

EU ETS data viewer

User manual and background note



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ENQUIRIES

For questions and feedback to the EU ETS data viewer please send a message at www.eea.europa.eu/enquiries/ including "EU ETS data viewer" in the subject line.

DISCLAIMER

The EEA accepts no responsibility or liability whatsoever with regard to any use of the EU ETS data viewer nor the use, accuracy or completeness of the CITL data. Please also note the general disclaimer which applies for all information on the EEA website at www.eea.europa.eu/legal/disclaimer.

1. Introduction

The EU emission trading system (ETS) is one of the main and most prominent measures introduced by the EU to reduce its greenhouse gas emissions and reach its target under the Kyoto Protocol. The main source of information on the system at EU level is the Community Independent Transaction Log (CITL) ⁽¹⁾, run by the European Commission, which checks and records all transactions between electronic registries set up by the countries participating to the system. It contains information on all installations covered by the system including their activity/sector, allocation and verified emissions on an annual basis. However, the data is not easily accessible in a user-friendly format.

The European Environment Agency ⁽²⁾ (EEA) and its European Topic Centre on Air and Climate Change (ETC/ACC) ⁽³⁾ developed the EU ETS data viewer, a tool to help exploring the information contained in the CITL. The EU ETS data viewer aims to support governments, market players and other stakeholders in their assessment of the EU ETS. The EU ETS data viewer is accessible on EEA website at:

<http://dataservice.eea.europa.eu/PivotApp/pivot.aspx?pivotid=473>.

This viewer enables users to assess the data concerning installations and emissions contained in the CITL by country or country grouping, sector, size of installation and year. The CITL reports installation-level data, whereas the EU ETS data viewer provides aggregated data.

The trading sectors are the nine sectors mentioned in Annex I of the Emission Trading Directive ⁽⁴⁾ and an additional category for opt-in installations.

This manual explains some of the functions and underlying data of the EU ETS data viewer to support users in their analysis of the data contained in the CITL. Detailed information on the data included in the latest version of the tool is provided in annex of this document. The table also contains an indication of the timing for major future updates of the EEA EU ETS data dataset and data viewer.

⁽¹⁾ <http://ec.europa.eu/environment/ets>

⁽²⁾ <http://www.eea.europa.eu>

⁽³⁾ <http://air-climate.eionet.europa.eu>

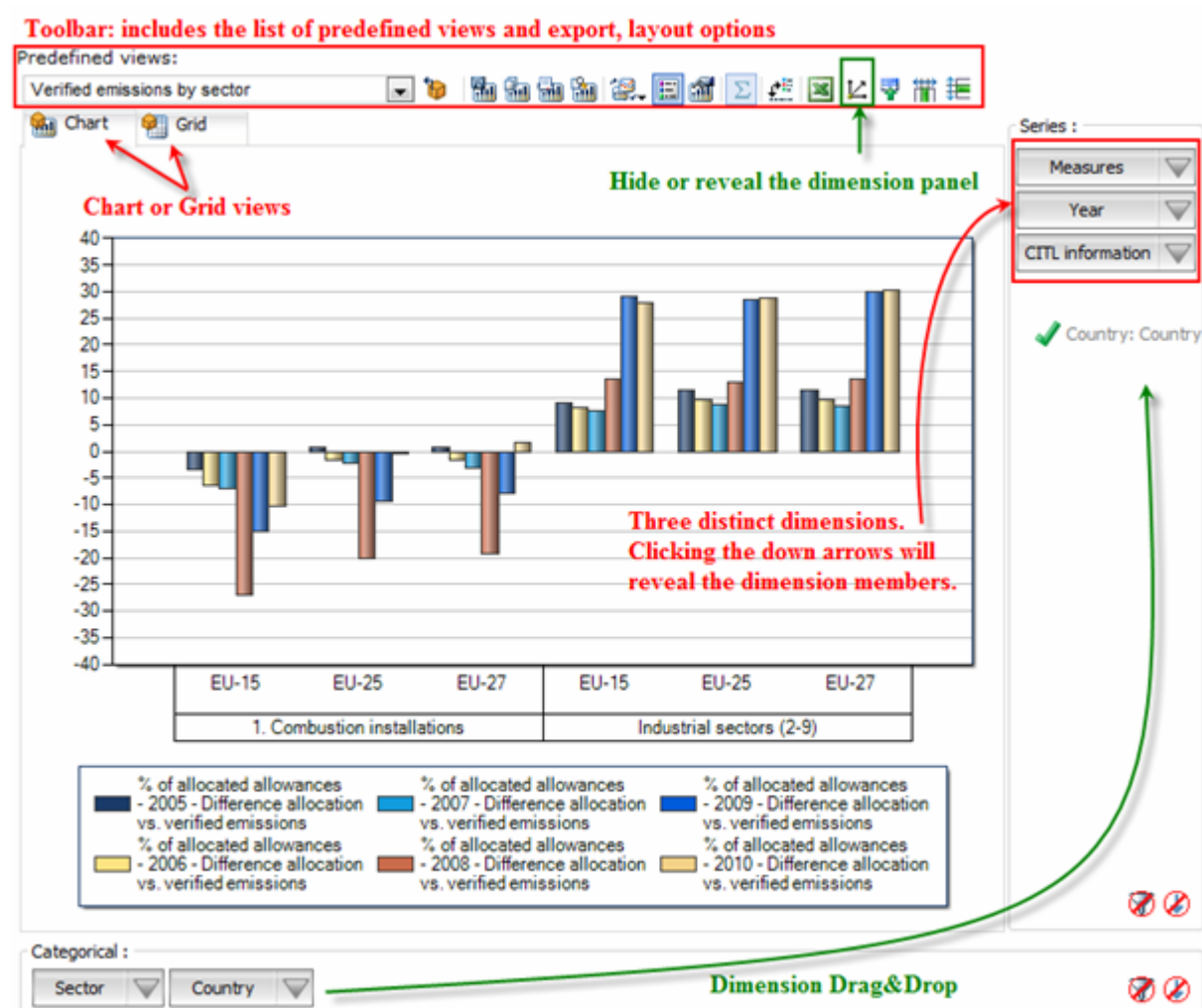
⁽⁴⁾ Directive 2003/87/EC amended by Directive 2004/101/EC, OJ L 275, 25.10.2003, p32-46, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0087:EN:NOT> and <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0101:EN:NOT>.

2. Data viewer description

This chapter explains the requirements and usage of the tool. For a more thorough explanation of the content of the different sheets and on their interpretation please read chapter 3.

Important setting: in order to access all functionalities of the EU ETS data viewer, a specific setting has to be enabled under Internet Explorer 8. Under the menu “Tools/Internet options/security tab” the security setting “Active X controls and plug-ins/Binary and script behaviors” should be set in the “Enable” state.

The diagram below represents some main elements and functionalities of the CITL viewer.



Predefined views:

The “Predefined views” drop down menu allows switching between default predefined views. Several “Predefined views” are available from the menu.

Dimensions:

The data viewer counts seven different dimensions: “Measures”, “Year”, “CITL information”, “Sector”, “Size”, “Country” and “Account status”.

Axis: two distinct axis “Series” and “Categorical”.

Chart/Grid tabs: the “Chart/Grid” tabs allow easy switch between chart view and grid view.

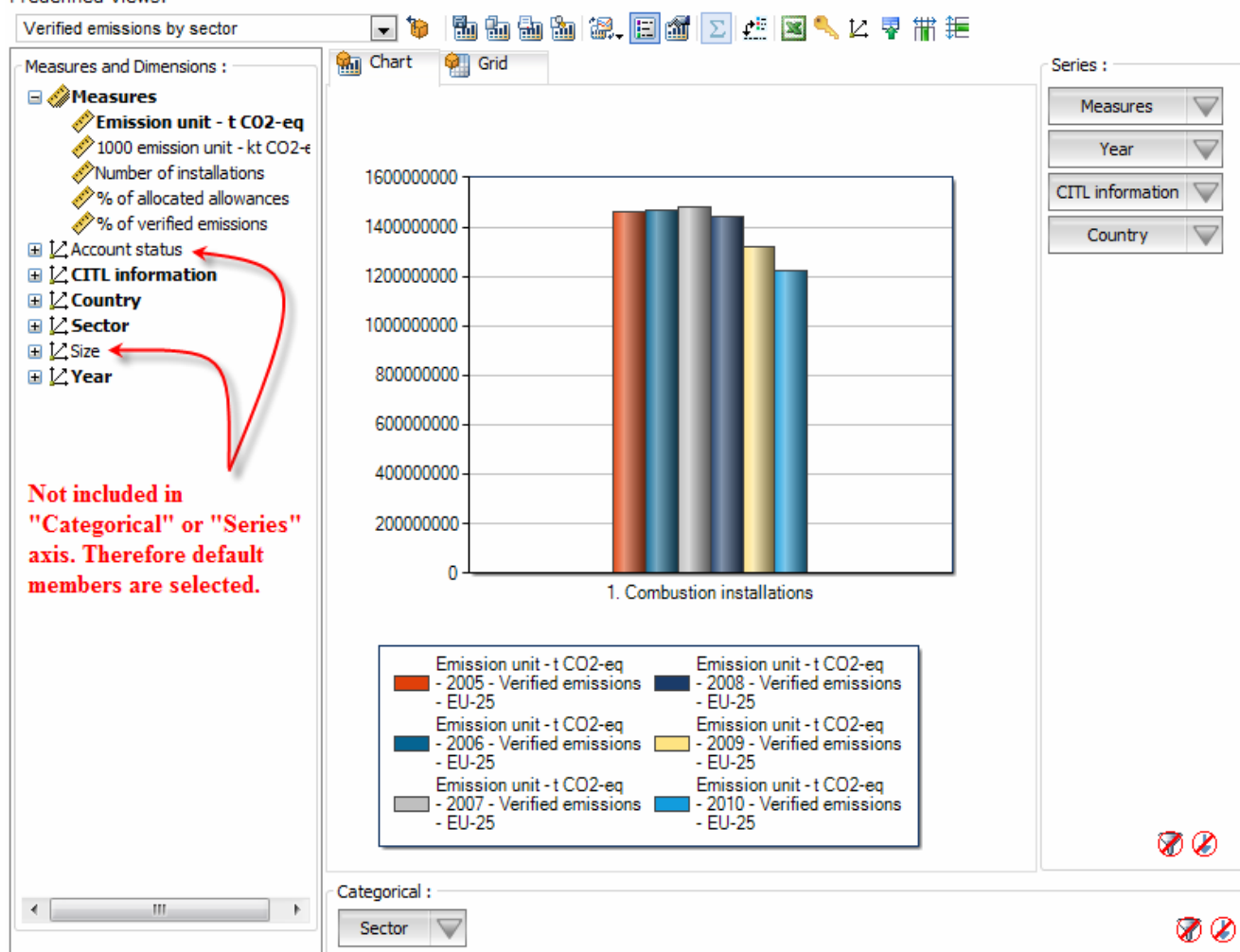
Note: each dimension can be removed or added to the two axis panel. This can be accomplished by clicking the button “Show/Hide the dimension panel” (see figure) and using drag and drop behavior.

When a dimension is removed from either two axis (“Series” or “Categorical”), a predefined default member is selected by default.

Default members have been defined as followed:

- CITL information: “Verified emission”;
- Year: “Total all years”;
- Sector: “All sectors”;
- Country: “All countries”;
- Size: “All sizes”;
- Account status: “All account status”.

Predefined views:



3. Background information on the data and figures in the EU ETS data viewer

3.1. Data availability

Out of the publicly available data according to Annex XVI of Commission Regulation 2216/2004⁵ (Registries Regulation), the EU ETS data viewer contains for each installation covered by the ETS:

- the quantity of allowances allocated to and the verified emissions of that installation,
- the activity under which the installation is registered
- the amount of total units surrendered and the amounts of certified reduction units (CERs) and emission reduction units (ERUs) surrendered .Surrendered units are only available aggregated by trading periods as well as for the total of all years.
- the account status (open/closed).

The CITL does not publish data which could be used to identify allowances which have been issued from new entrants' reserves or allowances which have been auctioned.

The data contained in the CITL is undergoing constant changes, for examples due to:

- installations entering or leaving the EU ETS;
- addition of missing information, e.g. late verified emission reports;
- correction of emission reports or inaccurate data in national registries;
- court decisions on the allocation decisions.

In most cases these changes are small and have no significant effect on the overall analysis.

Due to extension and increased harmonisation of the scope of the EU ETS between 2007 and 2008, aggregate emissions data and, in some cases, installation-level 2008 emissions data are not directly comparable in terms of their coverage to 2007 data.

The aggregated data presented in the EU ETS data viewer includes also data for installations with incomplete information (e.g. missing reports on verified emissions, ongoing court procedures on allocation, etc.).

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(⁵) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:02004R2216-20090101:EN:NOT>, OJ L 386, 29.11.2004, p.1.

(⁶) www.eea.europa.eu/legal/disclaimer

3.2. Country

All countries participating in the emission trading system are included in the EU ETS data viewer. The user can select individual countries or country groups. Countries are sorted alphabetically followed by the country groups. **Table 1** lists all Countries and to which groups they belong.

Table 1 Countries and country groups

	EU-15	EU-25	EU-27	All countries
Austria	x	x	x	x
Belgium	x	x	x	x
Bulgaria			x	x
Cyprus		x	x	x
Czech Republic		x	x	x
Denmark	x	x	x	x
Estonia		x	x	x
Finland	x	x	x	x
France	x	x	x	x
Germany	x	x	x	x
Greece	x	x	x	x
Hungary		x	x	x
Iceland				x
Ireland	x	x	x	x
Italy	x	x	x	x
Latvia		x	x	x
Liechtenstein				x
Lithuania		x	x	x
Luxembourg	x	x	x	x
Malta		x	x	x
Netherlands	x	x	x	x
Norway				x
Poland		x	x	x
Portugal	x	x	x	x
Romania			x	x
Slovak Republic		x	x	x
Slovenia		x	x	x
Spain	x	x	x	x
Sweden	x	x	x	x
United Kingdom	x	x	x	x

The EU ETS started with the EU-25 in 2005, but the number of countries covered has since increased to 30. Bulgaria and Romania entered the EU ETS in 2007, Norway, Iceland and Liechtenstein joined in 2008 (Table 2). Care has to be taken when analysing the time series for EU-27: due to the two latest EU Member States the time series jump from 2006 to 2007. EU-27 figure for the total data 2005-2007 can be assessed but for Bulgaria and Romania only 2007 numbers are used in all cases. The time series for 'All countries' includes a further jump between 2007 and 2008 due to the inclusion of three non-EU countries. The user is advised to analyse the EU-25 group only for questions related to the entire period covered by the EU ETS (2005 to 2010). In addition, due to extension and increased harmonisation of the scope of the EU ETS between 2007 and 2008, aggregate emissions data and, in some cases, installation-level 2008 emissions data are not directly comparable in terms of their coverage to 2007 data.

Table 2 Scope of the EU ETS

Participation to the EU ETS	2005	2006	2007	2008-2010
EU-15 countries	X	x	x	x
EU-25 countries	X	x	x	x
Bulgaria			x	x
Romania			x	x
EU-27 countries	X	x	x	x
Iceland				x
Liechtenstein				x
Norway				x
All countries	X	x	x	x

3.3. Year

The European Emission Trading System is based on trading periods; coverage of installations and sectors as well as allocation rules might differ between trading periods. The first trading period (also called supplementary program commitment period) covered three years (2005-2007); the second trading period covers five years (2008-2012). Between the first and the second trading period no banking of EUAs was possible.

The user can choose the following settings in the category 'year':

- 2005, 2006, 2007, 2008, 2009 or 2010: data for an individual year
- total 1st trading period (05-07): sum of the three years (2005-2007) of the first trading period
- total 2nd trading period (08-12): sum of the three years (2008 to 2010) of the second trading period where data is available..
- total all years: sum of all five years (2005-2010)

Whereas the above mentioned categories include all installations whether or not the data is complete there are three “years” which show a subset of installations. They are not included in the above described totals of several years in order to avoid double counting.

- “2008 (emissions in 2008 & 2009 & 2010)”, “2009 (emissions in 2008 & 2009 & 2010)” and “2010 (emissions in 2008 & 2009 & 2010)” include only those installations with verified emissions available for the three most recent years (2008, 2009, 2010). This is especially important for the first update every year in April as at this point of time a substantial number of installations still have incomplete information.

Bulgaria and Romania only entered the EU ETS in 2007. If 2005 or 2006 is selected, no data is shown for all installations for these two countries. The same goes for the selection of the years 2005, 2006 or 2007 for Norway, Iceland and Liechtenstein which joined the EU ETS in 2008.

3.4. CITL information

The CITL contains information on the verified emissions, the free allocation received and the surrendered units. The EU ETS data viewer gives the possibility to select one or several items described in Table 3.

Table 3 Information included in the CITL

Item	Description
Allocated allowances	Amount of free allocation received (does not include allowances bought, e.g. through auctioning).
Verified emissions	Emissions of the installation(s) which have been testified by a verifier; for each tonne of CO ₂ -eq. emitted the operator has the obligation to surrender one emission trading unit.
Surrendered allowances, CERs and ERUs	Allowances are surrendered to comply with the legal obligation of the operator; each unit equals one tonne of CO ₂ -eq. These might include EUAs (European Allowance Units) allocated for free, bought at auctions or from other operators as well as CERs and ERUs (see below). Remark: only available aggregated by trading periods.
Surrendered CERs	CERs (Certified Emission Reductions) can be surrendered to comply with the legal obligation of the operator and originate from CDM projects; i.e. emission reduction projects in non-Annex 1 countries (countries without an emission reduction target under the Kyoto-Protocol, mostly developing countries). Remark: only available aggregated by trading periods.
Surrendered ERUs	ERUs (Emission Reduction Units) can be surrendered to comply with the legal obligation of the operator and originate from JI projects; i.e. emission reduction projects in Annex 1 countries (countries with an emission reduction target under the Kyoto-Protocol, mostly industrialized countries). Remark: only available aggregated by trading periods.
Difference of allocation versus verified emissions	Based on data contained in the CITL the difference of the allocation to the verified emission has been calculated and can be selected in the EU ETS data viewer. The difference is calculated as follows: Difference = Allocated Allowances – Verified emissions

While analysing the difference of allocation versus verified emissions it has to be kept in mind that aggregated sectoral figures are not necessarily a good indication for individual installations as there might be large variations within a sector. E.g. in the first trading period, there were several power stations located in Germany which were short by over 1 Mt CO₂/yr despite the overall over-allocation in this sector in Germany. In addition, the difference between allocation and verified emissions can in few cases be due to accounting issues. A particular case is the iron and steel sector, in which installations can transfer blast furnace gas to a combustion installation for the production of electricity and/or heat. In this case the related CO₂ emissions occur at the combustion installation but the allocation was given to the iron and steel installation. According to the CITL the respective combustion installation will be short while the iron and steel company appears long even though in reality the

allowances might be transferred together with the blast furnace gas from one installation to the other. For more details see ETC/ACC Technical Paper 2007/02: 'EU Emission Trading Scheme in numbers' ⁽⁷⁾.

3.5. Sectors

Installations included in the CITL are grouped in different sectors according to Annex I of the EU Emission Trading Directive ⁽⁸⁾ (Table 4). Users can select individual sectors or choose to select all sectors together. Sector 99 was included to cover other installations opted in under Article 24 of the EU ETS Directive. For example, Sweden decided to include all installations with a thermal input below 20 MW that are nevertheless connected to a district heating network with a total rated thermal input above 20 MW. In practice, the activity of an installation which is listed under sector 99 in the CITL is often not clear.

Table 4 Sectors included in the CITL

Sector code	Sector description
1	Combustion installations
2	Mineral oil refineries
3	Coke ovens
4	Metal ore roasting or sintering installations
5	Production of pig iron or steel
6	Production of cement clinker or lime
7	Manufacture of glass including glass fibre
8	Manufacture of ceramic products by firing
9	Production of pulp, paper and board
99	Other activity opted-in
All sectors	All sectors

⁽⁷⁾ http://air-climate.eionet.europa.eu/reports/ETCACC_TechnPaper_2007_2_CITL_analysis

⁽⁸⁾ Directive 2003/87/EC amended by Directive 2004/101/EC, see <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32003L0087:EN:NOT> and <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0101:EN:NOT>.

3.6. Installation size

In the EU ETS data viewer, it is possible to limit the data to installations of a certain size category. An overview of the possible choices is presented in Table 5.

Table 5 **Size definitions**

Size	Emission values
large	Installations with verified emissions higher than 500 000 t CO ₂
medium	Installations with verified emissions comprised between 50 000 and 500 000 t CO ₂
small	Installations with verified emissions comprised between 25 000 and 50 000 t CO ₂
mini	Installations with verified emissions lower than 25 000 t CO ₂
zero	Installations with verified emissions equal to 0
unknown	Installations where verified emissions are unknown
All sizes	All installations

The CITL does not contain information on the size of an installation. As an approximation the maximum emissions of an installation over the time series were used to define the installation size. It is appropriate to use the maximum and not average emissions over the time series as real emissions are always lower than theoretical emissions if an installation would run at maximum capacity throughout the entire year.

According to the proposal for the revision of the EU ETS after 2012 ⁽⁹⁾ installations with emissions below 25 000 t CO₂/year for a three year period and, where they carry out combustion activities, a capacity below 35 MW may be excluded from the EU ETS, if they are subject to equivalent contribution to emission reductions. These installations are included in the size categories mini and zero. The sum of these two categories is an overestimation of the number of installations which might be excluded in the future as the CITL contains no information on the installation size and the second criteria (capacity below 35 MW) can therefore not be checked.

3.7. Account status

The account status indicates whether an installation actively takes part in the trading system (open) or has left the system (closed). The account status always refers to the date of download. If the user wishes to assess the number of installations included in the system to date, only installations with account status “open” should be selected; if the user aims at assessing e.g. the total volume of emissions over time also closed accounts should be taken into account.

⁽⁹⁾ European Parliament legislative resolution of 17 December 2008: P6_TA-PROV(2008)0610
Version 2.4 – 24 May 2011

3.8. Measures

The unit in which the information is downloaded from the CITL is tonnes of CO₂ equivalent / emission trading units. The EU ETS data viewer also gives the possibility to change the output values in kilo tonnes of CO₂ equivalents / 1000 emission trading units but also to show them in relative units. All CITL information data can be given in relation to the allocation allowances or in relation to the verified emissions.

There is also the option to show the number of installations. The CITL does not contain information on the status of an installation in a given year, i.e. whether it is a new entrant, existing installation or has been closed. A good indicator is whether an installations is participating in the system in a given year is that it has emissions and/or allocation in that year. Therefore the number of installations takes only into account installations which have allocation and/or emissions over zero in the year shown.

3.9. Gases

In the first trading period only CO₂ emissions have been taken into account in the emission trading system. From the year 2008 on also N₂O emissions of nitric acid production may be included in the system. Until now only Austria the Netherlands and Norway decided to include such installations (the Netherlands are opting-in since 2008, Norway since 2009 and Austria since 2010). Other Member States like UK and France are planning to follow.

The trading system is based on CO₂ equivalents, this means that it is not possible to distinguish whether an installation emitted CO₂ or N₂O or both, this makes it very difficult to track installations for which N₂O emissions are included in the system. The number of those installations is very limited, (for the year 2008 latest researches indicate that there are only 4 installations), this means that there is no essential change in the database from the year 2007 to 2008 due to the inclusion of those installations.

Annex A: update overview

Data included in the actual version is based on CITL data, published by the European commission on http://ec.europa.eu/clima/documentation/ets/registries_en.htm.

Exact publishing dates are shown in the following table:

CITL information included in EU-ETS data viewer	First Trading Period			Second Trading Period				
	2005	2006	2007	2008	2009	2010	2011	2012
Installations included	16 May 2011						April 2012	April 2013
Account status								
Verified Emissions	March 2009			15 April 2011	16 May 2011 ¹			
Allocated Allowances					15 April 2011			
Surrendered Allowances				not existing			16 May 2011 - only as a total for 2008 to 2010	
Surrendered ERU								
Surrendered CER								
¹ calculated as difference from totals (2008-2010)								

Annex B: data availability by country and year

Member State data included in EU-ETS data viewer	First Trading Period			Second Trading Period		
	2005	2006	2007	2008	2009	2010
Austria	x	x	x	x	x	x
Belgium	x	x	x	x	x	x
Bulgaria			x	x	x	x
Cyprus	x	x	x	x	x	
Czech Republic	x	x	x	x	x	x
Denmark	x	x	x	x	x	x
Estonia	x	x	x	x	x	x
Finland	x	x	x	x	x	x
France	x	x	x	x	x	x
Germany	x	x	x	x	x	x
Greece	x	x	x	x	x	x
Hungary	x	x	x	x	x	x
Iceland						
Ireland	x	x	x	x	x	x
Italy	x	x	x	x	x	x
Latvia	x	x	x	x	x	x
Liechtenstein				x	x	x
Lithuania	x	x	x	x	x	x
Luxembourg	x	x	x	x	x	x
Malta	x	x	x	x	x	x
Netherlands	x	x	x	x	x	x
Norway				x	x	x
Poland	x	x	x	x	x	x
Portugal	x	x	x	x	x	x
Romania			x	x	x	x
Slovak Republic	x	x	x	x	x	x
Slovenia	x	x	x	x	x	x
Spain	x	x	x	x	x	x
Sweden	x	x	x	x	x	x
United Kingdom	x	x	x	x	x	x

Annex C: total number of installation and verified emissions

Member States	Total number of installations	Verified Emissions [Mio t CO ₂ eq.]					
		2005	2006	2007	2008	2009	2010
Austria	225	33.373	32.383	31.751	32.004	27.299	30.992
Belgium	362	55.363	54.775	52.795	55.462	46.207	50.104
Bulgaria	145	0.000	0.000	39.182	38.303	32.005	33.497
Cyprus	13	5.079	5.259	5.396	5.577	5.362	0.000
Czech Republic	422	82.455	83.625	87.835	80.400	73.785	75.580
Denmark	406	26.476	34.200	29.407	26.545	25.461	25.266
Estonia	54	12.622	12.109	15.330	13.541	10.323	14.421
Finland	656	33.100	44.621	42.541	36.164	34.290	41.301
France	1125	131.264	126.979	126.635	124.064	111.093	114.697
Germany	1986	474.991	478.026	487.146	472.656	428.203	454.724
Greece	160	71.268	69.965	72.717	69.854	63.662	59.940
Hungary	271	26.162	25.846	26.837	27.237	22.401	22.995
Ireland	124	22.441	21.705	21.246	20.382	17.215	17.356
Italy	1192	225.989	227.439	226.388	220.662	184.877	191.490
Latvia	112	2.854	2.941	2.849	2.743	2.490	3.240
Liechtenstein	2	0.000	0.000	0.000	0.020	0.013	0.002
Lithuania	115	6.604	6.517	5.999	6.104	5.787	6.394
Luxembourg	15	2.603	2.713	2.567	2.099	2.182	2.253
Malta	2	1.971	1.986	2.027	2.019	1.897	1.878
Netherlands	443	80.351	76.701	79.875	83.511	81.031	84.430
Norway	119	0.000	0.000	0.000	19.342	19.217	19.333
Poland	936	203.150	209.616	209.618	204.107	191.167	199.735
Portugal	280	36.426	33.084	31.229	29.930	28.261	24.167
Romania	271	0.000	0.000	69.616	64.100	49.015	47.335
Slovakia	200	25.232	25.543	24.517	25.337	21.595	21.699
Slovenia	100	8.721	8.842	9.049	8.860	8.067	8.130
Spain	1130	183.627	179.725	186.573	163.455	136.943	121.494
Sweden	813	19.382	19.889	19.041	20.069	17.481	22.661
United Kingdom	1136	242.513	251.160	256.581	265.058	231.959	237.415
All Member States	12815	2014.016	2035.651	2164.749	2119.603	1879.285	1932.526