Trading Scheme; 25 % from installations leaving the scheme because they fell below the threshold or closed-down, and 6 % were corrections due to court proceedings, or erroneous inclusion in or exclusion from the NAP in previous years. The remaining less than 1 % included installations with an unspecified type of change.
- No applications to form a pool have been reported by any 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 4.1 and 4.3 are taken from the CITL on 6 October 2008. At the time of writing all Member States except Bulgaria 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. The CITL data may deviate from national data due to several reasons; differences with figures published by Member States are therefore to be expected.

4.1 Number of installations per Annex I activity

All national registries except that of Bulgaria had connected to the CITL and transferred information in October 2008. Table 3 gives an overview of the actual number of installations and their activities included in the CITL on 6 October 2008. This is not the number of installations in the system for the year 2007 but for the whole period 2005 to 2007. The total number of installations has increased from 11 644 to 11 908; the number of installations listed as opted-in has also increased slightly from 475 to 484.

In Finland 42 % of the installations are listed as having opted-in, followed by Sweden with 26 %. 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 listed as having opted-in in these countries, resulting in a very high number of opt-ins.

About two thirds of all installations are classified as combustion installations (E1). In the EU-10 the share of this class is even higher at 73 %. Installations for the manufacture of ceramic products form the second largest group and on average account for 11 % of the overall number of installations. By far the smallest groups are coke ovens and metal ore roasting or sintering installations. The number of installations in both groups included in the scheme has remained constant with twenty and thirty installations respectively in seven Member States.

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

In Table 4 an overview of combustion installations with a rated thermal input of 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).

Table 3 Breakdown of the number of installations by Annex I activity ([14])

		Number of installations										
	Member State	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, pape and board	Other activity opted in	Total
AT	Austria	124	1	1	2	3	19	9	33	24	0	216
BE	Belgium	238	6	0	0	27	11	11	34	13	1	341
BG	Bulgaria	0	0	0	0	0	0	0	0	0	0	0
CY	Cyprus	3	0	0	0	0	2	0	8	0	0	13
CZ	Czech Republic	295	4	0	0	8	11	20	66	10	0	414
DK	Denmark	363	1	0	0	1	1	2	27	3	1	399
EE	Estonia	43	0	0	0	0	1	1	2	2	1	50
FI	Finland	291	2	0	0	4	8	6	5	49	261	626
FR	France	782	16	1	1	26	50	50	51	122	1	1 100
DE	Germany	1 279	43	3	0	46	126	102	205	138	0	1 942
GR	Greece	56	4	0	1	5	25	3	44	15	0	153
HU	Hungary	169	1	1	2	8	7	9	50	6	1	254
IE	Ireland	108	1	0	0	0	6	2	3	1	0	121
IT	Italy	630	21	0	0	44	89	55	35	170	0	1 044
LV	Latvia	88	0	0	0	1	1	2	6	1	3	102
LT	Lithuania	92	1	0	0	0	2	3	9	3	0	110
LU	Luxembourg	8	0	0	0	4	1	2	0	0	0	15
MT	Malta	2	0	0	0	0	0	0	0	0	0	2
NL	Netherlands	316	7	0	0	2	2	10	42	25	1	405
PL	Poland	626	9	10	0	9	66	39	86	24	0	869
PT	Portugal	93	2	0	0	2	12	9	118	29	0	265
RO	Romania	151	9	0	18	5	12	8	30	11	0	244
SK	Slovakia	148	1	0	0	4	10	6	12	3	6	190
SI	Slovenia	68	0	0	0	3	5	4	10	9	0	99
ES	Spain	486	12	1	3	28	58	60	306	112	0	1 066
SE	Sweden	463	5	0	3	16	12	4	5	58	197	763
GB	United Kingdom	879	14	3	0	9	26	30	80	53	11	1 105
	EU-27	**7 801**	**160**	**20**	**30**	**255**	**563**	**447**	**1 267**	**881**	**484**	**11 908**
	EU-15	0	0	0	0	0	0	0	0	0	0	0
	EU-10	0	0	0	0	0	0	0	0	0	0	0

Note: Data taken from CITL on 6 October 2008 ([15]).

([14]) For an explanation of the abbreviations for the Annex I activities please see p. 82. The numbers reflect the data contained in the CITL on 6 October 2008.

([15]) The CITL does not allow identifying new entrants which have already opened an operator holding account but only participate in the scheme as of 2008. For this reason an the reasons given in footnote 10 the number of installations in the table does not necessarily reflect the true number of installations in a country.

All reporting Member States included adequate data on the number of such installations. Compared to the previous year the number of installations in most Member States has either remained constant or increased slightly. In Austria, Belgium, Lithuania, Poland and Slovenia the number of installations has slightly decreased. They amount to 3 686 installations in total, roughly one third of the total number of installations in the EU-27. 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 as a group, installations with a rated thermal input of between 20 and 50 MW emitted 43.1 Mt CO_2 in 2007, slightly less than in the previous year (46.5 Mt CO_2 in 2006). Their aggregate emissions are equivalent to 2.0 % of the total CO_2 emissions covered by the trading scheme for the year 2007.

Percentage values were reported by all Member States with the exception of Greece, which match very well with actual CITL data.

4.3 Installations and the magnitude of their emissions

Whether or not the EU ETS covers too many small installations with rather low emissions where the administrative costs may well exceed the advantages of trading has been intensively debated. A breakdown of installations according

Table 4 Combustion installations with a rated thermal input between 20 and 50 MW

	Installations		Emissions	
	Number	Share of national installations	t CO_2-eq.	Share of total national emissions
Austria	45	23 %	425 187	1.3 %
Belgium	112	54 %	1 460 948	3.5 %
Bulgaria				
Cyprus	n.a	0 %	0	0.0 %
Czech Republic	205	46 %	210 000	2.6 %
Denmark	253	66 %	1 527 000	5.0 %
Estonia	26	55 %	417 087	2.5 %
Finland	139	23 %	945 712	2.2 %
France[a]	340	31 %	4 200 000	2.8 %
Germany	691	37 %	9 391 042	1.9 %
Greece[b]	13	8 %	301 626	0.4 %
Hungary	94	40 %	1 193 350	4.5 %
Ireland	56	50 %	539 304	2.5 %
Italy	281	50 %	3 163 000	2.1 %
Latvia	40	44 %	692 770	24.3 %
Lithuania	25	26 %	161 226	2.7 %
Luxembourg	3	5 %	44 600	1.7 %
Malta	0	0 %	0	0.0 %
Netherlands	66	31 %	2 338 000	2.4 %
Poland	261	41 %	4 577 237	2.5 %
Portugal	42	16 %	797 536	2.6 %
Romania	57	23 %	812 790	1.2 %
Slovakia	90	52 %	1 116 195	4.6 %
Slovenia	31	32 %	309 496	3.4 %
Spain	254	24 %	5 818 558	3.1 %
Sweden	174	24 %	479 113	2.5 %
United Kingdom	448	60 %	2 210 917	0.9 %
Total	**3 746**	**31 %**	**43 132 694**	**2.0 %**

Note: [a] Approximate values only.
[b] The shares are calculated based on CITL data as of 6 October 2008.

to the magnitude of their emissions is shown in Table 5 and Table 6.

Fortyone percent of all installations emitted less than 10 000 tonnes CO_2 per year in 2007. However, this figure varies substantially between Member States. In ten out of 26 Member States this group has the largest share of installations ([16]). In Sweden and Finland, where several small district heating installations with a rated thermal input below 20 MW were opted-in, 80 % and 70 % respectively of all installations fall in the smallest category. However, since most of these small installations are operated by large utilities that also operate installations falling under the EU ETS, they can make use of synergies of scale in the administration, and thus prevent substantial increases in transaction costs.

In addition, a high percentage of all installations (33 %) can be found in the group emitting more than 10 000 but less than 50 000 t CO_2 per year. Only about one quarter of all installations covered had emissions above 50 000 t CO_2 in 2007. Malta (100 %) and Luxembourg (60 %) are the only Member States in which the majority of installations

Table 5 Installations classed by the magnitude of their emissions — number of installations

Emissions in t CO_2/year	< 10 000	10 000 to 50 000	50 000 to 500 000	> 500 000	Total
			Number of installations		
Austria	74	74	53	15	216
Belgium	107	128	73	33	341
Bulgaria					
Cyprus	1	7	1	4	13
Czech Republic	159	155	65	35	414
Denmark	246	102	36	15	399
Estonia	17	17	13	3	50
Finland	441	87	74	24	626
France	282	522	239	57	1 100
Germany	704	681	391	166	1 942
Greece	36	56	35	26	153
Hungary	94	103	45	12	254
Ireland	50	39	17	15	121
Italy	317	385	234	108	1 044
Latvia	54	40	7	1	102
Lithuania	63	32	10	5	110
Luxembourg	1	3	9	2	15
Malta				2	2
Netherlands	209	74	93	29	405
Poland	182	431	193	63	869
Portugal	126	96	30	13	265
Romania	78	82	54	30	244
Slovakia	105	49	29	7	190
Slovenia	45	39	11	4	99
Spain	285	452	228	101	1 066
Sweden	613	81	61	8	763
United Kingdom	639	207	183	76	1 105
Total	**4 928**	**3 942**	**2 184**	**854**	**11 908**
	41,4 %	**33,1%**	**18,3 %**	**7,2 %**	**100,0 %**

Note: Data taken from CITL on 6 October 2008 ([16]).

([16]) The Bulgarian registry was not connected to the CITL at the time of writing; Bulgaria is therefore not included in this analysis.

Table 6 Installations classed by the magnitude of their emissions — aggregated emissions arising

Emissions in t CO_2/year	< 10 000	10 000 to 50 000	50 000 to 500 000	> 500 000	total
			t CO_2 per year		
Austria	187 365	1 470 885	8 513 342	21 579 585	31 751 177
Belgium	297 761	2 810 754	10 352 808	39 334 010	52 795 333
Bulgaria					
Cyprus	8 295	126 596	320 088	4 941 185	5 396 164
Czech Republic	471 300	2 704 093	11 200 681	73 458 690	87 834 764
Denmark	388 782	1 492 273	4 290 448	23 235 867	29 407 370
Estonia	48 644	340 333	1 667 553	13 273 404	15 329 934
Finland	463 606	1 645 137	11 036 987	29 395 623	42 541 353
France	1 084 732	10 368 392	30 640 493	84 541 198	126 634 815
Germany	1 843 857	13 506 270	51 953 757	419 700 194	487 004 078
Greece	157 013	1 214 163	3 954 176	67 391 659	72 717 011
Hungary	289 301	2 121 947	5 943 984	18 481 526	26 836 758
Ireland	192 406	716 858	2 105 451	18 231 405	21 246 120
Italy	1 337 660	7 932 320	35 721 080	181 377 723	226 368 783
Latvia	132 727	630 388	1 518 902	567 193	2 849 210
Lithuania	164 058	557 554	1 398 564	3 878 568	5 998 744
Luxembourg	6 036	95 697	867 995	1 597 503	2 567 231
Malta				2 027 364	2 027 364
Netherlands	31 481	1 969 394	10 594 828	67 278 956	79 874 659
Poland	621 697	8 870 311	22 873 609	177 252 740	209 618 357
Portugal	412 136	1 977 847	4 405 441	24 431 052	31 226 476
Romania	243 482	1 881 490	8 740 068	58 739 573	69 604 613
Slovakia	341 789	874 298	5 257 635	18 043 112	24 516 834
Slovenia	161 174	800 968	1 110 726	6 975 766	9 048 634
Spain	1 125 982	9 355 018	25 552 835	150 499 736	186 533 571
Sweden	462 703	1 440 548	6 633 504	6 811 498	15 348 253
United Kingdom	1 309 751	3 555 220	26 583 478	225 120 945	256 569 394
Total	**11 783 738**	**78 458 754**	**293 238 433**	**1 738 166 075**	**2 121 647 000**
	0.6 %	**3.7 %**	**13.8 %**	**81.9 %**	**100.0 %**

Note: Data taken from CITL on 6 October 2008.

belong to this group; both countries have only very few installations in the trading scheme.

Installations with emissions of more than 500 000 tonnes of CO_2 per year are responsible for more than 80 % of all emissions, while small installations with emissions of 10 000 tonnes of CO_2 or less per year account for 0.6 % of overall emissions included in the scheme.

4.4 New entrants and closures

All Member States reported changes in the installations accounted for in the scheme. These changes included new entrants, closures, installations falling below the minimum threshold, operator changes for existing installations and corrections to the installations covered by the NAP. Compared to last year's report, more new entrants (including increases in capacity) started operation. In total, 21 Member States reported 819 installations as entering the scheme or increasing their capacity in 2007, compared with 602 installations reported by 20 Member States in 2006. This includes 168 new entrants that had already received an allocation in 2006. Austria, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Portugal, Slovenia, Spain, Sweden and the United Kingdom, registered new entrants in both 2006 and 2007, Belgium and Poland registered

new installations in 2007 while Luxembourg did not report new installations in 2007 but in 2006.

The number of closures reported increased significantly from 15 in 2005 to 132 in 2006 from 17 Member States and 185 in 2007 from 14 different Member States. Germany stated that unissued or returned allowances for the year(s) which follow the closure of an installation were added to the new entrants' reserve. A further 118 installations (compared to 55 in 2006) left the scheme because they fell below the capacity threshold in Belgium, Germany, Italy and Poland ([17]).

Corrections in accounting occurred for 47 installations; including 12 cases in Belgium, Germany and the Slovak Republic in which installations were excluded from the NAP, mostly because they did not fall within the scope of the directive and were included in the NAP table erroneously. These installations did not receive any allocation in 2007. In 11 cases, installations were added to the scheme that had previously been erroneously considered outside its scope (Germany, Portugal and Slovak Republic).

Varying reasons for correction were given in the remaining 24 cases, i.e. correction because of court decisions for 4 installations in Austria as well as data adjustments and NAP correction in Denmark, Lithuania and Poland. In Germany, additional 239 corrections due to sustained objections were made. Changes in the name of the operator or the installations were reported for 27 installations in four countries (Austria, Estonia, Italy and Poland).

4.5 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. Only Spain reported on one application to form a pool in the glass sector which was submitted in December 2007; in addition, one pool in the cement and a clinker production sector was formed in November of that year. No Member State reported that a pool was formed in either 2006 or 2007, which is not surprising since most pools would be expected to be formed at the beginning of a trading period not halfway through it. During 2005 in total 16 pools were formed in the EU. In Finland, the Netherlands, Slovakia and Sweden pooling is not possible under national law. This provision is obviously not much used currently.

4.6 Additional remarks

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

Denmark and the Netherlands made some remarks in previous years. Bulgaria and Romania, which entered the scheme in 2007, added that they had applied the broad interpretation of a combustion installation in accordance with the recommendation of the Commission. Italy stated that they effectively applied the broader scope in their Allocation Decisions for the period 2008–2012. The United Kingdom recognized inconsistencies and difficulties concerning the coverage of installations and activities that had led to competitive distortions. Member States and the Commission have worked on a harmonized definition to be applied in the second period of the trading scheme to improve the situation.

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 CO_2/year and appropriate monitoring requirements for these installations are applied.

Spain commented that it had to apply a broad definition of combustion installation starting in 2006 due to objections made by the European Commission in its Decision concerning the Spanish NAP 2005–2007. Most of the new installations had low emissions, which aggravated the administrative burden for operators and authorities without respective increases in covered emissions.

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

Supplementary analysis: impacts of the EU ETS on industrial competitiveness — the issue of carbon leakage

Background
An intended effect of the EU Emissions Trading Scheme (EU ETS) is the inclusion of costs related to greenhouse gas emissions in the production costs of installations covered by the Directive. The EU ETS also increases costs on the demand side, including to electricity-intensive industries (e.g. aluminium industry), to the extent that the additional costs of covering greenhouse gas emissions are passed-on and included in product prices

Since the EU ETS only covers installations located in the EU, this unilateral implementation of climate policy may lead to distortions in competitiveness for carbon- and energy-intensive companies in the EU. Production in sectors which export to, or import from, regions that have not implemented a comparable climate policy may be at disadvantage depending on i) the carbon intensity of the production process, ii) the price for EU allowances (EUAs), iii) the significance of the additional carbon costs in relation to other production costs, and iv) the extent to which the additional EU ETS induced costs may be passed-through. Consequently, the EU ETS may lead to a shift in production or — in extreme cases — to a relocation of industrial production facilities to regions with a less stringent climate policy and would thus imply carbon leakage.

In the global context of competitive markets, carbon leakage may thus be an issue for energy-intensive industries which face international competition. Hence, the proposal for a new EU ETS Directive foresees that installations from certain sectors may receive up to 100 % of the necessary certificates for free, whereas certificates for the remaining sectors would be subject to auction. The European Commission envisages assessing which industrial sectors cannot pass through the cost of EUAs needed for production without loosing a significant market share outside of the EU in 2010. In March 2008, the European Council considered carbon leakage to be a concern that urgently needed to be analysed and addressed within the new EU ETS Directive. At the same time, the Council stated that an international agreement remains the best way to address this issue. Allocating allowances free of charge to companies rather than selling them on the market, would not alter the marginal costs and, hence, the competitiveness of production in the EU, at least under perfectly competitive markets. This is based on the fact that, in competitive markets companies consider free allowances as opportunity costs, as the allowances could alternatively be sold on the market. These opportunity costs find their reflection in marginal costs and are therefore passed on to consumers. However, free allocation would lower average costs and, thus, the financial burden to companies receiving them.

A more detailed analysis includes the following issues:

- Which sectors may face significant increases in direct or indirect costs due to the EU ETS?
- Which sectors are likely to face a high exposure to international competition which could lead to carbon leakage?
- Which mechanisms exist to address competitiveness/leakage concerns arising in the context of the EU ETS?

Methodologies
Several methods are available to assess the direct and indirect cost effects of the EU ETS. Direct costs are related to emissions that operators are obliged to surrender EU allowances for, i.e. energy and process emissions. Indirect costs are those that producers face because of the cost effects of the EU ETS in sectors further up the production chain, i.e. the effects of higher electricity prices. The extent to which additional costs may be passed on also depends on the industry sectors' exposure to international trade. Therefore, the use of indicators based on export and import shares to analyse differences in trade exposure across industry sectors reveals interesting findings. Combining the results with an assessment of cost exposure may then allow for a comprehensive evaluation of sectors that face high exposure both to international competition and to CO_2-related cost effects.

Other indicators or methods to assess price induced changes in national demand, imports or exports, such as aggregate demand or Armington elasticities, are also commonly used, but are highly debated because of their ambiguity and dependence on the method for estimation and data sampling. Reliable elasticity values on detailed sectoral and regional levels are rare. Correlation analysis, which aims to evaluate the impact of the EU ETS on product prices using empirical and statistical analysis, is also available but often suffers from

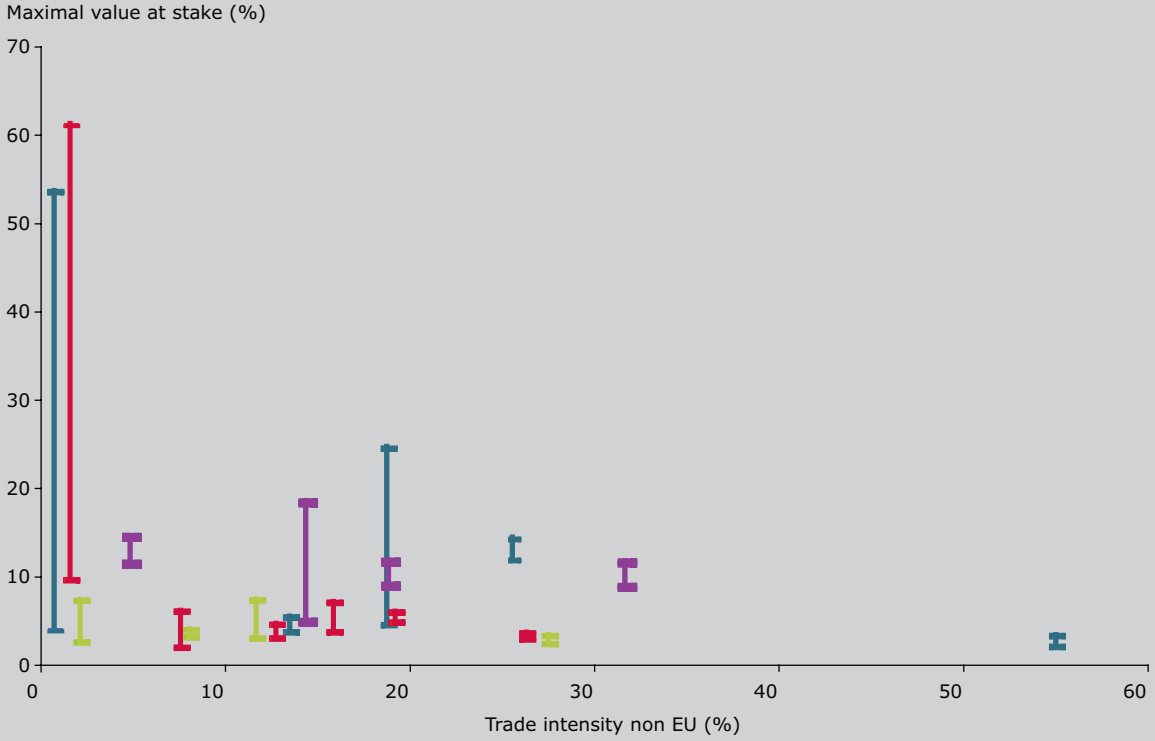
data constraints and estimation biases.

Summary of results from previous studies
Recently, several studies (for example for the United Kingdom, Germany, the United States of America, Australia and the Netherlands) have shown that the combination of intensity of trade indicators and value at stake indicators allow the assessment of the potential for distortion in competitiveness induced by the EU ETS. These studies consistently show that cost impacts are highly differentiated across a wide range of manufacturing industries and only a few specific industrial activities could be significantly impacted.

Figure 4.1 and Figure 4.2 provide an assessment of the potential cost increase (value at stake) and the trade intensity for a number of EU ETS sectors in Germany and the United Kingdom. The lower end of each bar depicts the indirect cost increase from anticipated electricity price increases with the ETS, relative to gross value added (GVA). The upper end of each bar reflects, in addition, the direct cost increases relative to GVA, due to CO_2 emissions in combustion and process. The horizontal axis shows the trade intensity with non-EU countries of each of these sectors.

The analyses show that, in 2004/2005, a small number of sectors may in fact be considered exposed to distortions in competitiveness due to both high trade intensity and high value at stake. For both Germany and the United Kingdom, these sectors include basic iron and steel, fertilizers and nitrogen compounds, and aluminium and aluminium products. For Germany, two additional sectors may be considered to be exposed: paper and paperboard, and other basic inorganic chemicals. These two sectors are not included for the United Kingdom because of lower carbon intensity and thus lower pass-through rates in the electricity sector. They would, however, be included if the same pass-through rate as in Germany was applied. In the United Kingdom, trade intensity with non-EU countries is higher than in Germany, therefore additional sectors may be considered at risk in the United Kingdom only. This includes refined petroleum products. For almost all sectors, the direct ETS costs are the driving factor, with the exception of aluminium which stands out in terms of indirect impact.

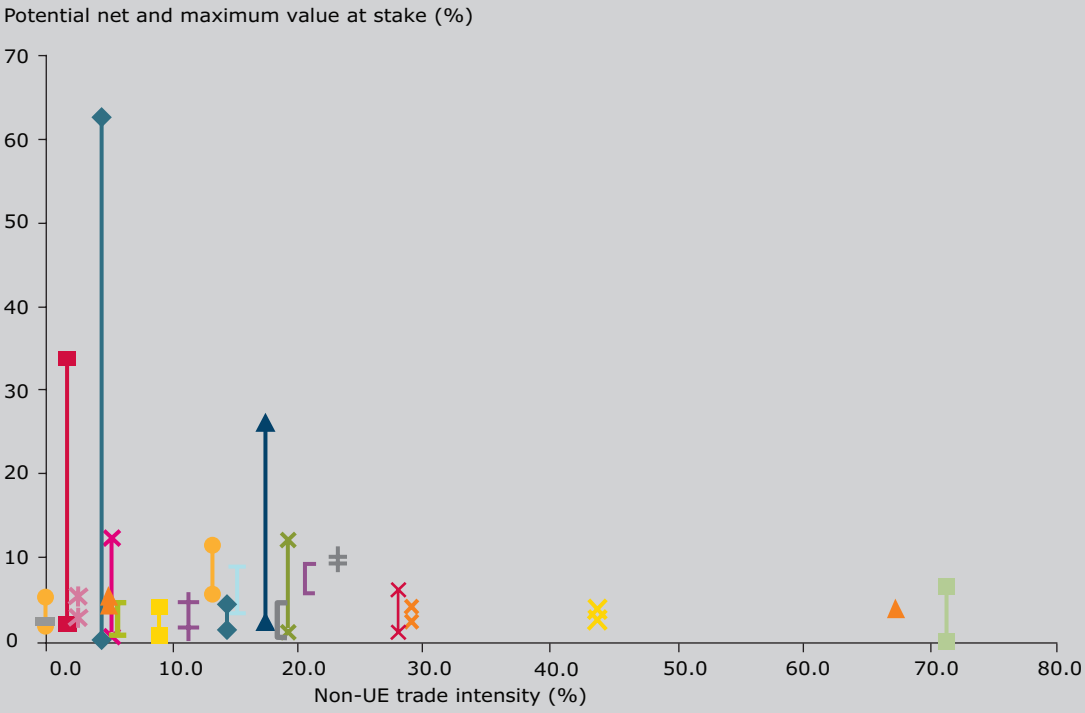
Figure 4.1 Trade intensity and maximum value at stake (relative to GVA) for German sectors



Note: Assuming 20 EUR/tCO_2 carbon price, and corresponding 19 EUR/MWh electricity price increase, 2005 data.

Source: Graichen *et al.*, 2008.

Figure 4.2 Trade intensity and maximum value at stake (relative to GVA) for United Kingdom sectors



Note: Assuming 20 EUR/tCO_2 carbon price, and corresponding 10 EUR/MWh electricity price increase, 2004 data.

Source: Adapted from Hourcade and Neuhoff *et al.*, 2007.

A number of other sectors reveal a high intensity of trade but low value at stake, which implies that the increase in product costs due to the EU ETS is relatively small and negative effects on competitiveness may not be likely. Similarly, sectors with high EU ETS related cost effects but low trade intensity are not expected to be significantly threatened by distortions in international competitiveness.

For the sectors that reveal high values at stake and high trade intensities, market positions are likely to change under the EU ETS due to increased production costs and high exposure to international competition. Firms may need to adjust their activities which may involve shifting production — or even relocating their business activity — to countries without comparable mitigation policies, which would imply carbon leakage.

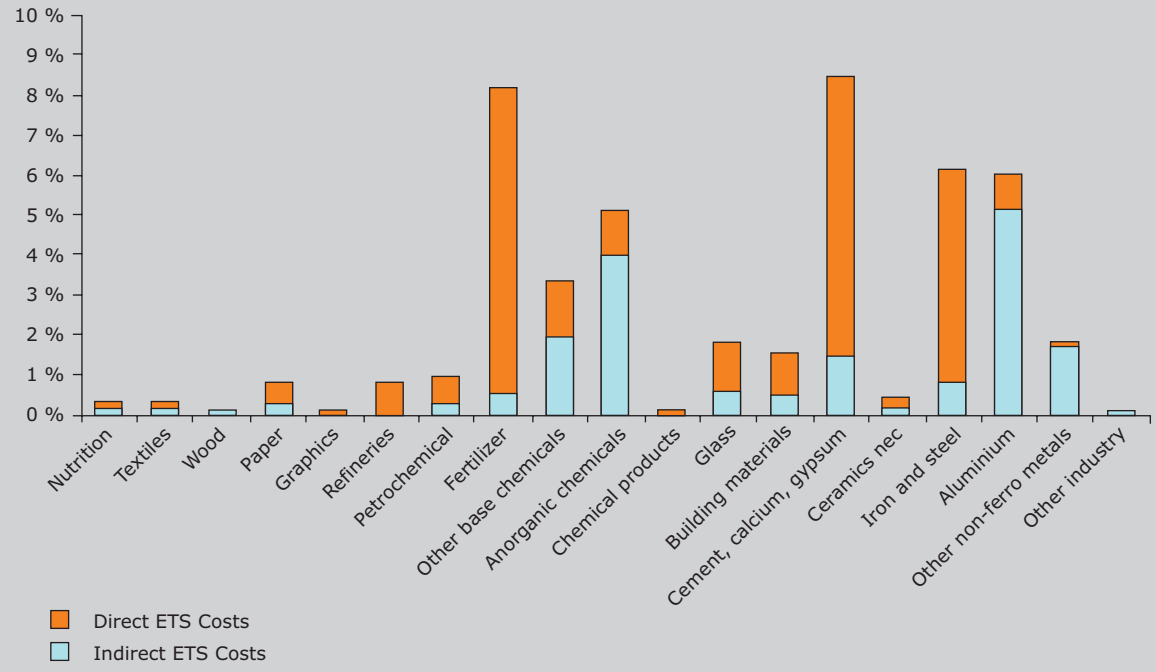
A recent study conducted for the Netherlands (CE Delft; de Bruyn *et al.*2008) also assesses the direct and indirect costs increase in response to the EU ETS (Figure 4.3). Their methodology differs slightly as they relate ETS cost increases to total costs for each sector. This generally implies smaller scale cost effects. Nonetheless, they reveal similar results. The four sectors with highest total cost increases are cement, fertilizers, iron and steel and aluminium. For the first three sectors, the direct ETS costs are the driving factor; for aluminium it is the indirect ETS costs. This study, however, uses a broader classification of sectors ranging from 2 to 4 digit resolutions. The broader sector classification may therefore mask the higher impacts experienced at sub-sector level.

Conclusions

Results from recent studies consistently show that significant CO_2 cost effects are concentrated in a few industrial activities, of which a few are exposed to international competition (i.e. cost pass-through abilities are limited).

Approaches to address competitiveness effects and leakage concerns would ideally be considered on a sector by sector basis. They include: continued free allocation of emission rights (grandfathered or output-based); direct payments to affected sectors; sectoral agreements and border adjustment measures. Such policies would allow unilateral stringent emissions reductions to be pursued, while not putting the

Figure 4.3 Potential cost price increase as a percentage of sectors' total costs for Dutch manufacturing sectors. Scenario with auctioning of emissions rights .



Note: Assuming 20 EUR/tCO_2 carbon price, and 14 EUR/MWh electricity price increase.

Source: de Bruyn *et al.,* 2008.

economic performance of those sectors at stake. It may be pointed out that in some cases economic distortion through indirect cost effects can occur even with free allocation of emissions allowances to industrial sectors, which is the policy approach currently being intensively discussed. In order to keep international trade distortions within the EU at a minimum, harmonized allocation rules, such as sufficiently high sector specific minimum auction requirements, will be essential.

An assessment of which sectors are highly exposed to possible distortions in competitiveness, and which measures should be implemented to address competitiveness and leakage, should ideally reflect multiple factors that may affect companies' production and investment decisions. Other factors that may deserve detailed investigation include: product differentiation and market segmentation within a sector (including specialty products); close cooperation with domestic/European partners and within firm trade; and differences across countries in the costs for labour and other input factors, in infrastructure quality, transportation costs, political and legal environment, or exchange rate risks.

References

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Hourcade, J.-C.; Demailly, D.; Neuhoff, K.; Sato, M., 2007. Climate Strategies Report. Differentiation and Dynamics of EU ETS Industrial Competitiveness Impacts. www.climate-strategies.org/uploads/Climate Strategies_competitiveness_final_report_140108.pdf.

5 Permits for installations

- There has been little change compared to last year's report. Not all Member States reported consistently on their institutional set-up over the years: it can be assumed that the main reason for this is erroneous information and not actual changes in national legislation/procedures.
- 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 authorized by the competent authorities; smaller changes need only be notified.
- Over 3 500 changes to permits occurred during the reporting period. The most frequent reasons for updates were changes in monitoring and reporting details, and changes in the operator or installation name.

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 provisions of the Directive (Articles 4 to 6) in different ways. 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 addresses several issues related to greenhouse gas permits, such as coordination between permitting authorities, interplay with other environmental permits and changes to permits.

5.1 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 six 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 commonly used measures in the EU. Verification bodies check compliance with permit conditions in all 27 Member States. 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, Slovenia, Spain, Sweden 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 24 Member States is to hold regular meetings with industry and associations to discuss issues relevant for compliance.

All of the measures listed above can be applied in Cyprus, Finland, France, Ireland, Malta, Portugal, Sweden, Slovenia and the United Kingdom. In addition to these provisions operators might also be fined or imprisoned for certain infringements in most Member States (see Chapter 13). Malta noted that none of the possible measures to ensure compliance has had to be applied so far. 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. In addition, 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.

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

Where more than one competent authority is involved in the issuance of greenhouse gas emission permits, rules and procedures should be coordinated to ensure that all operators are treated the same in one country. In the Czech Republic, Denmark, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, the Netherlands, Portugal and Slovenia only one competent authority is used to issue permits. 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. Belgium, Finland and Sweden are the only Member States with more than one competent authority involved in the issuance of permits but with no legal provisions for coordination between the authorities.

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

Austria reported that coordination works well in practice. With the exception of five installations in the autonomous region of Åland permits for Finnish installations are issued only by one authority. A co-operation of the permitting process with the local government of Åland which is responsible for the five installations has been established. In Portugal the implementation of the scheme relies on a number of bodies and several measures have been implemented to ensure consistency between them, although only one competent authority is involved in the permitting procedures.

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

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 CO_2 allowances instead. Therefore, Article 26 of the Emissions Trading Directive amends the IPPC Directive so that permits shall not include CO_2 emission limits for installations that are covered by the EU ETS. Where necessary, the competent authorities shall amend the permit as appropriate. In this regard, 25 Member States stated that national law, which transposes the Emissions Trading Directive, ensures that no emission or concentration limits for CO_2 are applied to emissions trading installations; in 17 Member States and two Belgian regions the transposition of the IPPC Directive does not include emission or concentration limits for CO_2.

Regarding the permitting procedure 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). Italy has reported for several years that it intends to implement an integrated permit procedure but has not yet done so. The other Member States established separate permit procedures for each of the Directives. In Belgium (Flanders and Wallonia), 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 a valid IPPC

permit is required for the granting of a permit under the Emission Trading Scheme. In fifteen Member States, IPPC regulators will inform ETS regulators if an installation also needs a permit for the trading scheme. In the Netherlands permits under the national nitrogen oxide trading scheme are combined with the permits under the CO_2 trading scheme.

5.4 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 to the nature or functionality of an installation. Where appropriate the competent authority shall update the permit. If there have been 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 authorized. In Greece these changes only have to be notified. In the Netherlands authorization is limited to changes that affect CO_2 emissions by more than 5 %. All countries except Estonia require authorization for changes in the monitoring methodology. Changes have to be notified in advance to the authorities in all countries except Poland; Germany and Italy have specified that this has to be done at least one month prior to the change. Changes that are deemed less significant are only recorded and no further action is taken. Operators in 24 Member States have to notify closures within one month.

Where there are breaches of these regulations, penalties may be imposed in 22 countries. Finland has reported that permits might be revoked; Sweden has stated that the legal situation is not yet entirely clear.

In all Member States but Austria, Belgium (Flanders and Wallonia), Germany 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, therefore, is not affected by changes of operator.

5.5 Number of updated permits

All 27 Member States reported the number of permits that were changed in 2007 (Table 7).

No permits needed updating in the third year of the trading period in the three countries with the smallest number of installations covered by the scheme (Cyprus, Luxembourg and Malta) as well as Ireland. In contrast, about 40 % of all permits in the Czech Republic, Denmark, Italy, Poland, Portugal and Spain needed updating; in the United Kingdom, the value was 75 %.

Denmark has reported that about 40 % of its issued permits were updated during the third 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. Denmark, Portugal, Spain and the United Kingdom have initiated the process of updating all monitoring plans according to the revised guidelines for monitoring and reporting of greenhouse gas emissions ([18]).

Member States reported a total of approximately 3 554 changes to greenhouse gas permits. In addition, 512 notifications without any update of permits were recorded. In addition, the Netherlands has estimated that thousands of non-significant changes to permits have taken 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 involve 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 monitoring and reporting details (1 610 cases) and change of operator or installation name (667 cases). In 2006 a large number of permits had to be revoked; the figure dropped to less than one third in 2007. Many revocations in the past were related to errors in the application of the scope of the Directive, an issue which appears to have been solved over time.

Taking those Member States into account that have not reported on the total number of updates, it can

([18]) Commission Decision 2007/589/EC of 18 July 2007 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 229/1 EN 31.8.2007.

be estimated that approximately one quarter of all greenhouse gas emission permits needed updating in the third year of the trading scheme. This is a considerable administrative burden to operators and competent authorities and was equally high in the previous two years of the trading period.

Table 7 Number of permits updated in 2007 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			1	2		14		1	[b]	3	20
Belgium	1	1		17	4	39	3				
Bulgaria				1	1		9		18		
Cyprus											0
Czech Rep.	3	15	3	3	6	94	40			3	167
Denmark		8	14	25	9	400	n.e.	–	–	11	40 % of permits
Estonia							4		3		
Finland	5		5	n.a.	n.a.	89 [f]	n.a.	n.a.	n.a.		
France			7	12	n.a.	n.a.	56	22	n.a.		
Germany	3	39[g]	140	21			364 [d]	n/a	n/a	22	589
Greece				4							4
Hungary							24				52
Ireland						n.a.					0
Italy	39		i.e. [c]	96	10	26 [d]	48	163	n.a.		
Latvia			2	6	3	2	2	5			20
Lithuania	–	1	1	1	6	–	–	3	–		12
Luxembourg											0
Malta											0
Netherlands				9		(59) [e]	(19) [e]	n.e.	78		
Poland	11	143	23	–	–	132	14	17	–	7	347
Portugal	49			17	1	9	4	23	31		134
Romania				5	1	17	7			5	35
Slovakia	8						11				19
Slovenia				11	1	5	3				20
Spain	22	7		31	11	285	31	24	41	23	434
Sweden	10	4	10	19	2	33	12	15	17		122
United Kingdom	39	132	28	41	i.e.	465	35	88	246	2	1 076

Notes: n.a. - not applicable; i.e. - included elsewhere; n.e. - not estimated.
[a] Not all Member States provided the total number of changes.
[b] Known cases.
[c] included under change in name.
[d] entire trading period.
[e] Notification only, no change in permit.
[f] Includes new entrants.
[g] Closures and falling below capacity threshold.

6 Application of the ''monitoring and reporting guidelines''

- Several issues remain 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 unreasonably high costs.
- Fifteen 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 number increases to 25 Member States if all installations are taken into account.
- Six Member States reported application of continuous emissions measurement.
- Most of the Member States coordinate ETS reporting with other reporting obligations (UNFCCC, E-PRTR, IPPC, NEC, LCP, EMEP) and use ETS data for public statistics, domestic trading schemes and regional covenants.
- Member States submitted more data and information on CO_2 transfer, biomass combustion and use in processes and use of waste as fuel and input material than in the previous reporting period.

Monitoring and reporting of emissions by operators and independent verification play a fundamental role in the trust placed in any emissions trading scheme. Plant inventory reports and verified emission reports are crucial since they determine the amount of the allowances which have to be surrendered for each year. This 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' ([19]) (MRG) by the relevant competent authorities in each Member State.

Consistent application of these guidelines ensures a level playing field for all operators irrespective of location. In this section of the questionnaire, Member States were asked to provide information on: the national legislation adopted, the approaches and methods (tiers) used to monitor emissions; any temporary derogations and deviations from the monitoring methodologies and other specific issues such as continuous emissions measurement, CO_2 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, E-PRTR, IPPC, LCP, and NEC.

6.1 Transposition of the 'monitoring and reporting guidelines'

Seventeen Member States (Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Germany, Estonia, Finland, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland, Portugal, Romania and Sweden) have transposed the MRG into their national legislation in the form of 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 the United Kingdom). Hungary, Ireland, Slovenia and Slovakia indicated that the MRG can be applied directly and no further national legislation, has been adopted with respect to monitoring and reporting. In Greece supplementary guidelines are applied to the MRG.

Several Member States provide some exceptions and (temporary) derogations from the MRG in

([19]) 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 26.2.2004.

their national laws (Table 8). Bulgaria, Denmark, Ireland, Italy, Lithuania, Latvia, the Netherlands and Slovakia indicated that no derogations have been allowed. Of these Italy reported several derogations last year which were no longer allowed in 2007.

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

All Member States provided detailed information on the tiers used for those installations that contribute cumulatively to 50 % of all emissions included in the trading scheme of their country.

Detailed values were submitted from 271 Member State installations (Table 9). The number of installations per country varies between two or less (Estonia, Lithuania, Luxembourg, Malta, and Slovenia) to 30 (Italy). Information was only required for emission sources within these installations that had annual emissions above 25 kt CO_2. However, Cyprus also included sources with annual emissions below that threshold. Belgium, Lithuania and the United Kingdom added various other biofuels (olive pulp, wood ashes, wood dust, wood pellets and general 'biomass').

The emissions shown in Table 9 are calculated from total annual emissions reported for each installation. Total annual emissions of installations may be equal to the sum of related emissions of source streams but may be higher in the case of small source streams that do not have to be reported, or lower in the case of transferred CO_2.

Member States had been asked to report all installations contributing cumulatively 50 % of all annual emission included in the trading scheme. The last column of Table 9 shows the percentages of reported emissions in relation to verified emissions for 2007 ([20]). Cyprus and Malta reported all installations included in the trading scheme. Four Member States reported on less than 50 % of the verified emissions; Lithuania only reported on 38 % and the Netherlands only on 30 %. The Bulgarian registry was not operational at the time of writing so the percentage value is based on the total allocation according to the Commission's Decision on the first national allocation plan ([21]).

In the Netherlands, annual emissions are given per facility (site). Only sources or source streams that do not meet the required tiers are aggregated. 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, it is hard to supply information about all permits, installations, sources and variables.

Minimum tiers are defined in the 'monitoring and reporting guidelines', which have to be used for the calculation of the activity data, emission factor, net calorific value and oxidation factor of an installation, depending on the activity, magnitude of emissions and fuel used. The Article 21 questionnaire does not request detailed information about activities for each source stream. In cases where a source stream could belong to different activities in one installation (e.g. combustion or process use) it is not possible to assess whether or not the guidelines have been correctly applied based on the responses to the questionnaire. A detailed analysis is possible only for the combustion installations sector. That the minimum required tiers have been used for all parameters was checked for each source stream. Tiers could not be checked in detail for other energy activities (E2 + E3) and for the production and processing of ferrous metals (F1 + F2) because the necessary information is missing. For those sectors it was only possible to identify single source streams which surely did not meet the required tiers (e.g. if the minimum tier for activity data is 3 for all categories of this sector, all lower tiers have been marked for this analysis). Source streams with less than 1 % of total emissions have been excluded from this analysis (de-minimis), the same goes for minor sources with less than 5 % of total emissions for which at least tier 1 has been used.

Nearly all deviations refer to source streams with more than 500 kt CO_2 emissions and none to source streams with less than 50 kt CO_2. A lower tier than that required by MRG has been used for the estimation of the emissions for at least one source stream in all Member States but Austria, Cyprus, Denmark and Ireland. Percentages per sector are shown in Table 10.

Lower tiers than required have been used in sector E1 for 4 % of all reported activity data, and for 9 %

([20]) Data extracted from CITL on 6 October 2008.
([21]) Commission Decision of 26 Octobre 2007 concerning the national allocation plan for the year 2007 for the allocation of greenhouse gas emission allowances notified by Bulgaria in accordance with Directive 2003/87/EC of the European Parliament and of the Council of 26.10.2007.

Table 8 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 operator based on supplier information.	AT, FI, SE
2	Standard characteristics are allowed for standardized fuels. (DE: only if in accordance with the same allocation method)	AT, DE, RO, SE
3	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.	FI
4	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.	FI
5	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.	DE
6	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.	GR
7	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 (BE, FI, SE); labs are obliged to apply Quality Standards in Finland and Sweden.	BE (Fl, W), FI, SE
8	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.	GR; RO
9	Energy-balance method is allowable for biomass.	AT, SE
10	For installations with only one type of solid fuel the 'energy-balance method' has been accepted by the national decree provided that at least the minimum uncertainty requirement of the tier to that specific installation is reached.	FI
11	Material streams should be used rather than source approach.	AT, BE (Fl)
12	In some specific cases and only during the first commitment period, lower tiers (PL: by one level only) can be applied than those given in MRG. PL: Such a possibility has to be regulated in a GHG permit.	PL, RO
13	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.	BE (W)
14	'Lower tier methods are allowed for the following emission or oxidation factor: – 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_2eq). – 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 Mt CO2). – 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_2eq).'	FR
15	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.	GR
16	For cement installations the use of a default value for biomass fraction in non-reusable tires is allowed.	FR
17	Uncertainty approach was not applied by operators; Operators in the ceramic sector were allowed to use the calculation approach für calculating the acivity data taking into account only the ceramic production. No reporting obligations for operators on waste types used.	RO
18	Table 1 of 'monitoring and reporting guidelines' is accepted as regular requirement table for monitoring in the first trading period.	DE

of all emission factor determinations in the largest installations. In sector E2 lower tiers have been used for only two percent of all activity data calculations. High deviations can also be found for the sector F2 where lower tiers have been used for at least eight percent of all activity data calculations. There are three reasons why these results differ from last year's findings: Total emissions of installations have been

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)	% of verified emissions 2007
Austria	5	17 183	54 %
Belgium	16	28 988	55 %
Bulgaria[a]	5	21 370	51 %
Cyprus	13	5 406	100 %
Czech Republic	11	46 508	53 %
Denmark	6	15 166	52 %
Estonia	1	9 372	61 %
Finland	13	21 457	50 %
France	22	62 938	50 %
Germany	27	246 264	51 %
Greece	5	36 655	50 %
Hungary	6	14 132	53 %
Ireland	5	10 256	48 %
Italy	30	103 013	46 %
Latvia	17	2 359	83 %
Lithuania	2	2 294	38 %
Luxembourg	2	1 598	62 %
Malta	2	2 027	100 %
Netherlands	6	23 782	30 %
Poland	12	106 938	51 %
Portugal	5	16 527	53 %
Romania	7	35 689	51 %
Slovak Republic	3	14 007	57 %
Slovenia	2	5 716	63 %
Spain	26	94 249	51 %
Sweden	6	9 549	62 %
United Kingdom	16	128 701	50 %
SUM	**271**	**1 082 142**	**50 %**

Note: Share is based on the total quantity of allowances approved in first national allocation plan and not on verified emissions.

used for the selection of prescribed tiers instead of single source stream emissions, de-minimis sources have been excluded and minor sources have been analyses separately.

The differences between the applied and required tier by activity and parameter are shown in Table 11.

The majority (sixty two percent) of all tiers for calculating activity data that do not meet minimum tier requirements are one tier lower than that which should be used for source streams for combustion installations (E1), similar goes for the other sectors and parameters.

The Danish Authority's Report regarding exemptions in connection with the competent authority's approval of permits and monitoring plans notes that a combination of the highest tiers of monitoring methodologies is not applied for installation with yearly CO_2 emissions exceeding 500 000 t. The report accounts for the majority of the applied tiers for installations with the greatest emissions.

6.3 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

Fifteen Member States (see Table 12) reported that lower tiers than those included in the MRG were applied during the reporting period. Overall, 1 101 monitoring parameters of 556 installations were reported. The highest number of installations for which tiers below the minimum were accepted was reported by Germany, followed by Romania and the United Kingdom. The number of installations concerned is a bit lower than last year (596) but there has been a change in the scope of the analysis.

Table 10 Sectoral distribution of largest installations for which lower tiers than minimum tiers required in the MRG are used

	Difference of used tiers to those required following table 1of 'monitoring and reporting guidelines'											
	Activity data				Emissions factor			Net Calorific Value			Oxidation Factor	
	1	2	3	4	1	2	3	1	2	3	1	2
E1	62 %	34 %	3 %	0 %	91 %	1 %	7 %	94 %	6 %		95 %	5 %
E2	86 %	14 %										
F2	64 %	36 %										

Table 11 Deviation of tiers used from 'monitoring and reporting guidelines'

	Number of source streams which use lower tiers than minimum tiers (percent of all largest installations in activity sector)			
	Activity data	Emission factor	Net calorific value	Oxidation factor
E1	29 (4 %)	67 (9 %)	32 (4 %)	97 (13 %)
E2	7 (2 %)			
F2	14 (8 %)			

Note: The table shows the difference between the applied and required tier by activity and parameter. For example, in 36 % of all cases where a lower tier has been applied for calculating the activity data in the F2 sector a tier which is two levels below the required level has been applied.

Several countries reported source streams which contribute less than 5 or even 0.5 % of all emissions (minor and de-minimis sources) and some countries excluded those source streams explicitly (Sweden and Finland). In general, derogation from Table 1 is acceptable for minor and de-minimis sources (as long as it is not below Tier 1 for minor sources). That is why these source streams have been excluded for the analysis if they have been marked as minor sources calculated with Tier 1 or de-minimis sources. This was the case in Bulgaria, Romania and United Kingdom. The same goes for installations using biomass, which have been mentioned by Bulgaria and explicitly excluded by others (Sweden and Finland).

The reasons given for adopting lower than minimum tiers were, amongst others: unreasonably high cost (Belgium, Finland, Malta, Romania, Slovenia, Spain, the United Kingdom); not technically feasible (Finland, Greece, Ireland, Latvia, Luxembourg, Romania, Slovenia, the United Kingdom); no available accredited laboratories (Bulgaria, Romania, Spain); no in-house laboratories for gas analysis (Ireland); biomass (Bulgaria); exceptions (Czech republic); a requirement for improved metering, meter uncertainty, ongoing meter replacement programmes, not being included in permit, variation pending (all United Kingdom); to be consistent with the attributions of the quotas (Belgium); country-specific EF and NCV do not exist; continuous operation of installation prevents setting up measuring equipment (Romania); and that the same EF be used nationwide (Luxembourg).

Austria did not report any reason for the use of lower tier methods. Reasons for the deviations were usually not reported to the Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management. Based on the legal situation (§ 6 'Überwachungsverordnung') it is generally assumed that the criterion that'a higher tier is not applicable due to technical reasons or would lead to disproportionately high costs' is applied. Germany, too, did not provide any reason for the use of lower tiers. Information on biofuels or minor/ *de-minimis* sources is not given in the case of data from Finland because Finland is using the minor/ *de-minimis* rule for the monitoring of biomass use in every installation where biomass is used([22]). Greece accepted lower tiers for all category C installations using natural gas, heavy fuel oil, light fuel oil and all installations using lignite.

([22]) The rationale for this is that emissions from biomass are not included in 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 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	24	56
Belgium	11	15
Bulgaria	10	42
Czech Republic	54	97
Finland	12	18
Greece	6	16
Germany	249	399
Ireland	4	6
Latvia	1	2
Luxembourg	2	8
Malta	2	4
Romania	112	217
Slovenia	3	3
Spain	11	13
United Kingdom	55	205
Total	**556**	**1 101**

In the Netherlands, tiers below the minimum have only been accepted for some of the more complex installations emitting more than 500 kt CO_2 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 as it would require an evaluation of all monitoring plans. Data submitted by Sweden do 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 also not listed these exceptions.

Poland accepted tiers below the minimum level temporally in GHG permits, although there is no complete information about individual installations. Portugal states that the competent authority is updating all permits with regard to Commission Decision (2007/589/CE) and that all these are being reassessed.

The United Kingdom states that minimum tiers will apply to some offshore installations with respect to flaring. Estonia, France, Lithuania, Slovakia and, for first time, Italy clearly indicated that there are no installations with tiers below the minimum requirement.

6.4 Installations that temporarily applied different tier methods than those prescribed by the competent authority

Eight countries provided detailed data on 54 installations that temporarily applied different tiers to those prescribed by the competent authorities (Table 13). Most of these installations are located in the United Kingdom. Overall 89 monitoring parameters were affected. Only activity data were reported by Portugal, Romania, Spain, Sweden and the United Kingdom.

The number of countries increased from five to eight compared to last year's report, with Bulgaria, Portugal, Romania and Spain reporting for the first time about such installations, whereas the one installation reported last year by Lithuania is no longer included. The number of installations affected more than doubled and the number of parameters affected is three times higher than last year. There is an especially high increase of reported installations from the United Kingdom — from two last year to 29 which is attributed to increased failure in measurement device. In general it is not clear whether the increased number reflects better reporting by Member States or actual increases of cases where the agreed tiers could not be applied.

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

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

Lower tiers were mostly applied for only a few months, although lower tiers have been used for more than six months in 16 cases (twice in Bulgaria; Ireland, Portugal, Romania, Sweden, 10 times in the United Kingdom). In the majority of cases the reason for a temporary change has been of measurement device failure (60) or, a temporary lack of data, such as problems with data storage (10). In 36 cases no other tier was used, whereas the same tier was used in six cases. If a lower tier was used, it was generally one tier below the approved one. There were several cases (especially in Italy and the United Kingdom) where the difference between the used and approved tiers was 2 or 3 tiers.

6.5 Application of continuous emission measurement

Six Member States submitted information on the application of continuous emission measurement (Table 14). At least 20 installations apply continuous emission measurement (CEM). Last year 30 installations were reported.

Of the total of nineteen combustion installations with a rated thermal input exceeding 20 MW (E1) that were reported for the 2006 trading year only five installations also applied CEM in 2007 (Germany and Poland). In Spain and Sweden no E1 installations apply CEM. For the United Kingdom six installations were reported in the E2 sector for the trading year 2007, which last year have been declared by mistake as E1 activities. United Kingdom states that all reported installations as applying CEMs are refineries using continuous monitoring to ascertain their CO_2 emissions from their catalytic crackers. For refineries CEM is the only practical way to derive these emissions (the taking of solid samples required for calculation approach being extremely inadvisable/impossible on H&S and technical feasibility grounds). Because this approach is now officially adopted in Annex III of the revised MRG for Phase 2 United Kingdom has the opinion that it should not be distinguished as a measurement-based approach (CEMs) in future.

Fourteen of the reported installations are mineral oil refineries (E_2) and one operates in the paper and board sector (O_2). Among the 20 installations, only three emit less than 500 kt CO_2. Six Member States did not answer this question in their reports.

6.6 Carbon dioxide transfer

Fifteen Member States submitted detailed data on CO_2 transfer outside plant boundaries (Table 15.). Of these Bulgaria, Portugal and Romania reported on this issue for the first time.

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
Bulgaria	1	2	OF, NCV
Ireland	4	6	AD, EF, NCV
Italy	12	27	AD, EF
Portugal	1	1	AD
Romania	1	1	AD
Spain	3	3	AD
Sweden	3	3	AD
United Kingdom	29	46	AD, EF, NCV
Total	**54**	**89**	

In total, data on CO_2 transfer from 78 installations was provided, of which 35 were from the energy industry, eighteen from ferrous metal production, ten from the pulp and paper industry and six from the mineral industry. The total CO_2 transferred from the 78 installations reported by Member States was 102 048 kt CO_2, a little less than last year (111 417 kt CO_2).

Carbon transferred outside plant boundaries is mainly used for combustion and electricity generation (coke oven gas, blast furnace gas and other combustible gases), forwarded to gas suppliers, used for precipitating calcium hydroxide into calcium carbonate, in the steel and food industries and for greenhouse horticulture.

According to the information provided by Member States, CO_2 is not transferred by any installation covered by the trading scheme in Cyprus, Estonia, France, Greece, Ireland, Lithuania, Latvia and Luxembourg. Integrated steel mills in Austria account for CO_2 transfer in their mass balance approach for reporting purposes.

6.7 Biomass combusted or used in industrial processes

Nearly all Member States (24) submitted detailed data on biomass combusted or used in industrial processes (Table 16). France, the Belgian regions and the Netherlands stated that they have no data.

Table 14 Number of installations applying continuous emissions measurement

	> 500 kt	50–500 kt	< 50 kt	Total	Main activities
Germany	6	1	1	8	E1+ E2
Finland	1			1	E2
Poland	3			3	E1
Spain	1			1	E2
Slovak Republic		1		1	O2
United Kingdom	6			6	E2
Total	**17**	**2**	**1**	**20**	

Table 15 CO_2 transferred from installations

	Number of installations	CO_2 transferred in total (kt CO_2)	Main Annex I Activity
Belgium	1	3 389	F1
Bulgaria	1	1	M1
Czech Republic	2	14 931	F2
Finland	8	350	E1, E2, O1 & O2
Germany	24	24 087	E1, E2, E3, E3&F2, F2
Hungary	2	1 294	F2, O2
Italy	5	25	E1, E2
Netherlands	2	406	E1, E2
Poland	4	901	E3, M1
Portugal	4	44 782	E1, F2, O1
Romania	3	526	F1, M1
Slovenia	1	1 734	E1
Spain	6	1 477	E1, E2, F2
Sweden	14	2 478	E1, F1, F2, O1, O2
United Kingdom	1	5 669	E1
Total	**78**	**102 048**	

combusted in Malta. Four countries (Bulgaria, Denmark, Portugal and Romania) reported on this issue for the first time, whereas Wallonia, which reported biomass use in last year's report, couldn't provide these data for 2007. Bulgaria reports biomass fractions (0–100 % carbon content) separately from the use of pure biomass. For the analysis below, all values have been summarized regardless of biomass fractions. Finland states that fractions of mixed fuels are not included in their reported data.

In total, over 2 382 523 TJ of biomass were combusted in Member States. The largest amounts were in the Slovak Republic (1 219 195 TJ), Sweden (358 171 TJ) and Finland (235 268 TJ). Combustion occurred mainly in the energy sector (29 % of the number of installations), in cement production (25 %) and manufacturing of ceramic products (18 %). The highest percentage (64 %) of biomass combusted was by the pulp and paper industry.

There is a very large discrepancy between the values in this years report from Sweden and those from last year due to the use of incorrect net calorific values in three emission reports in 2006. The biomass reported for 2006 as combusted exceeded the actual value by 2 260 000 TJ.

The total reported biomass used in industrial processes amounted to 21 096 kt. The largest contributions, exceeding 1 000 kt, came from Austria, the United Kingdom, Spain, Italy, Denmark, the Czech Republic and Portugal. Italy reported a very large difference relative to last year's value (99 604 kt less than in 2006). Italy stated that the use of biomass is a memo item and has often been overlooked by operators; therefore the data may be underestimated.

The survey of biomass use was ambiguous. On the one hand it was not clearly defined if the biomass combusted mentioned in the first column should

Table 16 Biomass combusted or otherwise used

	Biomass combusted	Main Annex I activity (TJ)	Biomass employed	Main Annex I activity (kt)	Biomass employed	Main Annex I activity (m^3)
Austria	49 092	E1, M1, M3, O1, O2	5 642	E1, M1, M3, O1, O2	39 836 000	E1, O1, O2
Belgium	not available		not available		not available	
Bulgaria	3 346	E1, E2, O2	429	E1, E2, O2		
Cyprus	99 681	M1	6	M1		
Czech Republic	19 629	E1, M1, M3, O1	1 745	E1, M1, M3, O1		
Denmark	29 063	E1, M1, M3	2 004	E1, M1, M3	9 042 000	E1
Estonia			233	E1, M2, O2		
Finland	235 268	E1, E2, M1,M3, O1&O2, opt-in				
France	not available		not available		not available	
Greece			64	M1, M3	9 156	O2
Germany	68 276	E1, M1, M3, O1, O2	540	E1, F2, E3/F2, M2, M3		
Hungary	18 721	E1, M1, M3	90	M2, M3		
Ireland	5 427	E1, M1	0	M3		
Italy	58 701	E1, M1	2 187	E1, M1, M3	1 923 843	E1
Latvia	2 677	E1, M1, M3				
Lithuania			53	E1		
Luxembourg	1 235	E1, M1				
Malta	0	E1	not applicable		not applicable	
Netherlands	not available		not available		not available	
Poland	37 033	E1, M1+2, M3, O2	552	E1, M2, M3	3 753 534	M1+2, M3
Portugal	49 347	E1, M1, M3, O1, O2	1 231	O1, O2		
Romania	33 482	E1, M1, M3, O1	41	E1, M2, M3	66 066	M3
Slovak Republic	1 219 195	E1, M1, O1, O2				
Slovenia	1 604	E1, M1, M3				
Spain	40 394	E1, M1, M3, O1, O2	3 076	E1, M1, M3, O1, O2	33 812 279	E1, M3, O2
Sweden	358 171	E1, M1, O1, O2	53	E1, M1	41	E1
United Kingdom	52 181	E1, M1, O2	3 150	E1, M1, O2	479 283 364	E1
Total reported	**2 382 523**		**21 096**		**567 726 283**	

be reported in terms of physical quantities in the following columns or if only unburnt biomass should be reported. On the other hand, data on biomass reported as the volume-related unit of m^3 might only refer to biogas, although it is possible that solid or liquid biomass has been reported as well.

Nine Member States submitted data in volume related units (Austria, Denmark, Greece, Italy, Poland, Romania, Spain, Sweden and the United Kingdom). The largest amounts were reported by the United Kingdom (over 479 Mm^3), Austria (over 39 Mm^3) and Spain (over 33 Mm^3).

Austria reported that the values in m^3 refer to biogas only whereas figures given in tonnes refer to solid and liquid biomass. In cases where there are mixtures of fossil fuels and biomass, only the biomass content is accounted for. The numbers for biomass used in Austria were provided in energy units (TJ) as well as in mass (t) or volume units (m^3). It was assumed that the fuel quantities reported by operators corresponded to the fuel amount used for combustion. Other Member States did not provide information on any distinction between biomass used for combustion and for processes, or as to whether or not only biogas has been reported.

The total amount of biomass employed in volumetric units reported by nine Member States was 567 726 283 m^3, which is again a considerable increase compared to the data reported from the previous year (406 361 866 m^3); the main reason for this is the large increment, from 339 to 479 Mm^3, reported by the United Kingdom.

Table 17 shows the distribution of biomass combusted and used by activity.

The percentage of biomass combusted in energy activities is much lower than in the previous report (from 63 to 26 %), especially due to the corrected values from Swedish installations. In this current analysis the pulp and paper sector dominates with 64 %. There is also a substantial decrease in the role of the energy sector (from 93 % last year to 57 %) with regard to the biomass used, which is mainly a result of the large decrease reported from Italy. At 95 % Energy activities dominate only with regard to gaseous biomass used.

As in previous reports, double counting of biomass use can not be ruled out. As discussed above, some countries may have reported combusted biomass in both mass and volume-related units. 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 biomass combusted.

6.8 Waste used as fuel or input material

Nineteen Member States submitted detailed data on the use of waste as fuel or input material (Table 20) and reported a total of over 26 885 kt of solid or liquid used or deployed waste: This is a considerable increase compared to last year's 20 367 kt.

As in the report for 2005, Italy again reports the use of gaseous waste. This, together with the quantities reported from Sweden, amounts to about 81 Mm^3.

About half of all Member States (Bulgaria, Estonia, Germany, Greece, Hungary, Spain, Ireland, Italy, Latvia, Poland, Slovenia, Slovakia and Sweden) provided EWC codes from the European List of

Table 17 Biomass combusted and otherwise used by sector

'Main Annex I activity'	Biomass combusted (TJ)	'Biomass employed (kt)'	'Biomass employed (m^3)'
E1	629 130	12 014	537 806 734
E2	129	5	0
E3	0	0	0
F1	0	0	0
F2	0	1	0
M1	195 639	587	0
M2	0	0	0
M3	27 630	1 203	9 164 109
M1+M2	846	0	381 450
O1	264 789	3 323	6 816 000
O2	1 079 815	3 951	13 557 990
O1 & O2	184 332	0	0
Opt-in	212	0	0

Wastes. This means about 80 % of all data has been reported in EWC codes, representing around two thirds of the solid or liquid waste used as fuel and three quarters of CO_2 emissions from waste reported by Member States. Only data specified with EWC codes have been categorized in Table 18.

The most frequently reported waste used as fuel comes from wood processing and production of paper (category 03), thermal processes (10) and waste treatment facilities (19). Waste from waste treatment facilities dominates the deployment of waste in gaseous state and in terms of CO_2 emissions.

The largest amounts of waste were reported by Poland, Germany, Sweden, Italy and Austria. In each of these five Member States the amount of waste used exceeded one megaton CO_2 annually. The ten biggest single activities reported by Member States are shown in Table 19.

The waste used generated more than 8.3 Mt of fossil CO_2 emissions and another 847 kt of CO_2 from biomass. The three largest contributions were reported by Germany, Poland and Italy. Biomass-based CO_2 emissions were only reported by Austria; data on energy content is given exclusively by Italy. The Czech Republic did not report details about the use of waste but states that the CO_2 emissions are lower than 100 000 t.

Bulgaria, Estonia and Romania reported on this issue for the first time. Belgium, Denmark, France, Luxembourg, Malta, the Netherlands and Portugal indicated that information on waste used as fuel or input material is not yet available. Italy reported data that had been collected from the emissions reports for 2007 when reporting of detailed data was not mandatory. For this reason the quantities reported are underestimated.

It should be stressed that reporting on the use of waste seems to be incomplete in some Member States. This might be due either to incomplete information provided by operators or 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. Bulgaria and Cyprus reported the same amounts of biomass in answering both questions of this questionnaire —regarding the use of biomass in Section 6.7 as well as with regard to the use of waste in EU ETS.

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

Nearly all reporting Member States indicate clearly that they have no such installations; Slovenia did not answer the question.

6.10 Coordination of ETS reporting with other emission reporting requirements

For 2007, all Member States submitted information on coordination of EU ETS reporting requirements with other reporting obligations (Table 21). 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 Spain coordination is planned; in Belgium, Finland and Ireland coordination happens only partially and no coordination is reported in the Czech Republic, Germany, Greece, Hungary, Luxembourg, Italy, Portugal, Romania and Sweden.

Few changes have been reported compared to last year. In general, those that can be found show a way to greater coordination of ETS reporting with other emission reporting requirements. The Austrian shared Internet portal and master data administration was implemented for coordination with the European Pollutant Emission Register (E-PRTR, Commission Decision 2000/479/EC) and with the Large Combustion Plant Directive (LCP, Directive 2001/80/EC). Bulgaria reported on this issue for the first time. In Germany and Portugal, work is under way for coordination with the greenhouse gas inventory compilation under UNFCCC and Decision 280/2004/EC. Greece reported this kind of coordination for the first time in 2007. Estonia and Lithuania reported several new measures for coordination with other reporting requirements.

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

All reporting Member States apart from Slovenia reported measures and procedures to improve monitoring and reporting by operators. Eight

Table 18 Allocation of waste used as fuel to waste categories

Waste categories first two digits	Short description of waste categories from ...	Mentioned by Member State	Quantity used/ deployed (t)	Quantity used/ deployed (m^3)	CO_2 emissions (t CO_2)
01	Agricultural production, food processing	25	576 844	–	561 310
02	Exploration of minerals and quarry	18	843 665	5 176	16 818
03	Wood processing, production of paper	32	5 350 350	61 181	524 714
04	Leather, fur and textile industry	4	3 377	–	2 681
05	Petroleum refining	2	29 673	–	35 167
06	Inorganic chemical processes	5	16 881	–	6 771
07	Organic chemical processes	30	172 178	1 036	265 533
08	Manufacture of coatings	5	22 958	–	20 369
09	Photographic industry	3	198	–	249
10	Thermal processes (inorganic)	29	4 998 242	–	375 549
11	Metal treatment (inorganic metal-containing)	0	–	–	–
12	Shaping of metals and plastic	12	32 808	–	24 940
13	Oil wastes	21	60 774	–	153 354
14	Organic substances used as solvents	4	40 890	–	58 180
15	Waste Packaging (absorbents, filter materials)	13	108 010	792	107 325
16	Wastes not otherwise specified	17	491 556	–	1 086 357
17	Construction and demolition	8	308 012	547	4 535
18	Human and animal health care	1	127	–	–
19	Waste treatment facilities	43	4 242 289	80 912 147	2 873 867
20	Municipal wastes	7	255 967	2 182	83 036
non classified	divers	70	9 329 941	61	2 146 737
Sum		**349**	**26 884 738**	**80 983 122**	**8 347 491**
Classified waste in % of total		80 %	65 %	100 %	74 %

Table 19 Largest quantities of waste used by Member State and waste types

	Quantity used/deployed (t)	Waste type
PL	6 334 568	Divers
SE	2 385 900	Wastes from pulp, paper and cardboard production and processing (030301)
PL	2 317 114	Wastes from the iron and steel industry (100201)
DE	2 139 849	Wastes from mechanical treatment of waste (191210)
DE	1 089 820	Wastes from waste water treatment plants (190805)
DE	770 634	Wastes from the iron and steel industry (100208)
DE	756 516	Wastes from pulp, paper and cardboard production and processing (030310)
IT	644 416	Wastes from wood processing and the production of panels and furniture (030105)
DE	598 399	Wastes from pulp, paper and cardboard production and processing (030305)
IT	479 940	Divers

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

Support material published on the internet, electronic help desks and telephone support were mentioned by twelve Member States (Austria, Bulgaria, Germany, Denmark, Finland, Greece, Italy, Poland, Romania, Spain, Slovakia and Sweden). Standard solutions and examples are being developed in Austria, Germany and Denmark.

The use of electronic reporting formats was considered an improvement by Austria, Belgium, Finland, Portugal and Spain. Reports are verified by subordinate organizations to help improve reporting in Belgium. In the Netherlands the Dutch Emission Authority does not approve the monitoring plan but validates it, which means that operators remain

Table 20 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	1 274 796		475 931	847 870	
Belgium	not available				
Bulgaria	244 330		9 730		
Cyprus	10 417		19 255		
Czech Republic			Less than 100 000		
Denmark	not available				
Estonia	79 599		46 166		
Finland	383 768		169 574		
France	unknown				
Greece	185 191		56 691		
Germany	8 266 947		4 198 788		
Hungary	148 877		209 732		
Ireland	79 592		29 162		
Italy	2 630 477	80 923 055	709 305		448 042
Latvia	7 621		1 9 982		
Lithuania	7 513		22 210		
Luxembourg	not available				
Malta	not applicable				
Netherlands	not available				
Poland	9 880 105		1 415 762		
Portugal	not available				
Romania	104 017		113 382		
Slovak Republic	86 164		83 961		
Slovenia	13 711		26 485		
Spain	184 213		283 763		
Sweden	3 213 703	60 067	298 192		
United Kingdom	83 698		159 420		
Total reported	**26 884 738**	**80 983 122**	**8 347 491**	**847 870**	**448 042**

responsible for their plans. If deficits appear in inspections by the Dutch Emission Authority or in verifications, operators are obligated to correct them.

Spain also reported on an ongoing process to harmonize the application of monitoring and reporting by the competent authorities of the regions. This includes the updating of all procedures based on experiences gained in 2006 and the implementation of new measures such as letters to operators reminding them of findings from previous years. In the United Kingdom, regulators have worked with Group B and C installations and set requirements for improvements to be made to ensure that they meet highest tier requirements.

Table 21 Coordination of ETS reporting with other reporting requirements

	other requirements	UNFCCC	E-PRTR	IPPC	NEC	LCP	EMEP	voluntary covenants	other trading schemes	use by statistical office
Austria	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes
Belgium	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes, partially	Yes	No	Yes, partially
Bulgaria	Yes	Yes	No	No	No	No	No	No	No	Yes
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	planned	No	No	No	No	No	No	No	No
Denmark	Yes	No	No	No	No	No	No	Yes	No	Yes
Estonia	Yes	No	No	Yes	Yes	Yes	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	Yes	No	No	No	No	No	No	No	Yes
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	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
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	Planned	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	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	No
United Kingdom	Yes	Yes	Yes	Yes, partially	Yes	Yes, partially	Yes	N/A	No	Yes

Note: Highlighted cells indicate changes compared to last year.

Table 22 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
1	Inclusion of comments from operators for next reporting session.	DE, FR, IE, LU, LV, MT, NL, UK
2	Independent evaluation of 2007 report.	SK
3	Development of new forms.	EE, ES, HU, PT
5	Meeting to dicuss reporting, verification and monitoring issues.	BG, DE, ES, FI, IT
6	Trainings for operators and other marquet participants.	ES, PL, RO
7	Support material in Internet (guidelines, report on FAQ), telephone support.	AT, BG, DE, DK, ES, FI, GR, IT,PL, RO, SE, SK
8	Development of standard solutions and examples.	AT, DE, DK
9	Electronic format (PT: including automatic checks and validations of the information submitted in the emissions reports).	AT, BE, DE, FI, PT
10	Verification of reports by subordinated organisations.	BE
12	National Authority does not approve the monitoring plan but validates it, operators remain responsible for their plans.	NL
13	Harmonisation of the application of the MRG between different regional administrations.	ES
14	Setting of requirements for improvements to be made to ensure that Group B and C installations meet highest tier requirements.	UK

7 Arrangements for verification

- Independent verifiers can be accredited or accepted according to national rules in all reporting Member States, with the exception of Belgium (Flanders), Estonia and Romania.
- 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.
- Nineteen Member States have developed verification guidance and one more is in the process of doing so.
- Approximately 220 installations did not submit an emission report at all. An additional 44 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 not much has changed. The share of emission reports not provided or not verified as satisfactory remained roughly constant. Member States only reported minor difference on the institutional arrangements compared to the last year.

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.

7.1 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), Estonia and Romania: in Estonia and Flanders only one verifier is accepted whereas Romania only accredits verification bodies. 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.

The competent authority has the right to appoint a verifier if it has substantial doubts about the independence of a verifier in Belgium (Wallonia), Cyprus, Estonia, Hungary and Luxembourg In Austria the competent authority may determine that the installation owner has to change the verifier if there are doubts about the independence of the present verifier.

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

7.2 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. Nineteen Member States (Austria, Belgium, Bulgaria, Germany, Denmark, Finland, Hungary, Ireland, Italy, Latvia, Lithuania, the Netherlands, Poland, Portugal, Romania, Sweden, Slovenia and the United Kingdom) developed specific national verification guidance. With the exception of Austria, Belgium (Brussels and Wallonia), Estonia, Hungary, Portugal, Slovakia and Spain, all Member States based their rules and procedures on the criteria for accreditation contained in the guidelines of the European Cooperation for Accreditation (EA 6/01 and EU 6/03) and the related

EN 45011. Only Cyprus, Estonia, France, Greece, Luxembourg, Malta and Slovakia decided not to develop national guidance. The Czech Republic reported that national guidance is under preparation.

In all Member States, the competent authority or another agency may check verified emissions reports. This includes Denmark, which decided to accept all verified reports without further evaluation if the declaration of verification is satisfactory. In all Member States except Bulgaria, Finland, France, Greece, Poland, Romania and Sweden, authorities also have the right to adjust the verified emission reports if they are deemed unsatisfactory. The competent authorities in Finland and the United Kingdom determine the installation's emissions if it receives a 'not verified' verification opinion.

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

7.3 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 their 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.

Five Member States (Germany, France, Lithuania, Spain 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. Some countries referred to EA accreditation guidance as basic requirement. Simplified procedures for verifiers already accredited in another Member State are in place in Belgium (Wallonia), the Czech Republic, Luxembourg, Poland and Romania. Independent verifiers cannot be accredited in Belgium (Flanders) and Estonia.

Most Member States require verifiers accredited in other Member States to show knowledge of the national language and relevant national legal provisions. 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, Lithuania and Malta. In Belgium (Flanders) and Estonia foreign verifiers cannot gain accreditation. Cyprus and Malta reported that there are no national verifiers in their countries so far.

7.4 Emission reports for 2007

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 in 2007 as they either lacked the necessary verification statement or did not submit a report at all.

All emission reports for 2007 were considered satisfactory by the verifiers on 31 March 2008 in twenty Member States. In Bulgaria, Denmark, Italy, the Netherlands, Spain, Sweden and the United Kingdom at least one emission report remained unsatisfactory by that deadline (Table 23). Germany remarked that, although all emission reports were verified as satisfactory, some might still be erroneous; it is anticipated that the competent authority will ultimately detect these. Spain noted that the number of emission reports not verified as satisfactory dropped by half compared to last year due to the increased experience gained.

In addition to the lack of a positive verification statement, some operators did not supply an emission report at all. This occurred in fifteen Member States (Table 24). In twelve countries (Belgium, Cyprus, Czech Republic, Estonia, Finland, Ireland, Latvia, Lithuania, Luxembourg, Slovakia, Slovenia, the United Kingdom) all operators submitted reports on time.

Denmark, the Netherlands, Romania, Spain and the United Kingdom sent reminders and formal warnings on sanctions to installations which did not supply a report by 31 March. Operator accounts were blocked in Bulgaria, Germany, Poland and Portugal. Competent authorities in Italy, Sweden and the United Kingdom initiated a process for estimating emissions from the installations concerned. Hungary and Sweden are the only

Table 23 Emission reports not considered satisfactory by 31 March 2007

	Number of installations	Emissions reported	Allowances surrendered	Correction of verified emissions by CA
		t CO_2		
Austria	None			
Belgium	None			
Bulgaria[a]	2	972		
Cyprus	None			
Czech Republic	None			
Denmark[a]	2	1 903	1 904	
Estonia	None			
Finland	None			
France	None			
Germany	None			
Greece	None			
Hungary	13	262 288		259 514
Ireland	None			
Italy[a]	2	11 751		12 176
Latvia	None			
Lithuania	None			
Luxembourg	None			
Malta	None			
Netherlands	1	28 415	28 742	28 742
Poland	None			
Portugal	None			
Romania	None			
Slovakia	None			
Slovenia	None			
Spain[a]	15	3 256 489	1 669 816	3 807 844
Sweden[a]	4			
United Kingdom[a]	5	1 966 780	1 966 780	3 894

Note: [a] The corrected verified emissions were not reported for all installations and are therefore not comparable to the emissions repoeted.

countries that imposed a penalty. Four operators were deemed non-compliant in the United Kingdom.

Emission reports from closed installations presented a problem in several Member States. In France, all fourteen installations were permanently closed in late 2006 or early 2007 and no legal representative was able to proceed with the reporting required by the Directive. 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. Romania reported on nine cases of closure.

In Malta, the reason for the late submission of the verified emission report was the limited availability of foreign verifiers in the country. In Greece, a company wide strike prevented the timely submission of 31 verified emission reports; despite this and the ongoing dismantling of many of these installations, all verified reports were available by mid-April.

Overall, approximately 1.8 % of all installations did not submit a report at all on 31 March to the respective competent authorities. The proportion has not changed relative to both previous years, 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 on all sides involved.

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

Table 24 Installations without an emission report by 31 March 2007

	< 50 000 t CO_2			50 000 to 500 000 t CO_2			> 500 000 t CO_2		
	No. of reports not provided	**Allocation**	**Allowances blocked**	**No. of reports not provided**	**Allocation**	**Allowances blocked**	**No. of reports not provided**	**Allocation**	**Allowances blocked**
		kt CO_2	kt CO_2		kt CO_2	kt CO_2		kt CO_2	kt CO_2
E1	77	1 602.0	512.4	16	4 844.7	1 025.3	7	12 281.7	6 862.2
E2							1	1 802.0	
E3									
F1									
F2	2	48.7	48.7						
M1	6	119.8	73.5	4	174.5	176.2			
M2	8	152.0	157.9	6	703.3	747.4	1	251.1	273.4
M3	45	99.9	85.4	1					
O1									
O2	8	183.0	10.3	2	240.3				
Total	**146**	**2 205.4**	**888.3**	**29**	**5 962.8**	**1 948.9**	**9**	**14 334.8**	**7 135.6**

Notes: In addition 34 Greek installations did not submit their report on time; Greece did not report on their sizes and activities.

Romania. The Czech Republic intends to do so in the future.

The checks undertaken varied substantially across Member States. All reports were checked for internal consistency through a desk review and/or IT checks in Austria, Belgium (Brussels, Wallonia), Germany, Estonia, Finland, France, Hungary, Ireland, Italy, Latvia, Malta, Poland, Portugal, Slovakia, Spain and Sweden. Most of these countries carried out in-depth checks for some of the emission reports based on previous years, emission magnitude, findings from the consistency checks and random elements. Five countries (France, Italy, Luxembourg, the Netherlands and Spain) reported on site-visits, either together with the verifier or when reviewing the verified emission report. 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 or not an installation had been closed. All reports verified with comments were assessed in the United Kingdom.

These checks resulted in corrections of verified emissions by the registry administrator in Austria, Greece, Hungary, Ireland, Italy, the Netherlands, Poland Spain and the United Kingdom. Not all of these countries reported the difference between the emission estimate provided by the operator and the estimate conducted by the competent authority. Based on the available data, these corrections led to an EU wide emissions increase by approximately 2 Mt CO_2. Germany and the Netherlands reported that the checks were not yet completed and corrections for 2007 might be pending,

8 Operation of registries

- Overall, 26 Member States developed specific terms and conditions for the use of their national registries compared to 25 last year.
- Procedures and standards to safeguard registries and their data have been implemented in 23 Member States. Only three Member States reported on detected security threats in 2007.
- Almost all registries were operating during the reporting period. Unscheduled down-time decreased by 16 % compared to last year's report while scheduled down-time increased by 128 %. On average, each registry was offline for approximately 4.9 hours/month, an increase of 55 % compared to 2006.

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 ([23]). This section of the questionnaire 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.

8.1 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 and the United Kingdom).

Eighteen Member States implemented different identity checks on operators or on persons holding an account. Procedures for both types are the same in Denmark, Greece, Ireland, Latvia, Malta, the Netherlands, Romania and the United Kingdom. Sweden reports that only individuals can get access to the national registry. In ten countries (Cyprus, Estonia, Germany, Greece, Ireland, 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 party such as a notary. The same applies for operators in Cyprus, Greece, Ireland, 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 three Member States (Greece, Latvia and Malta) applications for operator holding accounts need to be further substantiated by a copy from the company register or similar documentation such as the greenhouse gas emission permit. 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 CO_2 emission permit and were 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, only operators residing outside the country need to identify themselves in person. Greece and Lithuania only require domestic residents and operators to be present in person. In Germany such applicants have to identify themselves at a German consulate. In Austria applicants for personal holding accounts residing outside the European Economic Area need to legalize their documents at an Austrian consulate but the identity of applicants has to be verified by an Austrian consulate or an officially recognised certification body in the respective country.

([23]) 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.

8.2 Security alerts, down-time 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 unauthorized access and data manipulation. Slovakia did not report on this question and the Bulgarian registry was not operational in 2007. Only Hungary reported that no general procedures have been put in place to prevent security alerts.

Three countries discovered attempts to breach the security of the registry or detected software vulnerabilities that required action. Spain reported that a certificate expired and had to be replaced. Italy reported general threats to any system connected to the Internet. The firewall was subject to around 50-300 unauthorized login attempts per day and regular port scanning activities were identified. Slovenia reported that security alerts occurred but did not provide details.

Most registries experienced scheduled or unscheduled down-time in 2007. The average cumulated down-time for all registries varied between 26 hours/month and 365 hours/month with no clear pattern over the year. Several Member States reported unscheduled down-time for March, April and May due to problems with the CITL and not with their national registry. This should have affected all Member States rather than only some; the inconsistency of reporting might be due to different definitions of down-time. National registries were still operational but users were not able to transfer allowances while the CITL was not connected. Approximately 75 % of all down-time was scheduled. Compared to last year, scheduled down-time increased by 130 %, unscheduled down-time decreased by 12 % and total down-time increased by 55 %. The increase might be partly due to more complete reporting for 2007. Many registries were still not fully operational in 2006. In 2007, only the Bulgarian registry was not operational for the entire year and in Romania the registry only went online in April 2007. Both countries only joined the EU and the EU ETS in 2007 and faced similar problems as the EU 25 Member States in 2005.

Scheduled and unscheduled down-time ranged between zero and over 22 hours/month in different countries. On average, the Italian (22.5 hours/month) and the Portuguese (14.6 hours/month) registries had the highest down-times. The registries were unavailable to users for less than one hour per month on average in Austria, Cyprus, Estonia, Germany, Greece, Latvia, Poland, Romania and Slovenia. The Maltese registry is limited to the annual issuance and surrendering of allowances and carried out no trading or other functions.

The registry software used in most Member States (Seringas, GRETA) is scheduled to be upgraded in collaboration with the French Caisse des Dépôts et Consignations (CDC) and the United Kingdom Department for Environment Food and Rural Affairs (DEFRA), which supply the registry software. Apart from complying with the registry specifications, the main reason given for upgrading was connection to the independent transaction log (ITL) of the UNFCCC secretariat, which is necessary for accounting during the first commitment period under the Kyoto Protocol. Nine 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.

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

- Several Member States mention the need for harmonization of the allocation rules, such as the definition of a combustion installation and the treatment of new entrants and closures.
- The main lesson learned was identified as 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.
- Lessons learned have been taken into account in the allocation rules for the second trading period and the review of the ETS Directive.
- Twenty-one Member States allocated a combined total of approximately 29.0 million EUA to new entrants in the reporting period. An average, 16 % of the initial allowances remained in the new entrants reserves but individual shares vary strongly.
- Only four Member States (Denmark, Hungary, Ireland and Lithuania) have auctioned allowances as an allocation mechanism in the first trading period.
- Most Member States cancelled allowances left over in the new entrants' reserve at the end of the first trading period.

The development of the NAP and the allocation of allowances are at 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 important to have a clear picture of how this process was carried out in each Member State and what results have been achieved. This section addresses issues related to allocation. It covers the experience gained with the completed allocation process and suggestions are made for future processes, allocation to new entrants, closures of installations and auctioning.

9.1 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.

Some Member States 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. Other Member State's replies related to the allocation process for the first trading period. Only aspects included by Member States in this year's questionnaire are presented in this section.

Several countries reported practical problems with allocations to new entrants for the first trading period. Allocations to known new entrants will no longer be included in future Flemish NAP due to uncertainty about the start of operations. Denmark commented that it is difficult in some cases to make adequate ex-ante allocation rules, for example, for installations with very few operational hours. 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 capacity, 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. Bulgaria reported that, due to the late preparation of the revised national allocation plan for 2007, it was possible to use verified 2007 emissions as the basis for the allocation process.

Many Member States reported improvements to the second national allocation plan from lessons learned in the first round. One of the main improvements was a reduction in the complexity of the allocation process through more transparency, simpler rules with fewer exceptions, as well as an increased use of benchmarking and auctioning. Data availability greatly improved for the second phase and many Member States extended the base period for allocation from 2000 to 2005 to better capture representative historic emissions; in addition, this reduced the demand by industry for special provisions. In addition, rules governing new entrants were changed to take into account experiences from the first period, e.g. that many new entrants commenced operation much later

than initially thought. Several Member States also reported that experiences from the first period were fed into the ETS review to improve the scheme even further in the third phase. One major point for future action was further harmonization to reduce distortion of competition due to different allocation and new entrants' rules.

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 emissions in the trading scheme. Sweden highlighted that the prolonged approval procedure of its second national allocation plan led to substantial delay.

9.2 Allocation process: suggestions for the improvement

Many Member States argued for greater harmonization of some or even most aspects of allocation. Denmark and Germany called for greater harmonization 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 avoid countries where they would need to buy all their allowances. Benchmarking would also lead to a more level playing field. Belgium, Germany, Italy, the Netherlands, Spain and the United Kingdom also argued for a uniform approach to allocations to existing installations, possibly based on EU-wide benchmarks or auctioning 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. Greece and Slovakia requested a common approach to the conditions for granting additional allowances where existing installations are extended.

The Netherlands called for the installations to be clearly and precisely defined and for the scope of the Directive to ensure uniform coverage in all Member States. The Netherlands also suggested changing the scope of the Directive to include fewer installations but more CO_2 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. The Netherlands also asked for harmonization of enforcement and compliance and the inclusion of carbon capture and storage into the ETS. Austria, the Czech Republic and Sweden reported that their suggestions for improvement had been introduced and addressed in the ETS review for the third phase of the scheme.

9.3 New entrants reserve

Table 25 gives an overview of the number of allowances (EUA) remaining in the new entrants reserve (NER) at the end of 2007: Twenty one Member States allocated a total of approximately 29.0 million EUA to 819 new entrants from the NER in 2007. Of these, 4.2 million EUA went to 168 cases of capacity increase or extension of existing installations. Some Member States reported capacity increases together with new installations; the actual figure of capacity increases might therefore be higher. Overall, 108.4 million EUA were left in national NER at the end of the first trading period, representing 16 % of the overall NER for the period. This figure decreases to 7 % without the special case of Germany (see below).

The share of allowances left in national NERs varies widely. Less than 10 % of the original NER is left over in Finland, Greece, Italy, Lithuania, the Netherlands, Slovakia, Slovenia and Spain. In contrast, NERs in Belgium, Cyprus, Germany, Luxembourg and Malta contained 90 % or more at the end of the first trading period. The large proportion of allowances left in Germany is due to an ex-post correction, where operators had to return more than 66 million EUA. The return was mandated after Germany won a case against the European Commission in the European Court of Justice in November 2007. In 2006 and 2007 19 million allowances were bought to provide new entrants with their initial allocation after the original NER was depleted. Bulgaria did not establish a new entrants reserve; all new entrants were included in the revised national allocation plan. In Cyprus, the NER is reserved for a new ceramic installation which did not start operation in 2007 as planned. For more detail on the number of new entrants see Section 4.4.

9.4 Auctioning

Pursuant to Article 10 of the Emissions Trading Directive, 95 %of allowances must be allocated free of charge in the first trading

Table 25 Number and share of allowances remaining in the new entrants reserve at the end of 2007

		Number of allowances left	Share of allowances remaining in the NER
		1 000 EUA	%
AT	Austria	878	89 %
BG	Bulgaria	n.a.	n.a.
BE	Belgium	8 371	110 %
CY	Cyprus	60	100 %
CZ	Czech Republic	186	18 %
DK	Denmark	2 216	74 %
EE	Estonia	204	36 %
FI	Finland	164	7 %
FR	France	11 362	76 %
DE	Germany	61 860	516 %
GR	Greece	3 898	2 %
HU	Hungary	330	60 %
IE	Ireland	225	15 %
IT	Italy	39	0 %
LV	Latvia	950	61 %
LT	Lithuania	0	0 %
LU	Luxembourg	355	91 %
MT	Malta	2 288	100 %
NL	Netherlands	3 005	1 %
PL	Poland	2 450	60 %
PT	Portugal	945	25 %
RO	Romania	nip	nip
SK	Slovakia	0	0 %
SI	Slovenia	4	2 %
ES	Spain	858	9 %
SE	Sweden	1 834	76 %
GB	United Kingdom	5 928	13 %
	EU 27	**108 410**	**16 %**

Notes: n.a.: not applicable; nip: no information provided.

period. Correspondingly, only 5 %can be sold or auctioned. Only Denmark, Hungary, Ireland and Lithuania made use of this provision. Denmark sold 4 381 000 EUA in 2006–2007. Hungary auctioned 1 177 500 EUA at the end of March 2007at a clearing price of 0.88 EUR/EUA. Lithuania staged one auction of 551 825 EUA with a clearing price of 0.06 EUR/EUA. The final auction in Ireland took place in March 2008.

Auctions/sales in all four countries were open to all bidders with an account in a Community registry. The auctions in Hungary and Ireland were organized 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 least one allowance, determines the closing price which has to be paid by all successful bidders. Hungary sold 69 EUA, which were not auctioned, at a price of 0.50 EUR/EUA on the market. Denmark and Lithuania did not elaborate on the way the allowances were sold/auctioned. In Denmark and Hungary revenues were included in the general budget and not earmarked. Allowances in Ireland, arising from closures went to the Exchequer; revenues from other allowances were used to finance the administration of the scheme. In Lithuania revenues were used to cover the costs of the auction; remaining funds were transferred to the Lithuanian environment protection support programme.

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

Across Member States, there are several approaches for the treatment of allowances of installations which closed down or left the scope of the Directive due to partial closures. Eight Member States explained that no installations were closed during the reporting period. In the Czech Republic 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, Germany, Hungary, Italy, Lithuania, Portugal, Spain and the United Kingdom. Allowances allocated but not issued were cancelled in Lithuania. 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 due to closures. In Belgium allowances were not issued and the operator holding account closed in cases of closures.

9.6 Treatment of allowances that remained in the new entrants' reserve at the end of the first trading period

Member States adopt different approaches towards allowances which remained in national new entrants' reserves. Bulgaria, Italy, Lithuania and Romania had either no NER or no allowances left in the reserve. A proportion of the remaining allowances was auctioned (Belgium and Ireland) or sold (Austria and the United Kingdom). All other allowances were cancelled. Luxembourg and Slovenia did not report on the use of allowances remaining in the NER.

10 Surrender of allowances by operators

- In six Member States (the Czech Republic, Estonia, Romania, Lithuania, Slovakia and Belgium) an account in a registry was closed because there was no reasonable prospect of further allowances being surrendered by the installation's operator during this reporting period.

Surrender of allowances and closures of accounts, may occur for a number of reasons: i) an installation may not have started up within the trading period, ii) an installation may be closed during the trading period, or iii) in some cases, an operator holding account may need to be closed because there is no reasonable prospect of further allowances being surrendered, even if it has a negative balance. The latter may be the case, if, for example, 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 Belgium (Flanders) one account was closed because there was no more activity, another because the installation had not started up. The amount of allowances that would have been issued was transferred to the new entrants' reserve, amounting to 14 kt CO_2 in the former and 904 kt CO_2 in the latter case. In the Czech Republic and in Estonia one account was closed each because of closure of an installation, with 289 kt CO_2 and 21 kt CO_2 respectively. In Lithuania, two operator holdings were closed during the 2005–2007 period, one because of operator bankruptcy (857 t CO_2) and one because it did not meet the requirements for participating in the EU ETS (10 kt CO_2).

In Slovakia one installation was excluded from the NAP, with an amount of allowances of 82 404 kt CO_2 transferred to the New Entrants Reserve.

In Romania, the accounts of 9 operators were blocked by the Registry Administrator because they did not submit the verified monitoring reports to NEPA (several installations followed the bankruptcy or insolvency procedure and one installation fell under the capacity threshold). To date there is no proof that the verified monitoring reports will be provided to NEPA by eight of the operators, and the Registry Administrator closed these accounts.

11 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 hydroelectric JI or CDM projects and most of these Member States reported that a verification procedure was in place.
- No EUA had to be cancelled because JI or CDM projects reduced, directly or indirectly, the emission levels of installations under the EU Emission Trading Scheme.
- 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.

11.1 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.

11.2 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. In addition Member States may restrict the use of specific project types if so desired.

Only a few Member States reported limitations to the type of project based mechanisms from which credits can be used in their country. Austria may ban the use of credits from projects reducing greenhouse gases other than CO_2. In Denmark, prior approval has to be sought from the Danish Energy Agency. In Finland a mandate to carry out a project mechanism as well as a prior approval for that particular project has to be sought from the respective focal points. In Slovakia, projects have to meet the obligations specified in the national air protection legislation.

11.3 Provisions for large hydroelectric 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, 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. With the exception of the United Kingdom, all of these Member States have some verification procedure in place to check adherence to the WCD guidelines or are developing such procedures. Portugal has not yet decided 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 there was no legal requirement for project participants to adhere to the guidelines; but on the other hand, described a verification procedure. Luxembourg reported that only projects adhering to the criteria will be allowed for the allocation process. The Czech Republic,

France, Italy and Poland stated that there is neither a legally binding obligation nor verification of adherence to the WCD guidelines, although Italy intends to implement an obligation after the end of a harmonization process at the EU level. Several of the new Member States commented that such projects are not allowed in their countries but did not provide information on the obligations to project participants for the use of credits from large hydro-electric power projects in other countries.

Some Member States reported on other guidelines that are taken into account. In Belgium, the World Bank guidelines on large hydro-electric power projects will be applied. Swedish companies agreed to adhere to the OECD guidelines on a voluntary basis. Germany developed and published guidelines for the determination of compliance with the recommendations of the World Commission on Dams.

12 Fees and charges

- 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, for services such as the issue of permits, issue of allowances or the use of the registry(as recorded in previous reports). In addition, 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.
- Many Member States substantially increased the fees and charges for the use of the national registries compared to last year's report.

Implementing and operating an emissions trading scheme requires an administration capable of issuing permits, operating registries, allocating allowances and managing 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 conclusions can be reached on total administrative costs for operators because some Member States also impose other charges on operators.

12.1 Issuance and update of permits

In ten Member States operators are charged fees for the issuing and updating of greenhouse gas emissions permits, although fifteen countries decided not to do so (Table 26). Slovenia did not answer the question. In Austria, the costs are normally below EUR 100. In Portugal and the United Kingdom 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 2007. In Poland, operators have to pay a nominal fee of EUR 20 for the issuance of the permits. Romania decided not to charge fees for issuing or updating permits for 2007 but intends to do so during the second trading period.

12.2 Issuance of allowances

Only six Member States charged fees for issuing allowances to operators, whilst twenty countries did not (Table 27). Slovenia did not answer the question.

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 allowances exceeding 15 million EUA. 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. Denmark charges 2 ct/EUA while France charged 0.85 ct/EUA in 2005 and 2006 and increased the fee to 0.91 ct/EAU in 2007.

12.3 Use of the registry

The use of the registry is free of charge only in Cyprus, Estonia, Italy and Luxembourg. Twenty-two Member States charge fees, often differentiated between opening fees and annual maintenance charges, and between operators and individuals (Table 28). In Austria, Denmark, France, Greece, Hungary, Lithuania, Malta, Romania, Slovakia and Spain 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. The Bulgarian registry was not operational in 2007; no fees were charged.

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 400	400
Denmark	No	–	–
Estonia	No	–	–
Finland[a]	Yes	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 324–1 295	EUR 189–755
Romania	No	–	–
Slovakia	No	–	–
Slovenia			
Spain[b]	Yes	EUR 0–793	EUR 0–317
Sweden	No	–	–
United Kingdom[a]	Yes	EUR 1 839–8 211	EUR 585

Notes: 'All fees were converted to euro for this table.
[a] Depending on installation size or type.
[b] Depending on region.

Maintenance costs in Denmark only apply to allowances received free of charge. In the United Kingdom, operators have to pay an annual subsistence fee which is also used to finance the operation of the registry. The generation of a new password and unblocking access to a registry costs EUR 50 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. Germany, Ireland, the Netherlands and Poland charge only an opening fee for both operator and person holding accounts; the same applies to person holding accounts in Latvia, Romania and the United Kingdom.

Total fees for creating and maintaining a personal holding account for the first trading period are below EUR 500 in most Member States. In Belgium, France and Lithuania individuals have to pay between EUR 1 000 and EUR 2 00 for the three-year period. Costs could rise up to EUR 4 700 in Finland, depending on the quantity of allowances held. The costs for owning and using a personal holding account are highest in Latvia at EUR 4 366 per trading period. These are moderate figures for investment banks, trading firms or other companies who need to open accounts for their transactions but are sufficient to deter individuals interested in participating in the trading scheme.

Fees and charges for the use of national registries increased in many Member States compared to 2006. Most notable increases are Denmark (doubling of the maintenance fee), Finland (maximum maintenance fee 4.7 times higher), France (tripled opening fee, 10 % increase of allocation dependent maintenance

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

	Fees	Minimum	Maximum
		EUR	EUR
Austria	Yes	6.50	6.50
Belgium	Fed:yes	0.1 per EUA free of charge	0.1 per EUA free of charge
Bulgaria	No	–	–
Cyprus	No	–	–
Czech Republic	Yes	0.0096 per EUA	0.0096 per EUA
Denmark	Yes	0.02 per EUA	0.02 per EUA
Estonia	No	–	–
Finland	No	–	–
France	Yes	0.0091 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	No	–	–
Slovenia			
Spain	No	–	–
Sweden	No	–	–
United Kingdom	No	–	–

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

fee), Lithuania (introduction of allocation dependent maintenance fee), Romania (introduction of allocation dependent maintenance fee) and Slovakia (20 % increase of allocation dependent maintenance fee). Some of these changes might only apply for the second trading period but were decided upon in 2007 and therefore already reported.

12.4 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/yr. 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; values vary from EUR 2 500 to EUR 12 850. Use of the registry requires a digital ID which costs EUR 50 for individuals and is free of charge for operators. A total income of EUR 3 385 500 was generated from operators and registry account holders by the Environment Agency in 2007. The income was used to fund staff working on permits, monitoring plans, annual emission reports, registry administration, NER management and development of tools and procedures necessary for operation of the scheme.

Austria and Finland reported that verifiers are charged for the accreditation or acceptance and

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	486		486	486		486
Bulgariab	n.a.		n.a.	n.a.		n.a.
Cyprus	0	n.a.	0	0	n.a.	0
Czech Republic	36		28	36		28
Denmark	0	n.a.	0.04 per free EUA	80	on	80
Estonia	0	n.a.	0	0	n.a.	0
Finland	0	n.a.	0.012 per EUA (min 80 and max 4 700 euro)	50	on	0.012 per EUA (min 80 and max 4 700 euro)
France	500		300 + 0.0091 per EUA	500		300
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		0	150		0
Italy	0	n.a.	0	0	n.a.	0
Latviac	0	n.a.	0	336		0
Lithuania	1 014	tp	0.009 per EUA (min 78 and max 66 390 euro)	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	100	tp	0	100	tp	0
Poland	132	tp	0	132	tp	0
Portugald	0	n.a.	800	0	n.a.	125
Romania	200		100 + 0.0006 per EUA	200		0
Slovakia	0	n.a.	247 + 0.0082 per EUA	0	n.a.	247
Slovenia	100		100	50		50
Spain	0	n.a.	0.0045 per EUA (min 100 and max 12 000 euro)	100		100
Sweden	0	n.a.	0	54	on	54
United Kingdom	0	n.a.	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] Registry not operational.
[c] 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 504 and 4 030 euro. For personal holding accounts the activation fee is 4 030 euro per period.
[d] VAT not included.'

Italy intends to do so in the future. In one of the Spanish regions 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.

13 Issues related to compliance with the Directive

- Penalties for infringements of national provisions deviate substantially across Member States. Fines of EUR 400 in Hungary and up to EUR 15 million in Ireland (on indictment) can be charged for a breach of the same obligation. In addition, operators might receive prison sentences in seven countries.
- Five Member States (Bulgaria, Germany, Hungary, Italy and Sweden) imposed fines for infringements of national provisions in 2007.
- Germany and Portugal reported that they imposed penalties for excess emissions in 2007 (failure to surrender sufficient allowances by 30 April 2008). In the reports for 2006, Demark, Finland, Portugal, Sweden and the United Kingdom reported having made operators in breach of their obligation surrender sufficient allowances by 30 April 2007; Denmark and Portugal reported the same procedure for 2005. At the end of 2006, the United Kingdom issued 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 ensured if adequate penalties are applied in case of contravention. The minimum penalties for 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.

13.1 Legal provisions with regard to penalties

Most Member States reported on legal provisions and penalties for infringements of national provisions (Table 29). Out of these, twelve Member States gave details of fines and imprisonment for specific cases. Generally, financial and penal sanctions vary substantially between Member States. While maximum fines for installations operating without a permit are around EUR 2 000 in Latvia and even lower in Lithuania and Hungary ([24]), they can be as high as EUR 2 million in Spain and EUR 15 million in Ireland. Operators may also be sentenced to prison in seven countries. In Luxembourg the maximum sentence is 6 months while French and United Kingdom 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 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. Furthermore, in Germany failures to hand back excess allocations of allowances, for example in the case of a closure, can be fined since 11 August 2007 with up to EUR 500 000. Finnish operators are not allowed to transfer allowances if no verified emission report has been submitted by 31 March. In Greece, installation may be closed for 5–20 days, in addition to the fines mentioned above. 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 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

([24]) The highest fine in Lithuania applies to exceeding the emission limit indicated in the National Allocation Plan and amounts to 1 448 euro maximum.

Table 29 Overview of penalties for infringements of national provisions

	Operation without permit				Infringements 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	25 000	0	12	3	62 500	0	36	3	62 500	0	12
Bulgaria											-	
Cyprus		34 200		36		34 200		36		34 200		36
Czech Republic	0	200 000	0	0	0	80 000	0	0	0	20 000	0	0
Denmark	-	-	7 days	24	-	-	7 days	18	-	-	7 days	18
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	0	0	0	5	50 000	0	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	100	2 000			50	1 000			50	1 000		
Lithuania	289	579	-	-	145	289	-	-	43	87	-	-
Luxembourg	251	100 000	8 days	6	Idem				Idem			
Malta												
Netherlands	10 000	450 000	-	-	1 000	450 000	-	-	1 000	450 000	-	-
Poland	40 EUR/t CO_2 emitted				-		-	-	-	-	-	-
Portugal[d]	1 500	44 890			1 500	44 890			1 500	44 890		
Romania												
Slovakia		16 072				16 072				16 072		
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
UK	0	6 200	0	24	0	6 200	0	24	0	6 200	0	24

Notes: Denmark, Finland, Lithuania and Poland 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] Only for emissions caused by the changes.

[d] Information on imprisonment not available.

[e] Detailed information is only available after court trials took place.

have to pay EUR 10 per t CO_2 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 between EUR 215 and EUR 430 on first conviction and between EUR 430 and EUR 860 on subsequent convictions, or by imprisonment for up to two years, or both.

Spain differentiates between very serious, serious and slight infringements. The penalty for very serious infringements may be a fine 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, Spanish operators who infringe obligations of the emissions trading law may have their installations totally or partially closed for a period up to two years 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, are punishable by two years in prison and a fine of up to EUR 6 200. Operators in Slovakia face fines up to EUR 16 000 for failures to submit emission reports and surrender allowances on time. If the provisions of the GHG permit are not met by an operator in Romania, the permit is suspended after 30 days advanced formal notice, 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 suspension of the permit are not removed, the competent authority may decide to cancel the GHG permit and to order the activity of the installation to cease after the deadline of the suspension has expired.

13.2 Penalties imposed for infringements of national provisions

Bulgaria, Spain, Germany, Hungary, Italy, and Sweden reported that penalties were or will be imposed for infringements of national provisions in 2007. In Germany fines of EUR 3 043 560 were imposed for infringements of obligation to surrender allowances. In Hungary, fines were due for operation without a permit, for omission to notify changes to the installation, and for infringements of monitoring and reporting. In Italy, fines, whose exact amount still needed to be determined, were due for unreported verifiable emissions, and in Sweden a charge of EUR 2 200 was imposed for delayed emission reports . Spanish authorities initiated several proceedings which had not been resolved at the time of reporting.

The other Member States reported that no penalties were imposed during 2007.

13.3 Operators for which excess emission penalties were imposed

According to Article 16(3) of the Directive, operators who do not surrender sufficient allowances for the preceding year by 30 April 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. The fine will rise to EUR 100 per tonne starting form the second trading period in 2008.

In 2007, 16 operators in Germany did not surrender allowances in time; five of the payment notices by the government have legal force while eleven are currently subject to appeal. In Portugal, 10 operators did not surrender allowances in time. Sweden reported failure to surrender allowances for 10 operators for the year 2006 only.

Fewer countries reported excess emission penalties this year compared to previous reports. 22 operators did not surrender allowances in time in Denmark, Finland, Portugal, Sweden and the United Kingdom together,. Almost all countries conform to article 16(2) in publishing the names of operators who fail to surrender sufficient allowances on their respective emissions trading authority's web-page or in printed material.

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

13.4 Additional remarks

Finland remarked that some of the excess emissions penalties from 2006 are still pending because operators have appealed to the administrative court. The relevant number of allowances have been surrendered. Poland reported that financial penalties are imposed as executive orders by a regional environmental protection inspector.

14 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 twelve 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 that do not fall under the responsibility of the financial services authority (FSA). However, futures or other derivates 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 and the same regulations as for all other profits and losses are applied.

The CO_2 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) ([25]) 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 treatment for tax follows those for accounting. However, there has been an agreement on the treatment of emissions trading for value added tax (VAT) purposes in the EU VAT Committee.

14.1 Legal status of allowances

A greater number of Member States have provided information on the legal nature of allowances than in previous years, although the information remains the same for most Member States. In Austria, the Czech Republic, 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, Denmark, Hungary, Lithuania, Malta, the Netherlands and Slovakia. Sweden regards allowances as financial instruments that are supervised by the financial service authority (FSA). In the United Kingdom, spot trading of commodities does not need authorization of the FSA. However, trading for forward physical delivery of allowances can be a specified investment and therefore may require authorization (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,

([25]) 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 CO_2 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).

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 of allowances is under examination by the Ministry of Economy and Finance; a decision is outstanding.

Twelve Member States (Cyprus, the Czech Republic, Denmark, Estonia, Spain, Finland, Italy, Lithuania, 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, in the future allowances are either to be treated as intangible assets within invested assets or as stock within current assets depending on the purpose of use.

Greece and the United Kingdom have not defined how allowances should be accounted. The United Kingdom explained that listed companies must apply international financial reporting standards. As the model has not yet been finally agreed at international level, the United Kingdom Accounting Standards Board has not yet issued mandatory guidance on the accounting treatment; consequently different accounting approaches are being adopted by United Kingdom companies. The Financial Reporting Advisory Board has issued guidance to public sector installations 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.

14.2 Taxation of allowances

The 75th meeting of the EU VAT Committee 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 at the relevant rate. 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. VAT is not applicable in France if the transfer is carried out on a purely no-charge basis between independent entities or if allowances are transferred between installations from the same legal entity and therefore considered an internal movement interns not subjected to the VAT.

In all reporting Member States the issue of allowances free of charge is 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 2007 (see Section 9.4). 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 in allowances are subject to income or corporate tax at the appropriate rates in all Member States. Profits or losses are to be calculated as the difference between the acquisition and the sale price of the allowances. Special tax rates for income from transfers of allowances have not been reported by any country.

15 Access to information pursuant to Article 17

- Most Member States publish their national allocation plan, allocation rules and installation allocation on the Internet.
- In the majority of cases monitoring reports are available upon request only. In six Member State and one Belgian region the 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 in which it authorizes private or public entities to participate is published on the Internet in eighteen countries.
- 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 authorizes 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 it is 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 from the competent authority.

15.1 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). Estonia does not publish its allocation rules and, together with Belgium (Brussels and Wallonia), Bulgaria, the Czech Republic, Poland, Portugal and Slovakia, does not include this information in official journals. Installation allocation figures are available to the public in all Member States on the Internet. (with the exception of Malta). They are also published in journals in nineteen Member States and one Belgian region.

Records of changes to the list of installations are published in 21 Member States and one of the Belgian regions and are available upon request in six countries and two regions only.

Verified emission reports are not generally accessible in most Member States. Only the Belgian region of Flanders, Bulgaria, Cyprus, Denmark, Estonia, Hungary, Latvia, Lithuania and Romania upload their reports on the internet. The Netherlands reports 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. An announcement of the availability of verified emissions and the possibility to peruse the report is made in an official journal. Cyprus and Estonia are the only countries which state that verified emission reports are published in an official journal. In thirteen countries and all three Belgian regions, interested persons can apply for the right to access the data. It is not possible to view the reports at all in the Czech Republic, Italy and Poland.

Information on project mechanisms in which a Member State participates or authorizes 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 only available upon request. 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, Estonia, Finland, Hungary, Ireland, Italy, Latvia, Portugal and Romania greenhouse gas emission permits are available to the public through the internet. In Denmark access is restricted to the operator and verifier, who can access their own data (permit, the monitoring plan and decision on CO_2 emission allowances). Access is also granted if not deemed commercially

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	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ	Info avail. to public	Available in WWW	OJ
Austria	Yes	✓	✓	Yes	✓		Upon req			Upon req			Yes	✓		Yes			Yes	✓	
Belgium																					
Federal Gov	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓										Yes	✓	
Brussels	Yes	✓		Yes	✓		Upon req			Upon req			Upon req			Upon req					
Flanders	Yes	✓	✓	Yes	✓		Upon req			Upon req	✓		nd			Upon req					
Wallonia	Yes	✓		Yes	✓	✓	Yes	✓	✓	Upon req			nd			Upon req					
Bulgaria	Yes	✓		Yes	✓		Yes	✓		Yes	✓		Yes	✓		Upon req			Yes	✓	
Cyprus	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓
Czech Rep.	Yes	✓		Yes	✓	✓	Upon req			No			Upon req			No			Yes	✓	
Denmark	Yes	✓	✓	Yes	✓		Yes	✓		Yes	✓		Yes	✓		No [b]			Yes	✓	
Estonia	No			Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓
Finland	Yes	✓	✓	Yes	✓	✓	Upon req			Upon req			Yes	✓		Yes	✓		Yes	✓	
France	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Upon req			Upon req			Upon req			Upon req	✓	
Germany	Yes	✓	✓	Yes	✓		Yes	✓		Upon req			Yes	✓	✓	Upon req			Yes	✓	
Greece	Yes	✓	✓	Yes	✓	✓	Upon req			Upon req			Yes			Upon req			Upon req		
Hungary	Yes	✓	✓	Yes	✓	✓	Yes	✓		Yes	✓		Yes	✓		Yes	✓		Upon req		
Ireland	Yes	✓	✓	Yes	✓	✓	Yes			Yes			No			Yes	✓		Yes	✓	
Italy	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	No			Upon req			Yes	✓	✓	Yes		
Latvia	Yes	✓	✓	Yes	✓	✓	Yes	✓		Yes	✓		Yes	✓	✓	Yes	✓		Yes	✓	
Lithuania	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Yes	✓		Yes	✓		Yes			Yes	✓	
Luxembourg	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Upon req			Upon req			Upon req			Upon req		
Malta	Yes		✓	Yes		✓	Upon req			Upon req			Upon req			Yes			Upon req		
Netherlands	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	partly [a]			Yes	✓		Yes	[c]	✓	Yes	✓	
Poland	Yes	✓		Yes	✓	✓	Yes		✓	No			Yes	✓		No			Yes	✓	
Portugal	Yes	✓		Yes	✓		Yes	✓		Upon req			Yes	✓		Yes	✓		Yes	✓	
Romania	Yes	✓	✓	Yes	✓	✓	Yes	✓		Yes	✓		Yes	✓	✓	Yes	✓	✓	No		
Slovakia	Yes	✓		Yes	✓		Upon req			Upon req			Yes	✓		Upon req			Yes	✓	
Slovenia	Yes	✓	✓	Yes	✓	✓	Yes	✓	✓	Upon req			Yes	✓		Upon req			Yes	✓	
Spain	Yes	✓	✓	Yes	✓	✓	Yes	✓		Upon req			Yes	✓		Upon req			Yes	✓	
Sweden	Yes	✓	✓	Yes	✓		Yes	✓		Upon req			Yes	✓		Upon req			Yes	✓	
UK	Yes	✓	✓	Yes	✓		Yes	✓		Upon req			No			Upon req			Yes	✓	

Notes: [a] Total (aggregated) emissions available, underlying data can be kept confidentially.
[b] The operator and verifier has access to own data (permis, the monitoring plan og decision on CO_2 emission allowances) on https://edo.ens.dk,
[c] List of installations and permit numbers.
Abbreviations used: upon req (upon request); nd (not yet decided), RegReg (Registries Regulation)

sensitive in Belgium, Bulgaria, France, Germany, Greece, Luxembourg, Slovakia, Slovenia, Spain, Sweden and the United Kingdom but data is not generally published. Only the Czech Republic and Poland do not allow third parties to access 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 20 Member States and one Belgian Region. In France, Greece, Hungary, Luxembourg and Malta, access to this information is available only upon request. In Belgium only the statement of Federal Government is reported.

15.2 Additional remarks

Hungary, the Netherlands and Romania commented that Directive 2003/4 ([26]) 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.

([26]) OJ L 41, 14.2.2003, p.26.

16 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 published studies on the effects of the Emissions Trading Scheme and its extension after 2007.

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 of raising any further issues in the last part of the questionnaire. Member States are especially asked to provide information on studies on the implementation and further development of the trading scheme.

16.1 Public studies on the emissions trading scheme

Ten Member States reported on public studies. Poland and the United Kingdom reported on studies for the preparation of their second and/or future national allocation plans. Denmark evaluated the work of the Danish Energy Authority's administration of the scheme. The focus in Finland and Romania lay on the impact of the trading scheme on the energy sector and the economy as a whole. Spain analysed compliance in 2005 and reported on a study on the application of the emissions trading scheme in 2006. Lithuania prepared projections up to 2020 and developed policies and measures which could be used to meet a 20 % reduction target.

Five Member States gave more detail on the research conducted. Based on the data contained in the CITL France concluded that the European CO_2 market is more concentrated than it appears and that the CITL could include more transparent and clear data ([27]). France also noted that the CITL viewer ([28]) prepared by the European Environment Agency greatly enhances transparency. Germany published a report covering firms' reactions under the ETS, the interplay (and overlapping burdens) of the ETS with other, national climate and energy policies, and on priority issues connected with linking the ETS to other emerging ET schemes ([29]).

The Netherlands evaluated the NO_x and CO_2 emissions trading schemes in their country and concluded that the systems generally work well but further improvements could still be made. Conclusions include increasing harmonization 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 ([30]), a report about company strategies for the EU ETS ([31]), a report on the development of the EU ETS ([32]), a report on the inclusion of aviation in the EU ETS ([33]) and a compilation of status and events on the EU ETS market during 2006 ([34]). The United Kingdom reported on a wide range of studies including competitiveness ([35]), allocation

([27]) http://www.caissedesdepots.fr/IMG/pdf_08-06_Allowance_trading_what_does_the_CITL_reveal.pdf.
([28]) http://www.eea.europa.eu/themes/climate/citl-viewer.
([29]) http://www.umweltdaten.de/publikationen/fpdf-l/3444.pdf.
([30]) http://www.naturvardsverket.se/dokument/hallbar/klimat/utslappshandel/utslappshand/pdf/erfarenhetsrapporten.pdf.
([31]) http://www.naturvardsverket.se/Documents/publikationer/620-5679-4.pdf.
([32]) http://www.naturvardsverket.se/Documents/publikationer/620-5657-3.pdf.
([33]) http://www.naturvardsverket.se/Documents/publikationer/620-5655-7.pdf.
([34]) http://www.energimyndigheten.se/web/biblshop.nsf/FilAtkomst/ER2006_43w.pdf/$FILE/ER2006_43w.pdf.
([35]) http://www.climate-strategies.org/uploads/Climate_Strategies_competitiveness_press_release_FIN.pdf.

options ([36]), expansion of scope ([37]), road transport and the ETS ([38]) and aviation ([39]).

16.2 Other concerns in Member States

Several Member States raised other concerns that are already partly addressed in different sections of this report. Germany commented on the lack of a link to the UNFCCC independent transaction log. Competitiveness, especially between installations covered by the scheme and operators from outside Europe, was raised by Italy. Malta commented on the lack of verifiers and accredited laboratories due to the small size of the country. The Netherlands highlighted that concerns about monitoring and reporting, publication of registry information, definition of combustion installations and accreditation requirements have been satisfactory solved; but the role of the competent authority and the verifier remain of concern. Poland commented on the need to exclude small emitters and the restrictions of a tight CO_2 cap on national development. Spain raised the very short time available for the annual monitoring, the reporting and verification cycle, the need for further harmonization, the exclusion of small emitters to reduce the administrative burden, the considerable workload to administrators and operators due to the revised monitoring and reporting guidelines, the difficulties created by an inflexible registry system and the need for long-term certainty for operators.

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 harmonization of verification procedures across Europe to ensure that monitoring and reporting is performed in accordance with the guidelines and that annual emissions are credible. The United Kingdom also sees a need to address small installations and the treatment of information provided by third parties who are not directly covered by EU ETS legislation but play a crucial role, such as fuel suppliers.

([36]) http://www.defra.gov.uk/environment/climatechange/trading/eu/phase2/pdf/ria-allocation-methodology.pdf.
http://www.defra.gov.uk/environment/climatechange/trading/eu/future/pdf/euets-project-profile-sept07.pdf.
([37]) http://www.defra.gov.uk/environment/climatechange/trading/eu/phase2/pdf/ria-expansion.pdf.
([38]) http://www.dft.gov.uk/pgr/sustainable/climatechange/euemistrascheme.
([39]) http://www.parliament.uk/documents/upload/GRAviation0506.pdf.
http://www.defra.gov.uk/environment/climatechange/trading/eu/pdf/including-aviation-icf.pdf.
http://www.defra.gov.uk/environment/climatechange/trading/eu/future/pdf/ticketprices-report.pdf.
http://www.defra.gov.uk/environment/climatechange/trading/eu/future/pdf/aviationprofits-impacts.pdf.
http://www.dft.gov.uk/pgr/aviation/environmentalissues/benchmarkingmethodologies/benchmarking.

Abbreviations

Member States (MS)

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany
GR	Greece
HU	Hungary
IE	Ireland
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	The Netherlands
PL	Poland
PT	Portugal
RO	Romania
SK	Slovak Republic
SI	Slovenia
ES	Spain
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
M^3	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 m^3 and with a setting density per kiln exceeding 300 kg/m^3
	Other activities
	Industrial plants for the production of
O1	(a) pulp from timber or other fibrous materials
O2	(b) paper and board with a production capacity exceeding 20 tonnes per day

European Environment Agency

Application of the Emissions Trading Directive by EU Member States — reporting year 2008

2008 — 82 pp. — 21 x 29.7 cm

ISBN 978-92-9167-984-3
EEA Technical report series: ISSN 1725-2237
DOI 10.2800/13983

TH-AK-08-013-EN-N

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