

www.defra.gov.uk

Climate Change Agreements

Results of the Third Target Period Assessment

July 2007

Department for Environment, Food and Rural Affairs
Nobel House
17 Smith Square
London SW1P 3JR
Telephone 020 7238 6000
Website: www.defra.gov.uk

© Queen's Printer and Controller of HMSO 2007

This publication (excluding the Royal Arms and departmental logos) may be re-used free of charge in any format or medium for research for non-commercial purposes, private study or for internal circulation within an organisation. This is subject to it being re-used accurately and not used in a misleading context. The material must be acknowledged as Crown copyright and the title of the publication specified.

For any other use of this material please apply for a Click-Use Licence for Public Sector Information (PSI) or core material at:
<http://www.opsi.gov.uk/click-use/psi-licence-information/index.htm>

Alternatively applications can be sent to Office of Public Sector Information, Information Policy Team, St Clements House, 2-16 Colegate, Norwich NR3 1BQ; Fax: +44 (0)1603 723000; email: hmsolicensing@cabinet-office.x.gsi.gov.uk

Published by the Department for Environment, Food and Rural Affairs

Climate and Energy: Business and Transport (CEBT)
Nobel House
17 Smith Square
London SW1P 3JR

Email: levy.agreements@defra.gsi.gov.uk

This document is available on the Defra website:
www.defra.gov.uk/environment/climatechange/uk/business/ccl/index.htm

Table of Contents

1	Introduction	1
2	EU Emissions Trading Scheme and changes to sector reporting	3
3	Commentary on the results of the Third Target Period	4
3.1	Results in absolute performance terms	5
3.2	Relative performance results	7
3.3	Interaction with the EU Emissions Trading Scheme	8
3.4	Interaction with the UK Emissions Trading Scheme	8
3.5	External influences on company performance	8
3.6	Discussion of sector performance	9
3.7	Summary of performance of each sector	10
4	References	13
	ANNEX 1- EXPLANATION OF THE SECTOR SUMMARY FORMAT	14
	ANNEX 2 – SUMMARIES OF INDIVIDUAL SECTOR Performance	

Climate Change Agreements – Results of the Third Target Period Assessment

KEY RESULTS

The key results of the third target period assessment show:

- 16.4 million tonnes of CO₂ per year emissions were saved in total compared to sector baselines
- 32 out of 49 sectors reporting met their targets outright
- In a further 10 sectors all the facilities had their Climate Change Levy discounts renewed
- 99 per cent of facilities (9,830) have had Climate Change Levy discounts renewed
- Generally, there was continued improvement across the sectors.

1 Introduction

Climate Change Agreements (CCA) were agreed between certain energy intensive users and Government in March 2001. Being party to a CCA, and meeting targets, allows relevant facilities to claim up to an 80% reduction in the Climate Change Levy, which was placed on non-domestic energy supplies from 1 April 2001.

The responsibility for negotiating energy efficiency and carbon savings targets, and operating the Climate Change Agreements rests with the UK Government's Department for Environment, Food & Rural Affairs (Defra). HM Revenue and Customs collect the levy for Government and deal with exemptions and exclusions¹. The industrial sector associations play a pivotal role in managing the agreements for their members and others falling within the scope of the agreements. Defra engaged AEA Technology (then also known as ETSU and subsequently Future Energy Solutions) to provide independent technical advice and facilitate the negotiations with the eligible sectors.

Full details on the agreements are given in a series of papers and guidance notes on the Defra website (see references section). Each CCA has a performance target for the years 2002, 2004, 2006, 2008 and 2010. The Defra website also has an analysis of the original targets, the results of the first and second target period assessment and this third target period assessment. The report of the second target period includes the results of the 2004 target review. Since the first report discusses the structure and operations of the agreements in detail, this information will not be repeated here.

The analysis of the original targets provided an estimate of the carbon savings expected from the CCAs beyond "Business As Usual" (BAU). Since the publication of

¹ The Levy is deducted at 'source' by the facility's energy supply company and then passed to HMRC.

that analysis there have been widespread structural changes in UK industry, changes to products because of market forces and entrants and exits in many sectors. Therefore, while the sectors remain, the character has often changed substantially. This report presents the results of a fresh analysis of the performance against BAU using the latest growth projections. However for the sector summaries, the results here are just presented in terms of overall savings from the base-years.

The first target period report² gives full details on the savings from the CCA baseline to that point. This report concentrates on the performance at the third target period and includes, for reference, selected results from earlier target periods. Because of the changing membership of the CCA sectors, the target period results are not readily comparable.

This target period is the first where there is overlap with the EU Emissions Trading Scheme (EU ETS). This is discussed in the following section. In order to demonstrate their performance against their CCA targets, some sectors have reported results before and after the EU ETS double counting adjustments and these are described in the respective sector summaries. All summary results are quoted before double counting adjustments for those sectors that gave the additional breakdown.

² http://www.defra.gov.uk/environment/ccl/pdf/cca_aug04.pdf

2 EU Emissions Trading Scheme and changes to sector reporting

From January 2005, the EU ETS came into effect. Approximately 500 installations covered by EU ETS are also covered by CCAs of which about 330 have opted out of EU ETS for the first phase. For those remaining in EU ETS, there is the potential for double counting of emissions and so procedures to adjust for this were agreed³.

EU ETS covered emissions already included in Climate Change Agreements (CCAs). For Phase I of EU ETS, industry preferred to keep the existing CCA targets rather than take out the EU ETS emissions. Emissions from energy use covered by the CCA are therefore included in the EU ETS. If a Target Unit (TU) reduces emissions, then they may have a surplus of allowances for sale on EU ETS or banking for future use. This same reduction in emissions may also mean that the TU over-performs against their CCA target, which can be converted into allowances for sale on UK ETS. In other words the TU gains allowances on both trading schemes for the same reduction in emissions. Conversely, if emissions increase, TUs may find themselves forced to obtain allowances on both EU ETS and UK ETS to meet the requirements of the different schemes.

It was necessary to avoid the situation where the TU would be able to benefit from a surplus arising from the same emission reduction in both schemes, or alternatively be penalised in both schemes to cover the same shortfall. CCA23, and a subsequent addendum for CHP, describe the methodology that was used to avoid this double counting of emissions for TP3. It is not possible to implement that adjustment within EU ETS and so modifications were made to the reporting methodology for CCAs and an adjustment to the TU and sector target was applied where appropriate. There are 23 sectors that have had to apply this adjustment. It should be noted that EU ETS allowances and UK ETS allowances are not interchangeable.

³ Described in paper CCA23 available on the Defra website

3 Commentary on the results of the Third Target Period

Climate Change Agreements were originally negotiated with 44 industrial sectors. Three of these, Reprotect, Vehicle Builders and Repairers and the CRT sector have since been terminated by the sectors for business reasons. An additional 12 sectors have entered agreements under the energy intensity criteria. However two of these agreements were agreed too close to the end of the target period to justify reporting and two sectors merged with their IPPC equivalents. Hence overall there are 49 sectors reported in this document.

Overall 32 out of the 49 sectors have met their targets after taking the emissions trading by operators into account. However one of these sectors, whilst meeting their CCA target, did not meet their EU ETS corrected target, and a single target unit within the sector was decertified. In effect, however, 41 of the 49 sectors met their targets as all the target units within them have been re-certified.

4401 target units (9,830 facilities) have been re-certified.

345 target units had left the agreements by TP3 (as reported by the Sector Associations).

23 target units have not been re-certified.

116 target units did not submit any data at the end of the target period and their agreements have been terminated.

Overall, 92% of target units (99% of facilities) have been re-certified.

The results are presented in comparison to the base years of the individual sectors, both as an actual (absolute) saving, and, where possible, as an improvement compared to what the performance would have been, if the output in the base year had been the same as that during the target period (relative saving). The latter gives an indication of the improvement in efficiency for those sectors where the absolute emissions may have increased as a result of increasing output.

Results are presented as tonnes of carbon dioxide equivalent. Energy is converted to carbon dioxide using the appropriate fuel mix for the sector. Some sectors have saved other greenhouse gases and there are established conversion factors to equate them to CO₂ savings.

As a consequence of the methods of calculating sector targets and the impact of trading allowances and ring-fencing, it is possible that a sector does not meet its target at the sector level assessment. However, because of the risk management issues that come in to play **after** the sector or sub-sector test, it is possible that all individual underlying agreement target unit targets are met. Whilst mathematically the sector has not met its target, in practical terms it has effectively done so if all the constituent target units have met theirs. This was the case for 10 of the sectors. This is discussed further in the TP2 report.

The risk management measures available to target units comprise trading, product mix and output algorithms, tolerance bands and relevant constraints. At the third target period the most common method was trading. One tolerance band was used; only 113 product mix/output algorithms (apart from those sectors where the Novem method is used to aggregate the range of products into the sector total) and only three claims for relevant constraints were agreed.

3.1 Results in absolute performance terms

The table below shows how the CCAs have performed overall. It shows the total CO₂ savings per annum at all three target periods compared to the respective base year. It also shows what savings the sector targets represent. These savings are net figures across the sectors. Some sectors with relative targets may have increased energy consumption because of increased production, whilst at the same time improving energy efficiency.

The table also shows the effects of the Steel sector on the overall result. Steel represents roughly a quarter of all primary energy in the CCA sectors and there have been major changes in this industry over the lifetime of the agreements. Steel accounted for 7.3 of the 16.4 million tonnes of CO₂ savings per annum in 2006. Steel production fell significantly in 2002. Since then, output has risen by 18%⁴ from the first target period to the second target period and then remained about the same during Target Period 3. Output is forecast to rise further up to 2010, though it is significantly below the levels projected at the start of the agreement. However, over the same period, energy use has only gone up by around 9%, reflecting the fact that the Steel sector is continuing to improve its energy efficiency. Since output was lower, and the targets for steel are denominated in absolute energy, the targets for this sector were adjusted (ie reduced from 367 PJ to 326 PJ). This resulted in the CO₂ savings from the baseline increasing by 3.2 Mt for Target Period 3. The effect of the adjustment for the steel sector is shown in the table in parentheses.

The different sectors have a range of baseline years, ranging from 1990 to 2001. The figures for absolute savings given below are for the savings by all sectors from their relevant baselines, they are not the savings from a single point in time. The membership of the agreements at the end of each target period is not the same as that at the start of the agreements or at the first target period. In virtually all sectors there have been a number of exits and entrants. Some sector agreements may cover considerably less energy than at the start of the agreements, but some of this energy reduction may be due to exits where the facility has not been closed, and may not be as a result of the CCA. Conversely some sector agreements may now cover more energy than at the start of the agreements as a result of new entrants.

⁴ In the report for Target Period 2, the 28% percentage increase in production between Target Period 1 and Target Period 2 was calculated against a Target Period 1 production adjusted to compensate for throughput changes in the membership. The 18% figure quoted here is not normalised as this is more transparent and is calculated from data in Annex 2.

	All Sectors		
	Actual (MtCO₂/year)	Target (MtCO₂/year)	Actual minus Target (MtCO₂/year)
Absolute savings from baseline – Target Period 1 <i>(With adjusted Steel target)</i>	16.4	6.0 (12.3)	10.4 (4.1)
Absolute savings from baseline – Target Period 2 <i>(With adjusted Steel target)</i>	14.4	5.5 (9.3)	8.9 (5.1)
Absolute savings from baseline – Target Period 3 <i>(With adjusted Steel target)</i>	16.4	9.1 (12.3)	7.3 (4.1)
	All sectors excluding Steel		
	Actual (MtCO₂/year)	Target (MtCO₂/year)	Actual minus Target (MtCO₂/year)
Absolute savings from baseline – Target Period 1	7.0	4.6	2.4
Absolute savings from baseline – Target Period 2	6.9	3.1	3.8
Absolute savings from baseline – Target Period 3	9.1	6.4	2.7
	Steel Only		
	Actual (MtCO₂/year)	Target (MtCO₂/year)	Actual minus Target (MtCO₂/year)
Absolute savings from baseline -Target Period 1 <i>(With adjusted target)</i>	9.4	1.4 (7.7)	8.0 (1.7)
Absolute savings from baseline – Target Period 2 <i>(With adjusted target)</i>	7.6	2.4 (6.1)	5.2 (1.5)
Absolute savings from baseline – Target Period 3 <i>(With adjusted target)</i>	7.3	2.7 (5.9)	4.6 (1.4)

Note: Figures have been rounded for presentation

The original analysis of the agreement targets estimated the effect of the agreements by 2010 to be a saving of around 2.5 MtC per year (9.2 MtCO₂) compared to Business As Usual (BAU) trends. Using the same approach, the actual savings in TP3 are around 1.9MtC per year (7.0 MtCO₂), slightly ahead of schedule despite a reduction of around 5% in CCA coverage (ie exits) since the beginning of the agreements.

Comparing projected emissions using current 2010 targets with the latest BERR BAU energy projections (central growth, central fuel price scenario) suggests that the net saving over BAU in 2010 will be 1.9 MtC per year (7.0 MtCO₂). The increases in forecast energy prices in the latest BAU projections tend to reduce BAU emissions, through the price effect itself, because these price increases also reduce growth (and therefore emissions) and make energy efficiency measures more cost effective. These three effects mean that without the CCAs, emissions would already be lower and therefore the additional effect of the current 2010 CCA targets is less.

3.2 Relative performance results

For sectors with relative targets⁵, AEA has computed the performance the sector would have achieved, if the output in the base year had been the same as that during the target period. The difference between this and the actual performance in the target period is a measure of improvements in energy efficiency.

Using this approach, the table below demonstrates the relative savings made by the sectors with relative targets.

	Relative Target Sectors		
	Actual (MtCO ₂ /year)	Target (MtCO ₂ /year)	Actual minus Target (MtCO ₂ /year)
Relative savings from baseline - Target Period 1	10.9	8.5	2.4
Relative savings from baseline - Target Period 2	14.2	10.5	3.7
Relative savings from baseline - Target Period 3	15.6	12.9	2.7

The comments on sector membership and baselines given for absolute performance above also apply here.

⁵ This includes all sectors except Steel, Aerospace, Wallcoverings and Supermarkets, which all have absolute targets.

3.3 Interaction with the EU Emissions Trading Scheme

For those TUs with facilities in EU ETS, there was, in aggregate, a surplus 3,634,000 EU ETS allowances associated with emissions common to both schemes. As a result, the CCA targets in aggregate were tightened to prevent double benefit. This then meant that many TUs had to either obtain UK ETS allowances for retirement to ease their CCA target or they were not able to ring-fence or sell over-performance. However, some individual EU ETS installations underperformed in EU ETS and the CCA target was eased as a result of the mechanism.

3.4 Interaction with the UK Emissions Trading Scheme

In the third target period, in total 1,454 target units retired 2.6 million allowances to help them meet their individual targets. These allowances were either bought on the market or the result of operators verifying earlier over-performance. Other operators over-achieved against their targets by an amount equivalent to approximately 3.9 million tonnes of carbon dioxide. At the TP3 reconciliation deadline, only 0.4 million tonnes of carbon dioxide had actually been verified for sale; the remaining 3.5 million tonnes of over-performance was ring-fenced. The table below summarises the interaction with the UK – Emissions Trading Scheme during all three Target Periods.

	No. target units making retirements	No. allowances retired (tCO₂)	Total overachievement (million tCO₂)	No. allowances verified for sales (million tCO₂)	No. allowances ring-fenced (million tCO₂)
TP1	1,026	578,000	3.8	0.6	3.2
TP2	1,137	905,000	6	0.6	5.4
TP3	1,454	2,600,000	3.9	0.4	3.5

There is no evidence that large numbers of operators used the trading mechanism as an alternative to implementing their own energy efficiency measures. Indeed, even though the price of allowances has been relatively low, sectors and operators continued to perform well against third target period targets.

3.5 External influences on company performance

During this target period there have been a number of influences on sector performance. These include the following

- The UK experienced high gas and electricity prices during the period. This has eased to some extent with improved gas supply facilities, but still has an impact on competitiveness and the availability of capital for improvements. Whilst increased fuel costs improve the cost effectiveness of energy efficiency initiatives, the rate of increase in price compared to the time to implement

additional measures means that companies may have a period of higher prices before the energy efficiency measures can be implemented.

- There have been major increases in raw materials costs, notably in the metals sectors. This is caused by increasing demand, particularly from China. These factors have caused closure and rationalisation in some sectors especially those where product prices are set in the world market and so there is little opportunity to pass on price increases. Hence profits may be cut and funds for investment in energy efficiency measures may be reduced. Conversely, some sectors have benefited from higher commodity prices.
- 2007 is the final year for the roll out of IPPC (PPC in the UK). Whilst the energy use aspects of IPPC are accommodated within CCAs, other requirements have resulted in organisations downsizing to avoid IPPC which might make them less efficient.
- 2006 was a very dry summer. This was to the advantage of those sectors whose raw materials are stored outside as drying was reduced.
- The energy intensity of products produced in the UK continues to increase. Bulk products are produced more economically outside the UK, leaving the UK manufacturers to deal with short run, quick response production which can require more energy and is more difficult to optimise. Also the continuing move to thinner, lighter products often involves more energy in manufacture. Manufacturers need to accommodate increased energy intensity within their targets.

3.6 Discussion of sector performance

The following table summarises the performance of sectors in absolute and relative terms, relative to their baseline performances. This table does not reflect the whether a sector met its target or not.

Improved Absolute Performance	Improved Relative Performance	Number of Sectors
✓	✓	33
x	✓	11
✓	x	1
x	x	1

Of the three absolute sectors that do not provide production data, all improved their absolute performance.

This indicates that almost all sectors have managed to improve their energy efficiency performance and most have saved energy overall, though closures, rationalisation and reduced output will play a part in the absolute reduction in energy. The UK ETS data in section 3.4 suggests that sectors have found it more difficult to meet the targets for TP3, as more carbon allowances have been retired and less

over-performance ringfenced. However, the sector specific information in Annex 2 demonstrates that there is variability among the sectors.

There are a number of potential reasons to account for this closer approach to the targets

- Most sectors had their targets tightened as a result of the 2004 review. On an energy weighted basis, sector targets were toughened by an average of 3.2% for this target period.
- Some sectors invested early in energy efficiency measures to meet their 2010 targets and hence earlier levels of over-performance will be eroded if no additional actions are undertaken
- Relative target sectors experiencing a drop in throughput will automatically experience an increase in their specific energy consumption making it more difficult to meet their target
- As indicated above, the product mix is generally moving to more complex products which may require additional process energy

3.7 Summary of performance of each sector

The following table summarises the performance of each CCA sector at the first, second and third target periods in terms of millions of tonnes of CO₂ saved per annum. Note that in this table, a negative value implies an increase in emissions, rather than a saving.

A detailed breakdown of the performance of each sector is given in a series of summaries in Annex 2. Annex 1 describes the layout of these summaries.

Summary Table

Sector	Target Period 1		Target Period 2		Target Period 3	
	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year
Aerospace	15	N/A	27	N/A	71	N/A
Aluminium	2,000	2,600	2,227	3,409	2,323	3,378
Craft Baking	-9	27	-29	52	-33	71
Brewing	37	44	98	91	148	123
Cement	1,900	880	2,030	1136	2,240	1553
Ceramics						
non-fletton	71	45	74	84	162	44
fletton	-5.9	-5.7	-20	-20	-17	-19
refractories	62	-7.3	89	-21	81	-36
whitewares	58	68	141	88	130	90
materials	3.2	12	22	28	5	14
Chemicals	2,000	2,500	1,520	3,524	2,031	2,977
Cathode Ray Tubes	21	117	7	36	-	-
Dairy Industry	58	190	20	186	11	202
Egg Processing	1.8	7.5	0.3	4	-2	5
NFU - Eggs	10	15	4	27	4	22
Eurisol (Mineral Wool)	8.9	24	-9	63	-46	94
Food & Drink	160	620	161	732	157	1000
Foundries	139	16	114	7	76	62
Glass	39	251	-49	250	-6	226
Gypsum Products	-21	5.7	-50	1	-56	21
Leather	6	2.9	6	0	8	4
Lime	173	51	125	91	104	99
Malting	7.5	22	0	36	21	42
Poultry Meat Processing/Feed	-30	38	-40	26	-36	38
British Meat Fedtn	27	12	-16	2	-31	62
Metal Forming	23	46	26	92	37	76
Metal Packaging	18	28	21	39	24	41
Motor Manufacturers	36	185	11	398	173	554
NFU - Pigs	14	11	13	13	11	16
Non-Ferrous	130	140	78	78	183	125
Paper	-510	2,600	-248	2,758	577	2,683
NFU - Poultry Meat	9.7	28	17	40	18	51
Poultry Meat Rearing	72	82	65	77	39	19
Printing	-22	-5.4	-31	52	-47	32
Rendering	14	-0.59	-15	28	-59	7
Rubber	171	49	192	131	209	131
Semiconductors	60	41	29	324	117	1111
Slag Grinders	3.5	6.2	-9	12	-10	16
Spirits	45	17	94	64	64	93
Steel	9,400	N/A	7,553	N/A	7,277	N/A
Supermarkets	15	1.1	-0.95	N/A	1.51	N/A
Surface Engineering	29	75	42	119	91	108
Textiles	114	50	115	107	106	62
Agricultural Supply	23	46	1	74	24	114
Wallcoverings	28	N/A	19	N/A	8	N/A
Wood Panel	-22	-5.5	-15	68	98	160
Contract Heat Treatment	N/A	N/A	N/A	N/A	5	9
Industrial Gases	N/A	N/A	N/A	N/A	10	-2
Calcium Carbonate	N/A	N/A	N/A	N/A	6	5
Kaolin and Ball Clay	N/A	N/A	N/A	N/A	33	13
Packaging and Industrial Film	N/A	N/A	N/A	N/A	-1	0
Textiles - EI	N/A	N/A	N/A	N/A	-0.4	2
Energy Intensive Horticulture	N/A	N/A	N/A	N/A	54	67

Sector	Target Period 1		Target Period 2		Target Period 3	
	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year	Absolute Saving ktCO ₂ /year	Relative Saving ktCO ₂ /year
Geosynthetics	N/A	N/A	N/A	N/A	0.1	0.7

4 References

Defra

General - www.defra.gov.uk/environment/ccl/index.htm

AEA's (ETSU's) analysis of the original targets -
www.defra.gov.uk/environment/ccl/analyses.htm

Results of the first and second target periods -
www.defra.gov.uk/environment/ccl/results.htm

HM Revenue and Customs

General - <http://www.hmrc.gov.uk/> - details under 'Excise & Other', 'Improving our Environment'

ANNEX 1- EXPLANATION OF THE SECTOR SUMMARY FORMAT

Annex 2 to this document comprises a summary of the results for each sector. A brief explanation of the sections of these summaries is provided below.

In all cases, energy is expressed in primary energy terms. This means that metered electricity, as consumed at any installation, is multiplied by a factor (2.6 for the range of years 2000-2010) to reflect the energy required to generate, transmit and distribute the electricity across the grid. The agreements also work in units of carbon or carbon equivalent, and so care has to be taken when trading is involved to ensure there is a conversion to carbon dioxide, as each trading allowance is equivalent to one tonne of CO₂. One tonne of carbon is equivalent to 44/12 tonnes CO₂ (3.667 tonnes CO₂).

Targets and performance are quoted to the same level of significance as the original agreements. All other numbers are rounded for display to the nearest integer, or to two significant figures if they are less than 1. Rounding may prevent a simple addition of the numbers quoted in the summaries.

There are three small variations in the sector summary format depending on whether the sector has members in EU ETS or not and, if so, whether the sector provided information to isolate the impact of the double trading adjustment. The different variations are discussed in the sections below using these descriptions

Case 1 – the sector has Target Units in EU ETS as well as Climate Change Agreements, and the information presented incorporates the adjustments applied to the EU ETS overlap.

Case 2 – the sector has Target Units in EU ETS as well as Climate Change Agreements, information is available to show results with and without the adjustments applied due to EU ETS.

Case 3 – sector does not have Target Units in EU ETS.

Scope and membership of the umbrella agreement

This section gives a brief statement of the membership of the agreement for the sector. This is defined more formally in clause 3 of the umbrella agreements. The umbrella agreements are available at www.defra.gov.uk/environment/ccl/index.htm and will be updated from time to time. The list of those facilities certified for the reduced rate climate change levy is given by sector on the Revenue and Customs web site, currently at <http://www.hmrc.gov.uk>, details under 'Excise & Other', 'Improving our Environment'.

This section also provides information on whether the sector has Target Units that also have installations in EU ETS as well as details on how the corrections for this are presented.

Targets

The table given in this section shows how the targets for the sector have changed with time, as the composition of the sector changes, due to exits and new entrants, and as a result of corrections to baseline data and other agreed variations. Defra has encouraged the correction of errors in baseline data and basic assumptions in order to ensure the agreement targets (whose stringency is maintained) are on a sound basis for the life of the agreements.

The sector targets as originally agreed are quoted in the first row of the table and the second row shows the targets at the end of the first target period (TP1).

The row "2004 Review" shows the percentage change of targets resulting from the review of targets in 2004 required by the agreements. The percentage change is based on the population and their targets at the time of the start of the review. The targets given in the fourth row of the table ("At TP2") for the second target period take account of these adjustments to the 2006, 2008 and 2010 targets. The Final row provides targets for the third target period ("At TP3").

Additional risk management adjustments to the third target period sector target

Sector targets are adjusted for any retirement of allowances or ring-fencing that has taken place. Individual target units or trading groups may buy UK ETS allowances to ease targets to match their performance level. Alternatively they may sell verified allowances or retain (ring-fence) over-performance for subsequent verification and use, which has the effect of tightening the target, i.e. making the target more demanding.

Further to the above, for some specific sectors, sector level targets may be varied to account for sector level changes in product mix (PMO) and/ or throughput of the individual target units. This mechanism is described in more detail in paper CCA08.

Final adjusted CCA sector target for the third target period

For case 1, this section of the summary shows the sector target, as it is when all the adjustments described above have been made as well as those made for those Target Units which are part of EU ETS as well as Climate Change Agreements. The actual performance of the sector is compared to this adjusted target. The adjustment due to the overlap between the two schemes is shown in the section entitled 'Adjustment for overlap with EU ETS'.

For case 2, the adjusted target only includes adjustments for the retirement of allowances, ringfencing and PMO, as described above. It does not include any adjustment for EU ETS.

For case 3, Target Units in the sector are not in EU ETS and so the adjusted target does not include any correction for this.

Sector performance recorded

The table given in this section shows the sector performance against the equivalent baseline at the first, second and third target periods. The “equivalent baseline” is the baseline performance for the population of the sector in the agreement at the relevant target period. This changes with time as the population of the sector changes and also due to base data corrections.

The performance figure given is simply the actual performance recorded by the sector. All adjustments are made to targets and not performance.

Adjustment for overlap with EU ETS

This section provides details on the Target Units that are in both the EU ETS and Climate Change Agreement schemes. This specifies the number of Target Units in the sector with an overlap between the two schemes and therefore have had an adjustment to their target. The adjustment to the CCA target is expressed as an excess or deficit of CO₂, as well as the resultant tightening or easing of the sector target.

For case 1 this adjustment is included in the overall adjusted target in section ‘Final adjusted CCA sector target for the third target period’. It is not included in the adjusted target for case 2.

Commentary

For case 1, this section summarises how the performance of the sector compared with the adjusted target, and the facilities that were certified and decertified with explanations.

For case 2, the performance of the sector is compared to the adjusted target not including adjustments for EUETS, and then indicates how the sector target changed due to the EUETS adjustment and what difference this made to the result.

Due to the application of ring-fencing, product mix, tolerance bands and relevant constraints at the target unit level, it is quite possible for the sector as a whole not to meet its target yet for all the target units to meet theirs on their individual performance.

Target units that have terminated their agreement prior to reporting for the target period or have not supplied data are excluded here from the stated number of those not being re-certified. Those not re-certified can maintain their agreement and work to meet their next target with a view to subsequently regaining certification.

This section also gives a table showing how the sector has improved relative to the equivalent base year position at each target period. It should be noted that the figures for each target period may be for different populations.

Graph of performance and current targets relative to the base year

This graph uses the data from earlier sections and particularly illustrates the impact of trading allowances and ring-fencing on the sector target. For each sector the data has been normalised, with the base year performance set to 1.0, to give a clear visual presentation of the performance of the sector at each of the target periods to date. The graphs show both the current target profile and the original umbrella agreement target profile. For some sectors these will actually have eased slightly as a result of entrants and exits, especially where the individual target units have different savings profiles.

For case 1, the target after adjustments will include adjustments due to the EU ETS overlap, but in case 2 this adjustment is not included.

Impact of the sector performance

This section indicates the change in energy consumption and carbon dioxide emissions. There are a number of ways that this can be determined. The two measures presented here are straightforward to calculate.

Relative energy/ CO₂

The base year performance here is calculated by taking the membership of the agreement at the end of each target period and calculating the energy/ carbon demand at base year performance and the relevant target period throughput. Where possible, the carbon/ energy conversion factors for both the base year and the target period have been employed. Where the former is not readily available, the relevant target period conversion factor is used. This figure therefore takes account of the change in throughput and, where allowable, product mix changes and so gives an indication of the energy efficiency performance of the sector.

It should be noted that, since the sector population may have changed at each target period, the figures presented cannot necessarily be used to show how the energy/carbon demand has changed from one target period to the next.

Absolute energy/ CO₂

The base year performance here is simply the recorded summation of the base year energy/ carbon consumption at the baseline for the membership of the sector at the end of each target period. Where possible, the carbon/ energy conversion factors for both the base year and the relevant target period have been employed. Where the former is not readily available, the relevant target period conversion factor is used. Using the reported performance figures for each target period, the absolute difference in performance between the base year and the target period is calculated.

It should be noted that, since the sector population may have changed at each target period, the figures presented cannot (in most cases) be used to show how the energy/carbon demand has changed from one target period to the next.

Where possible a simple comparison of the total sector throughput for the base year compared to the target period is given in the same table as the absolute performance. For some sectors, notably some absolute sectors and those sectors with diverse sub-sector units, it is not possible to produce one meaningful throughput measure.