CLIMATE CHANGE AGREEMENTS – RESULTS OF THE FIRST TARGET PERIOD ASSESSMENT

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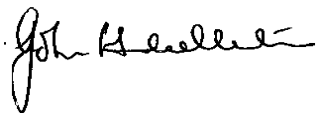
Author	JOHN HUDDLESTON		5th July 04
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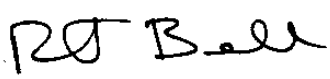
Approved by	ROBERT BELL		5th July 04

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CLIMATE CHANGE AGREEMENTS – RESULTS OF THE FIRST TARGET PERIOD ASSESSMENT

EXECUTIVE SUMMARY

The Climate Change Levy and the Climate Change Agreements are an integral part of the UK Government's policy response to climate change. Through the Climate Change Agreements, participants receive an entitlement to levy reduction provided they meet agreed energy efficiency or carbon savings targets. There are five targets covering performance in the years 2002 to 2010 with performance being assessed every second year. This report gives an assessment of the reported performance of those sectors involved in the agreements for the first target period (2001-2). At this stage, there is no information available on the way in which the results have been achieved.

Climate Change Agreements were negotiated with 44 industrial sectors. Performance is first tested at sector level, but it is possible for individual target units within those sectors to be re-certified even if the sector as a whole does not meet its target.

Overall 24 out of 44 sectors have met their targets as a whole. The situation at April 2003 was that:

- 5,042 target units[1] have been re-certified.
- 164 target units have left the agreements.
- 219 target units have not been re-certified.
- 317 target units did not submit any data at the end of the milestone period and their agreements have been terminated.

Subsequent adjustments will have had a slight impact on these figures. Overall, around 88% of target units have been re-certified.

The cumulative absolute energy saving as a result of the agreements compared to the baseline years is 228PJ, which is equivalent to 4.5 million tonnes of carbon or 16.4 million tonnes of carbon dioxide.

For many sectors, it is possible to estimate the energy use for the current year output if no energy efficiency improvements had been made. Compared with that, the total reduction for those sectors is 186 PJ, which is equivalent to 3.0 million tonnes of carbon or 10.9 million tonnes of carbon dioxide and has been achieved through energy efficiency improvements.

The agreements have also brought about a change in attitude to energy management in industry, where Finance Directors are now much more directly involved in decision-making and the status of energy management has been enhanced. In addition to the savings from the reduced rate of Climate Change Levy, it is estimated that CCA participants collectively save over £450m per year from their reduced energy consumption.

[1] A target unit is a facility or group of facilities sharing a target.

The agreements provide for the original targets for 2006 to 2010 to be reviewed during 2004 to ensure they continue to represent the potential for cost effective energy savings, taking into account any technical and market changes.

The performance by sector is given in the following table.

Sector	Type of agree-ment	Target before trading adjustment /ring-fencing	Target after trading adjustment /ring-fencing	Actual Performance	% of target units re-certified	Absolute Saving kt(CO_2)	Relative Saving kt(CO_2)
Aerospace	Abs E	637,700,258 kWh_p	566,545,353	593,956,008	100%	15	N/A
Agricultural Supply	Rel E	167.0 kWh_p/t	159.0	158.3	100%	23	46
Aluminium	Rel C	0.709 EER (C)	0.714	0.681	100%	2,000	2,600
Brewing	Rel E	62.19 kWh_p/hl	59.47	59.50	100%	37	44
Cathode Ray Tubes	Rel E	0.710 EER	0.580	0.580	100%	21	117
Cement	Rel E	1.463 kWh_p/kg	1.354	1.406	100%	1,900	880
Cenentitous Slag	Rel E	278 kWh_p/t	258	257	100%	3.5	6.2
Ceramics							
non-fletton	Rel E	1,003 kWh_p/t	984	982	100%	71	45
fletton	Rel E	768 $kWh_p/1000$	804	864	100%	-5.9	-5.7
refractories	Rel E	3,640 kWh_p/t	3,365	3,769	93%	62	-7.3
whitewares	Rel E	10,352 kWh_p/t	9,228	9,441	98%	58	68
materials	Rel E	961 kWh_p/t	856	871	91%	3.2	12
Chemicals	Rel E	0.908 EER	0.862	0.855	100%	2,000	2,500
Craft Bakeries	Rel E	1,659 $kWh_p/(£k)$	1,548	1,494	100%	-9	27
Dairy Industry	Rel E	478.22 kWh_p/t	439.31	458.67	99%	58	190
Egg Product^n (NFU)	Rel E	0.390 kWh_p/doz	0.302	0.336	68%	10	15
Egg Products (BEPA)	Rel E	1.118 kWh_p/kg	0.770	0.804	100%	1.8	7.5
Food & Drink (FDF)	Rel E	959.3 kWh_p/t	905.3	944.1	100%	160	620
Foundries	Rel E	6,507 kWh_p/t	6,278	6,554	95%	139	16
Glass	Rel E	3.67 MWh_p/t	3.50	3.39	100%	39	251
Gypsum Products	Rel E	1,976,700,401 kWh_p	2,124,200,217	2,110,100,697	100%	-21	5.7
Leather	Rel E	11.06 kWh_p/m^2	11.06	10.45	100%	6.0	2.9
Lime	Rel E	976 kWh_p/t	911	969	100%	173	51
Malting	Rel E	1,290.74 kWh_p/t	1,236.31	1,236.30	100%	7.5	22
Metal Packaging	Rel C	77,091,828 kgC	73,703,086	75,296,282	95%	18	28
Metal Forming	Rel E	2,719 kWh_p/t	2,037	2,480	100%	23	46
Mineral Wool	Rel E	4,954 kWh_p/t	4,925	4,861	100%	8.9	24
Motor Manufacturers	Rel E	3,147 kWh_p/veh	2,674	2,809	100%	36	185
Non-Ferrous	Rel E	6,345,235,016 kWh_p	5,388,449,938	5,380,280,623	100%	130	140
Paper	Rel E	4,637 kWh_p/t	4,478	4,476	100%	-510	2,600
Pigs (NFU)	Rel E	1.104 kWh_p/kg	1.130	1.060	100%	14	11
Poultry Meat Processing (BPC)	Rel E	649.8 kWh_p/t	557.2	624.5	98%	-30	38
Poultry Meat Rearing (BPC)	Rel E	1,414 kWh_p/t	1,116	1,147	99%	72	82
Poultry Meat Rearing (NFU)	Rel E	0.731 kWh_p/kg	0.414	0.955	83%	9.7	28
Printing	Rel E	0.05971 kWh_p/m^2	0.05594	0.05809	96%	-22	-5.4
Red Meat	Rel E	636.0 kWh_p/t	529.1	681.6	97%	27	12
Rendering	Rel E	877.0 kWh_p/t	811.6	853.0	100%	14	-0.59
Rubber	Rel E	6,887 kWh_p/t	6,173	6,073	100%	171	49
Semiconductors	Rel E	0.4664 EER	0.9693	0.8897	100%	60	41
Spirits	Rel E	7.70 kWh_p/lpa	7.43	7.53	100%	45	17
Steel	Abs E	304.3 PJ_p	281.5	281.0	100%	9,400	N/A
Supermarkets	Abs E	288,957,043 kWh_p	275,620,899	272,986,625	100%	15	1.1
Surface Engineering	Rel E	2,890,361,508 kWh_p	2,977,406,335	2,828,683,776	100%	29	75

Sector	Type of agree-ment	Target before trading adjustment /ring-fencing	Target after trading adjustment /ring-fencing	Actual Performance	% of target units re-certified	Absolute Saving kt(CO_2)	Relative Saving kt(CO_2)
Textiles	Rel E	3,693,676,535 kWh_p	3,290,704,859	3,141,386,873	100%	114	50
Vehicle Builders and Repairers	Rel E	1043.85 kWh_p/unit	1043.85	774	21%	0.57	0.75
Wallcoverings	Abs E	698,383,887 kWh_p	734,876,708	627,286,792	100%	28	N/A
Wood Panel	Rel E	959 kWh_p/m^3	924	981	100%	-22	-5.5

Abs E – absolute energy
Rel E – relative carbon
kWh_p – kilo-Watt-hours (primary)
MWh_p – Mega-Watt-hours (primary)
EER – energy efficiency ratio
lpa – litres of pure alcohol
t – tonne
doz – dozen

Abs C – absolute carbon
Rel C - relative carbon
PJ_p – petajoules (primary)

hl – hectolitre
veh – vehicle
kg – kilogram

The UK Government's Department for Environment, Food & Rural Affairs (Defra) is the principal negotiator in the Climate Change Agreements process. It contracted Future Energy Solutions (FES, formerly known as ETSU) to provide independent technical advice and policy support for the development and operation of the agreements. FES has assessed all the milestone data provided by the sectors and has made recommendations on the results to Defra.

FES is part of AEA Technology Environment, a business of AEA Technology plc. FES is an internationally recognised source of impartial advice, analysis and information on energy efficiency in industrial sectors.

CLIMATE CHANGE AGREEMENTS – RESULTS OF THE FIRST TARGET PERIOD ASSESSMENT

1. INTRODUCTION

Climate Change Agreements (CCAs) were agreed between energy intensive users and Government in March 2001. Being party to a CCA allows relevant facilities to claim an 80% reduction in the Climate Change Levy that 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) (formerly the Department of the Environment, Transport and the Regions, DETR). HM Customs and Excise collect the levy for Government and deal with exemptions and exclusions. 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 asked Future Energy Solutions (FES) to provide independent technical advice and facilitate the negotiations with the energy intensive sectors. FES is part of AEA Technology Environment, a business of AEA Technology plc. FES is an internationally recognised source of impartial advice, analysis and information on energy efficiency in industrial 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 targets by FES (then called ETSU).

Since assisting in the negotiation of the agreements, FES has provided ongoing policy and technical support to Defra. This has included reviewing all the 2002 target period submissions and recommending to Defra which facilities should be re-certified. The list of those facilities covered by a climate change agreement are given on the Customs & Excise website (see references section).

This report summarises the results at the sector level. It largely reflects the position at April 2003, though internal and external audits have revealed some errors, corrections of which are incorporated in this version of the report.

The agreements provide for the original targets for 2006 to 2010 to be reviewed during 2004 to ensure they continue to represent the potential for cost effective energy savings, taking into account any technical and market changes.

1.1. The Rationale for CCAs

In November 1998, Lord Marshall presented the results of his Task Force's examination of economic instruments to improve the industrial and commercial use of energy with the aim of reducing emissions of greenhouse gases. This led to the Chancellor's announcement in the March 1999 budget of the Climate Change Levy, a downstream tax on energy used in the industrial, commercial and public sectors. The levy follows the UK Government's policy on

environmental taxation of shifting the burden of taxation from "goods" (e.g. employment) to "bads" (e.g. environmental pollution).

Lord Marshall had drawn particular attention to the need to balance the pressures on the environment, on business, and on Government. He recognised the need for the levy to be designed in a way that delivered worthwhile improvements to energy efficiency and reductions to carbon emissions (compared with what they would otherwise have been) whilst at the same time safeguarding the competitiveness of UK business and, in particular, the energy intensive users (EIUs).

The Government therefore made provisions for a reduction to the levy for such industries (and certain exemptions, for example, to encourage good quality combined heat and power and renewable energy supplies). The levy reduction was subsequently set at 80%. Through the terms set out in Climate Change Agreements established between individual industrial sector associations and the UK Government, EIUs would secure the reduction in return for agreeing and delivering challenging energy and carbon savings.

1.2. Structure, variations and options in the agreements

The Climate Change Agreements have a two level structure, with both sector targets and targets for individual target units. A target unit is a facility or group of facilities sharing one target. A facility is the IPPC Stationary Technical Unit, plus any Directly Associated activities and extra items allowed under the '90/10' rule[2].

Target unit operators have a choice of currencies for their targets. The currency of sector targets follows the energy-weighted majority of the target units in the sector. Operators and sectors have the option of emissions trading and ring-fencing and also a range of other risk management measures. These structures and options are described later in this paper, as it is important to appreciate the diversity of the agreements and variations that are possible.

The objective behind the targets is to improve energy efficiency of operation. Hence it is possible for sectors or targets units to meet their target of lowering their energy per unit of product whilst their energy consumption increases because of increased throughput. Other possible effects from the mathematics involved are mentioned later.

1.3. Trading and Ring-fencing

During the negotiations for the CCAs, it was announced that the Government would be introducing a domestic emissions trading scheme as a further element of its climate change strategy. Provision for emissions trading was included in the agreements, but the detailed interaction has been developed since the agreements were signed.

The UK Emissions Trading Scheme was the world's first economy-wide greenhouse gas emissions trading scheme. Companies with CCAs can use the scheme either to buy allowances to meet their targets, or to sell any over-achievement against these targets. One allowance is equivalent to one tonne of carbon dioxide.

[2] See CCA19, Guide to the '90/10' rule – available on the Defra web-site

The emissions trading scheme went live on 2 April 2002.

An accredited verifier must verify all over-achievement that is converted to allowances. This verification is at the vendor's expense. To avoid disadvantaging smaller companies with relatively small amounts of carbon to trade, it was agreed that over-performance can be 'ring-fenced'; that is, held back by the target unit operator. The ring-fenced over-achievement can be combined with over-achievement from future years and verified as a larger block. Once verified within the trading scheme, the allowances could be used against the target unit's own future targets.

Agreements were constructed in terms of a sector level assessment as the first test against a target. That is, the sector as a whole is examined before individual participants. Originally, it was assumed that over-performance by one participant would compensate for the under performance of another. However, an important consequence of trading allowances and particularly of ring-fencing is the more that over-performance is converted to allowances or is ring-fenced by operators, the less is available to the sector as a whole to balance out those companies that have under-achieved. Hence trading allowances and ring-fencing can make it more difficult for the sector to meet its target. Should a sector not meet its target, individual operators have available to them other risk management measures, giving additional flexibility in how they manage the achievement of their targets.

2. TYPES OF CLIMATE CHANGE AGREEMENT

UK manufacturing industry is not homogeneous and Defra has recognised this by allowing a range of agreement types. These are described below. Defra has further allowed some individual sector variations. Each sector's umbrella agreement gives the definitive statement for that sector's circumstances.

The various methods of constructing and adjusting the sector targets can also lead to some apparently unusual, but valid effects, such as the sector appearing not to meet its target yet all the participants individually meeting their targets.

2.1. Structure

There are two basic structures for agreements in use – options 2 and 3. Option 1 was a full sector model with one target and a one stage all pass/ all fail evaluation. In the event, no sector chose this model. The majority of sectors use option 2.

Option 2 has an 'umbrella' agreement between Defra and the sector association and an 'underlying' agreement between Defra and each target unit. If the sector target is met then all target units are deemed to have met their target. If the sector does not meet its target then individuals are re-certified if they have met their individual targets by their own efforts.

Option 3 is similar to option 2, but the sector retains and manages all the underlying agreements. Six agreements follow this option.

2.2. Sub-sectors

Because of the complexity of some industries, several sector associations split their particular industries into sub-sectors with their own targets within a single umbrella agreement. Defra agreed that, if the sector as a whole did not meet its target but a sub-sector achieved its target then all members of that sub-sector could be re-certified.

2.3. Nature of the sector targets

The agreements allow for any permutation of units of carbon or energy and relative or absolute targets. The sector currency is set to the currency of the majority of underlying agreements with the majority being calculated based on energy consumption.

2.3.1. The four basic variations of currency

- **Relative energy** (e.g. GJ primary energy per unit tonne of production)

- **Relative carbon** (e.g. tonnes of carbon per unit tonne of production) - i.e. energy is converted into carbon emissions

- **Absolute energy** (e.g. GJ)

- **Absolute carbon** (tonnes of carbon)

Clearly a relative target requires a clear throughput measure. There have been difficulties in adopting relative targets for some target units that have a diverse range of products. For consistency with emissions trading schemes, the government encourages the adoption of absolute targets.

2.3.2. Combining different currencies at sector level

Conversions between carbon and energy are based on relevant carbon to energy conversion factors as determined by fuel mix. Conversion between relative and absolute is computed by using actual or predicted throughputs for the facilities. The precise procedures were agreed with each sector bilaterally.

2.3.3. Mathematical effects

The mathematical effects associated with the construction of sector targets and performance can result in differences between the overall sector performance and the sum of the individual under- and over-performance of target units.

Product mix is a risk management measure and is discussed below. Whilst it primarily applies at the target unit level, some sectors negotiated to include this option with respect to their sector targets. Where sectors have agreed a procedure with Defra, all target units registering a product mix and output (PMO) algorithm have to submit their product mix corrected data to the sector in order to make the target adjustment.

Where a sector has a wide range of products with different specific energy consumption requirements but does not have provision for adjustment for product mix at sector level, shifts in sector characteristics can affect the overall picture.

2.3.4. Relative targets as a ratio or at an assumed level of throughput

In several sectors, indeed within many target units, it is not possible or sensible to have one throughput unit and so a method of target setting and adjustment has been developed. This method has been refined from work in the Netherlands, and frequently is referred to as the 'Novem' method. It is described in detail in paper CCA08. This and other papers are obtainable from the Defra website referenced at the end of this document.

The Novem method relates improvements in performance to the improvement in specific energy consumption for individual product lines. It allows for the variation of throughput and the change in product mix that might disguise the underlying energy efficiency improvement.

Using the Novem method for sector (or target unit) targets yields an energy (or carbon) figure. This figure has to be recomputed at the end of the milestone period, hence some targets are qualified as 'at an assumed level of throughput' or similar to indicate they are a 'Novem' target and not an absolute target. The Novem method defines a reference year and some sectors have chosen to set their target as an improvement ratio of target energy divided by reference energy.

2.4. Methods of trading

There are three ways in which a target holder may trade, and these trading models are described in papers CCA06 and CCA10. The majority has used Model 1 at the first milestone, though four sectors established Model 2 arrangements.

Model 1 target units act on their own. They buy and sell on their own account from the trading market.

Individual target units within a Model 2 group agree to pool their resources and buy and sell as a single entity. In practice they form a sub-sector with a discrete target, and buy and sell allowances to alter that group's target.

Model 3 target units act on their own as in Model 1, but agree to offer any allowances for sale to their sector association or other sector members on a first refusal basis.

2.5. Risk management measures

The agreements allow several ways for operators to ensure compliance with their targets. The measures recognise that performance can be affected by, for example, changes in throughput and the timing of capital projects. These are briefly discussed below. Of these, 'product mix and output' is only applicable to relative targets. 'PMO' and 'tolerance bands' are mutually exclusive, and both are only permitted for the first three milestone periods. Thereafter, 'emissions trading' and 'relevant constraints' are the only risk management options available.

2.5.1. Product mix and output (PMO)

Target units may define a PMO procedure for adjusting their targets according to variations in actual product mix and/or throughput. This is designed to compensate for two effects

- Firstly the balance of products may change which could affect the overall energy use per unit
- Secondly, as most plants have a base-load component to their energy/ production curves, a reduction in throughput will automatically raise energy per unit

A variety of methods are available for this and several are discussed in paper CCA08. A target unit must have its PMO approved by FES before use and must register with Defra that it intends to apply it within ten days of the end of the target period.

2.5.2. Tolerance bands

Tolerance bands only apply at the target unit level. Tolerance bands allow for the situation where there is a short delay in implementation of an energy efficiency measure. The target including tolerance band is numerically equal to a linear interpolation of the target at six months before the end of the milestone period. The target unit must submit a request to Defra to apply tolerance bands under the procedures set out in paper CCA12 and must demonstrate that the qualitative requirements have been met. The qualitative requirements are a set of energy management activities that are defined in either Schedule 3 or Schedule 7 to the underlying agreements, depending on the type of agreement.

2.5.3. Relevant constraints

Relevant constraints apply at the target unit level and compensate for various circumstances outside the operator's control where government requirements have led to an increase in energy consumption, for example an unexpected denial of planning permission. The target unit must submit a request to Defra to explain the impact of the relevant constraints under the procedures set out in paper CCA12 and must demonstrate that the qualitative requirements have been met.

2.5.4. Emissions trading

Relevant target holders which may be individual target units or a Model 2 trading group may choose to purchase allowances to achieve a component of their target instead of undertaking energy efficiency actions. This is the preferred long-term measure for risk management.

2.6. Base years

Sectors were allowed to choose their own base year. Many chose a base year close to the start of the negotiations for the agreements i.e. 1998 or 1999. Other sectors, where they have good data, chose earlier years, as far back as 1990. By using an early base year, sectors could take advantage of significant early action that might limit further potential during the agreement period.

2.7. Sequence for establishing re-certification

The process for re-certification is described in the 'Defra Milestone Assessment Flowchart' which accompanies paper CCA03 and is available on the Defra website (see References).

Note that, in particular, all the adjustments discussed above are applied to the target, not to the actual performance.

3. COMMENTARY ON THE RESULTS OF THE FIRST TARGET PERIOD

The results are presented in two ways: as an actual (absolute) saving relative to the base year; and as an improvement compared to the hypothetical performance if the milestone year output had been produced at the base year performance. The significant variation between agreements, such as differences in base years, means that these figures give only a broad indication of the improvements in performance that have been achieved. Furthermore, this document does not attempt an analysis of what would have happened in the absence of the agreements.

Industry structural changes and the range of base years mean that the exact methods of comparison between current and historic performance vary between sectors so as to illustrate the genuine changes in sector performance.

Results are presented in primary petajoules (PJ) and as tonnes of carbon equivalent and tonnes of carbon dioxide equivalent. Energy is converted to carbon using the appropriate fuel mix for the sector. Some sectors have saved other greenhouse gases and there are established factors to convert these to equivalent CO_2 savings.

3.1. Results in absolute performance terms

Compared to the energy used in the baseline years, overall 228 PJ less energy has been consumed in the 2002 target period. This is equivalent to 4.5 million tonnes of carbon or 16.4 million tonnes of carbon dioxide. This value is the net figure across the sectors.

Despite the fact that many sectors have experienced growth in output relative to their baselines, only a few of these have actually increased their total energy consumption. Most have more than offset growth by efficiency improvements and have reduced their total energy requirements.

3.2. Relative performance results

For most sectors, it is possible to compute the energy that a sector would have used if those in the agreement at the end of the target period had produced the same throughput, but at the base year efficiency. For these sectors, comparing this to actual consumption, overall 186 PJ less energy has been consumed. This is equivalent to 3.0 million tonnes of carbon or 10.9 million tonnes of carbon dioxide. However, because of the diversity of the agreements, it is not possible to give a simple indicator of overall improvement in efficiency.

3.3. Individual sector targets

Sector targets are adjusted for any trading of allowances and ring-fencing. Consequently, it is possible for a sector to have met its target prior to adjustments for trading and ring-fencing, but following those adjustments for the sector target not to be met. However, because of the risk management issues that come in to play after the sector or sub-sector test, it is then possible that all 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.

3.4. Interaction with the UK - Emissions Trading Scheme

Overall, the operators of over 1,000 target units bought around 580 $ktCO_2$ to help them meet their individual targets. Over-achievement equivalent to approximately 4.7 million tCO_2 has been allocated as allowances or ring-fenced by around 2,150 target units. A further 330 $ktCO_2$ was ring-fenced through collective 'Model 2' trading by four sectors.

Summary Table

Sector	Type of agree-ment	Target before trading adjustment /ring-fencing	Target after trading adjustment /ring-fencing	Actual Performance	% of target units re-certified	Absolute Saving kt(CO_2)	Relative Saving kt(CO_2)
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fletton	Rel E	768 $kWh_p/1000$	804	864	100%	-5.9	-5.7
refractories	Rel E	3,640 kWh_p/t	3,365	3,769	93%	62	-7.3
whitewares	Rel E	10,352 kWh_p/t	9,228	9,441	98%	58	68
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Food & Drink (FDF)	Rel E	959.3 kWh_p/t	905.3	944.1	100%	160	620
Foundries	Rel E	6,507 kWh_p/t	6,278	6,554	95%	139	16
Glass	Rel E	3.67 MWh_p/t	3.50	3.39	100%	39	251
Gypsum Products	Rel E	1,976,700,401 kWh_p	2,124,200,217	2,110,100,697	100%	-21	5.7
Leather	Rel E	11.06 kWh_p/m^2	11.06	10.45	100%	6.0	2.9
Lime	Rel E	976 kWh_p/t	911	969	100%	173	51
Malting	Rel E	1,290.74 kWh_p/t	1,236.31	1,236.30	100%	7.5	22
Metal Packaging	Rel C	77,091,828 kgC	73,703,086	75,296,282	95%	18	28
Metal Forming	Rel E	2,719 kWh_p/t	2,037	2,480	100%	23	46
Mineral Wool	Rel E	4,954 kWh_p/t	4,925	4,861	100%	8.9	24
Motor Manufacturers	Rel E	3,147 kWh_p/veh	2,674	2,809	100%	36	185
Non-Ferrous	Rel E	6,345,235,016 kWh_p	5,388,449,938	5,380,280,623	100%	130	140
Paper	Rel E	4,637 kWh_p/t	4,478	4,476	100%	-510	2,600
Pigs (NFU)	Rel E	1.104 kWh_p/kg	1.130	1.060	100%	14	11
Poultry Meat Processing (BPC)	Rel E	649.8 kWh_p/t	557.2	624.5	98%	-30	38
Poultry Meat Rearing (BPC)	Rel E	1,414 kWh_p/t	1,116	1,147	99%	72	82
Poultry Meat Rearing (NFU)	Rel E	0.731 kWh_p/kg	0.414	0.955	83%	9.7	28
Printing	Rel E	0.05971 kWh_p/m^2	0.05594	0.05809	96%	-22	-5.4
Red Meat	Rel E	636.0 kWh_p/t	529.1	681.6	97%	27	12
Rendering	Rel E	877.0 kWh_p/t	811.6	853.0	100%	14	-0.59
Rubber	Rel E	6,887 kWh_p/t	6,173	6,073	100%	171	49
Semiconductors	Rel E	0.4664 EER	0.9693	0.8897	100%	60	41
Spirits	Rel E	7.70 kWh_p/lpa	7.43	7.53	100%	45	17
Steel	Abs E	304.3 PJ_p	281.5	281.0	100%	9,400	N/A
Supermarkets	Abs E	288,957,043 kWh_p	275,620,899	272,986,625	100%	15	1.1
Surface Engineering	Rel E	2,890,361,508 kWh_p	2,977,406,335	2,828,683,776	100%	29	75
Textiles	Rel E	3,693,676,535 kWh_p	3,290,704,859	3,141,386,873	100%	114	50
Vehicle Builders and Repairers	Rel E	1043.85 kWh_p/unit	1043.85	774	21%	0.57	0.75
Wallcoverings	Abs E	698,383,887 kWh_p	734,876,708	627,286,792	100%	28	N/A
Wood Panel	Rel E	959 kWh_p/m^3	924	981	100%	-22	-5.5

Abs E – absolute energy
Rel E – relative carbon
kWh_p – kilo-Watt-hours (primary)
MWh_p – Mega-Watt-hours (primary)
EER – energy efficiency ratio
lpa – litres of pure alcohol
t – tonne
doz – dozen

Abs C – absolute carbon
Rel C - relative carbon
PJ_p – petajoules (primary)

hl – hectolitre
veh – vehicle
kg – kilogram

4. EXPLANATION OF THE SECTOR SUMMARY FORMAT

Annex 1 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 is multiplied by a factor (2.6 from 2000-2010) to reflect the energy required to generate, transmit and distribute the electricity. 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 CO_2. One tonne of carbon is equivalent to 44/12 tonnes CO_2 (3.667 tonnes CO_2).

Base-line performances prior to 2000 are quoted using actual historic conversion factors for delivered electricity to primary energy. Consequently, comparisons of performance with base-line positions include any changes in the efficiency of the UK electricity supply industry up to the start of the agreements in 2000.

Targets and performance are quoted to the same level of significance as the original agreements. All other numbers are rounded for display at two significant figures.

4.1. 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 original umbrella agreements are available at www.defra.gov.uk/environment/ccl/index.htm . The list of those currently certified is given on the Customs & Excise web site, at http://www.hmce.gov.uk/business/othertaxes/ccl/red-rate-certs.htm .

4.2. Targets

The sector targets as originally agreed are quoted in the first column with the improvement from the base year in percentage terms. In a small number of cases, the targets were not set originally or have been adjusted. Sectors that could not provide baseline data were given deadlines to provide that data. These are explained specifically.

The second column shows the targets as adjusted for entrants and exits, baseline corrections and, for absolute sector targets, with throughput changes. Defra has encouraged the correction of errors in baseline data and basic assumptions in order to ensure the agreement targets (whose stringency was maintained) are on a sound basis for the life of the agreements.

4.3. Additional adjustments to the 2002 sector target

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

Finally, sector targets are adjusted for any trading of UK-ETS allowances or ring-fencing that has taken place. Individual target units or trading groups may buy and retire carbon dioxide allowances to raise targets to their performance level. Alternatively they may sell or bank verified allowances, or retain (ring-fence) over-performance for subsequent verification and use. This has the effect of lowering the target, i.e. making the target more demanding.

Rounding may prevent a simple addition of the numbers quoted in the summaries.

4.4. Sector performance recorded

This is simply the actual performance recorded by the sector. All adjustments affect targets not performance.

4.5. Commentary

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 every target unit to meet its target on individual performance.

Target units that have exited their agreement during the target period or have not supplied data are excluded here from the stated number of those not being re-certified.

This section may also contain a brief commentary on the sector performance recorded.

4.6. 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.

4.7. Impact of the sector performance

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

Where possible, energy to carbon conversion factors specific to both the base year and the milestone year have been employed. Where base year factors have not been readily available, current year factors have been used.

4.7.1. Relative

Generally, the figures shown here are calculated by taking the membership of the agreement at the end of the target period and calculating the energy/ carbon demand at base year relative performance, but at milestone year throughput. In some cases, where there have been significant changes in a sector's make-up between the base year and the target period, the base year performance of the sector, as it was, has been employed to show a more representative picture of the change in the sector's performance.

Figures in this section therefore take account of changes in throughput and, where allowable, in product mix, and so gives an accurate indication of the change in the sector's energy efficiency performance.

4.7.2. Absolute

Generally, the base year performance here is the recorded summation of the base year energy use, or carbon emissions, of those members of the sector agreement at the start of the agreement, or, where there were significant changes in a sector's make-up, at the end of the first target period. Using the reported performance figures for the 2002 milestone, the absolute difference in performance between the base year and 2002 is calculated.

4.7.3. Throughput

Where possible a simple comparison of the total sector throughput for the base year compared to the milestone year is given. 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.

5. BENEFITS FROM THE IMPLEMENTATION OF THE AGREEMENTS

Aside from the headline energy and carbon saving figures, the discipline of the CCAs has had a number of beneficial impacts on the UK industries involved.

- Energy has increasingly become a boardroom issue. Chief executives and finance directors are alert to the additional costs of their energy and to the importance of ensuring they meet their targets and maintain their levy reductions.
- It is estimated that industry is saving over £450m a year on the energy it has not bought as a result of meeting the CCA targets, in addition to the savings on the Climate Change Levy itself.
- Associated with this, energy and environment managers have been given a higher profile at a senior level. Funds for energy efficiency projects have assumed greater importance when companies review their expenditure plans.
- Energy management systems have been strengthened to allow for better reporting and control. Awareness of energy costs has spread more widely within the organisations.
- In many cases the need for accurate accounting for energy has required a greater understanding of energy use within the companies. The possibility of audit has brought a

rigour to energy accounting that many companies did not previously have. This has exposed problems with, for example, billing and metering. Companies, for example, have found meters they were not aware of or even found they were paying for energy used by others.

- The need to develop product mix and output algorithms has encouraged a greater level of understanding of site energy demand characteristics and has alerted companies to the relative impact of energy on their various product lines. This promotes accurate costing of products and should help stimulate a move to lower energy products and processes.
- Organisations are starting to realise that the CCAs are a commercial asset and that they must conduct their business to optimise results.

The overall effect of the agreements is that companies are saving energy by improving their understanding of their energy use and are better placed to meet the demands of their future targets. Many companies are bringing forward additional energy efficiency initiatives and looking for new opportunities. Reducing energy costs will enhance profit margins and almost all companies should be able to generate savings to offset the impact of the levy.

These are therefore signs that industry is learning that there are significantly higher financial benefits from better energy management than perhaps they originally thought. Further work is required to establish whether greater improvements than current targets can be achieved over the lifetime of the agreements or whether the better than expected performance from most sectors has arisen from bringing forward the savings from later years. It seems that the UK - Emissions Trading Scheme has encouraged operators to look beyond their 2002 targets. In either case the environmental benefits will be substantially greater than had the target profiles been met exactly.

6. REFERENCES

Defra

General - www.defra.gov.uk/environment/ccl/index.htm
ETSU's analysis of the targets - www.defra.gov.uk/environment/ccl/analyses.htm

Customs & Excise

General - www.hmce.gov.uk/business/othertaxes/ccl.htm

CLIMATE CHANGE AGREEMENTS -
RESULTS OF THE FIRST TARGET PERIOD ASSESSMENT

ANNEX 1

SUMMARIES OF INDIVIDUAL SECTORS

SOCIETY OF BRITISH AEROSPACE COMPANIES

Scope and membership of the umbrella agreement

SBAC represents the companies operating in the aerospace industry in the UK. This sector carries out a wide range of activities including the manufacture of commercial and military aircraft, ordnance, satellite equipment etc.

Targets

In the "analysis of sector energy efficiency targets" published in 2001, milestone targets were yet to be agreed. Absolute targets were subsequently agreed. These are shown below as kgC, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, exits and entrants and are now expressed in absolute primary kWh (kWh_p).

	Original Targets		Current Targets	
	kgC	Improvement	kWh_p	Improvement
2002	28,062,259	2.40%	637,700,258	1.63%
2004	27,555,264	4.16%	624,258,112	3.70%
2006	27,121,118	5.67%	618,500,243	4.59%
2008	26,601,912	7.48%	604,834,257	6.70%
2010	26,299,325	8.53%	595,927,925	8.07%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 13 $ktCO_2$, which is equivalent to a target reduction of 71,154,905 kWh_p.

The adjusted target for 2002 is therefore 566,545,353 kWh_p.

Sector Performance Recorded

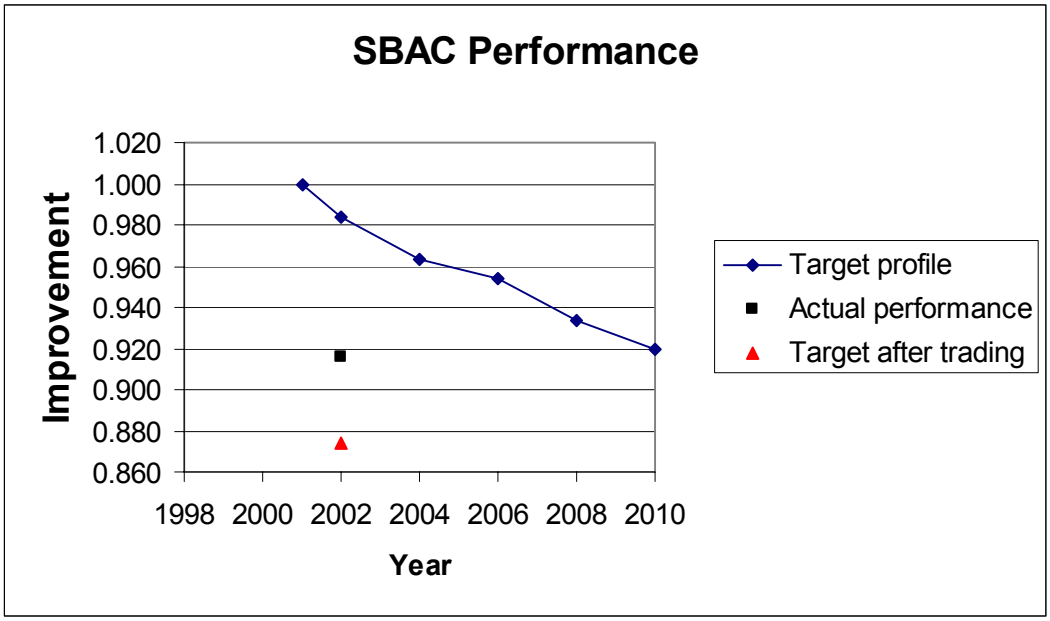
Actual sector performance for 2002 was 593,956,008 kWh_p.

Commentary

The sector has achieved an improvement in energy consumption of 8.4% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.6% improvement.

All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Absolute

In absolute terms the sector has actually used 0.2 PJ less energy than in the base year, equivalent to 4 ktC (15 $ktCO_2$) less.

FES Reference Date

26 March 2003

UK AGRICULTURAL SUPPLY TRADE ASSOCIATION (UKASTA)

Scope and membership of the umbrella agreement

The UKASTA agreement covers the majority of UK animal feed production.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne, and as percentage improvements relative to the 1999 base year. Milestone targets have changed as a result of base-line corrections, absolute target corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	160.2	2.2%	167.0	2.2%
2004	157.0	4.1%	163.6	4.2%
2006	154.5	5.6%	161.1	5.6%
2008	153.3	6.4%	159.8	6.4%
2010	152.1	7.1%	158.6	7.1%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 33.8 $ktCO_2$, which is equivalent to a target reduction of 8.0 kWh_p/t.

The adjusted target for 2002 is therefore 159.0 kWh_p/t.

Sector Performance Recorded

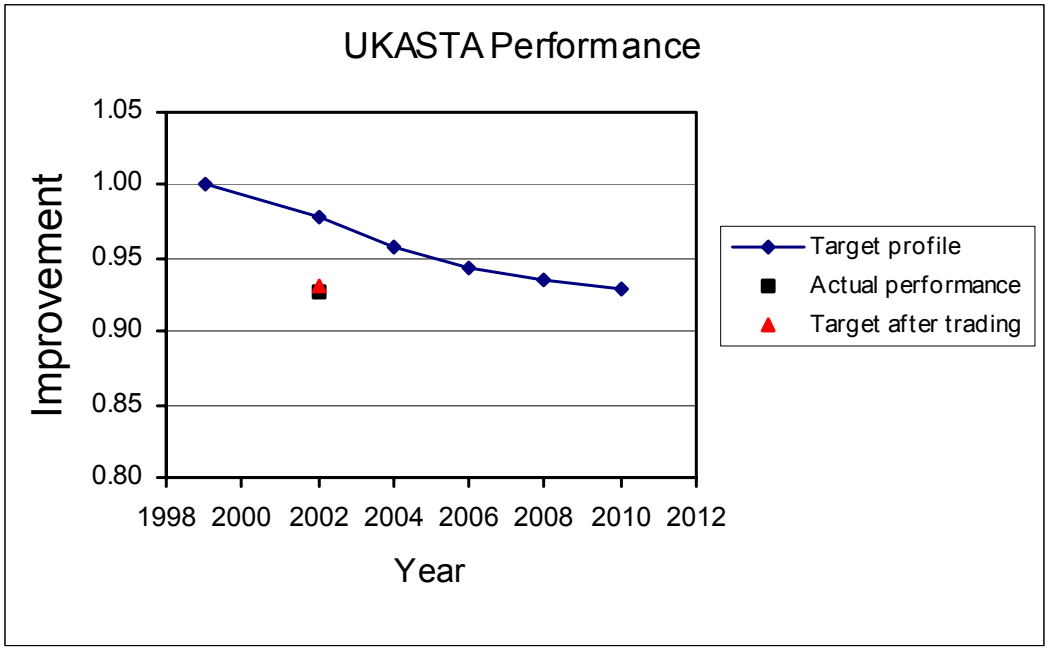
Actual sector performance for 2002 was 158.3 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 7.3% relative to its base year position. This compares with a target, unadjusted for trading, of a 2.2% improvement.

All facilities have been re-certified as a consequence of the sector meeting its target adjusted for trading.

Graph of performance and current targets relative to the base-year



NB: The actual performance and the target adjusted for trading are almost the same.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.92 PJ more energy, equivalent to 13 ktC (46 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.51 PJ less energy than in the base year, equivalent to 6.3 ktC (23 $ktCO_2$) less. At the same time there was a 3% increase in production.

FES Reference Date

25 March 2004

THE ALUMINIUM FEDERATION (AlFed)

Scope and membership of the umbrella agreement

The Aluminium Sector has a number of subsectors, i.e. primary, secondary, rolling, extruding, aluminium finishing, magnesium and titanium. The primary aluminium producers are the largest energy consumers. Greenhouse gases other than carbon dioxide are included in the sector emissions.

Targets

Original and current milestone targets for this sector are shown below as a performance ratio based on carbon emissions. Milestone targets have changed because of entrants and exits.

	Original targets		Current targets	
	Ratio	Improvement	Ratio	Improvement
2002	0.726	27.4%	0.709	29.1%
2004	0.705	29.5%	0.688	31.2%
2006	0.695	30.5%	0.678	32.2%
2008	0.690	31.0%	0.673	32.7%
2010	0.678	32.2%	0.661	33.9%

Additional adjustments to the 2002 sector target

- Throughput adjustments have increased the target by 0.025.
- Trading has resulted in a net allocation of allowances/ring-fencing of 155 $ktCO_2$, which is equivalent to a target reduction of 0.019.

The adjusted target for 2002 is therefore 0.714 (calculations at four significant figures).

Sector Performance Recorded

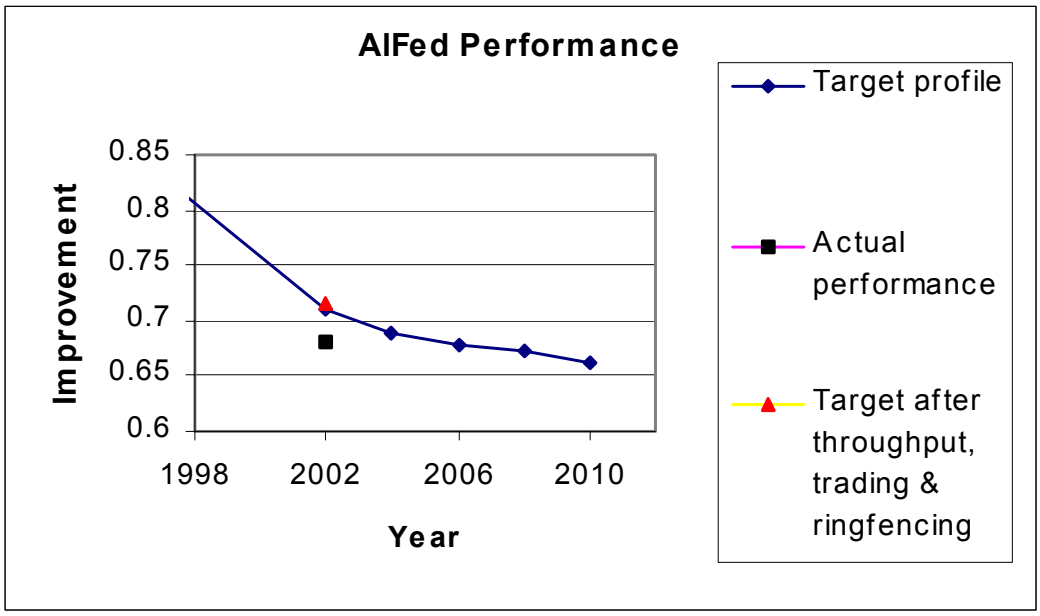
Actual sector performance for the 2002 milestone period was 0.681

Commentary

The sector has achieved an improvement in specific carbon consumption of 31.9 % relative to its base year position. This compares with a target, unadjusted for trading, of a 29.1% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the carbon per tonne as in the base year it would have used 700 $ktC_{equivalent}$ (2,600 $ktCO_{2equivalent}$) more, which is equivalent to 29 PJ more energy.

Absolute

In absolute terms the sector has actually used 550 $ktC_{equivalent}$ (2,000 $ktCO_{2equivalent}$) less than in the base year, equivalent to 23 PJ less.

FES Reference Date

27 March 2003

THE BRITISH BEER & PUB ASSOCIATION (BBPA)

Scope and membership of the umbrella agreement

The BBPA (previously BLRA) agreement covers over 98% of UK beer production.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per hectolitre of product, and as percentage improvements relative to the base year of 1999. Milestone targets have changed because of base-line corrections.

	Original targets		Current targets	
	kWh_p/hl	Improvement	kWh_p/hl	Improvement
2002	62.50	2.2%	62.19	2.2%
2004	61.11	4.4%	60.80	4.4%
2006	59.72	6.5%	59.42	6.5%
2008	58.33	8.7%	58.04	8.7%
2010	56.94	10.9%	56.65	10.9%

Additional adjustments to the 2002 sector target

- Product mix adjustments have resulted in a target increase of 0.68 kWh_p/hl
- Trading has resulted in a net allocation of allowances/ring-fencing of 37 $ktCO_2$, which is equivalent to a target reduction of 3.41 kWh_p/hl.

The adjusted target for 2002 is therefore 59.47 kWh_p/hl.

Sector Performance Recorded

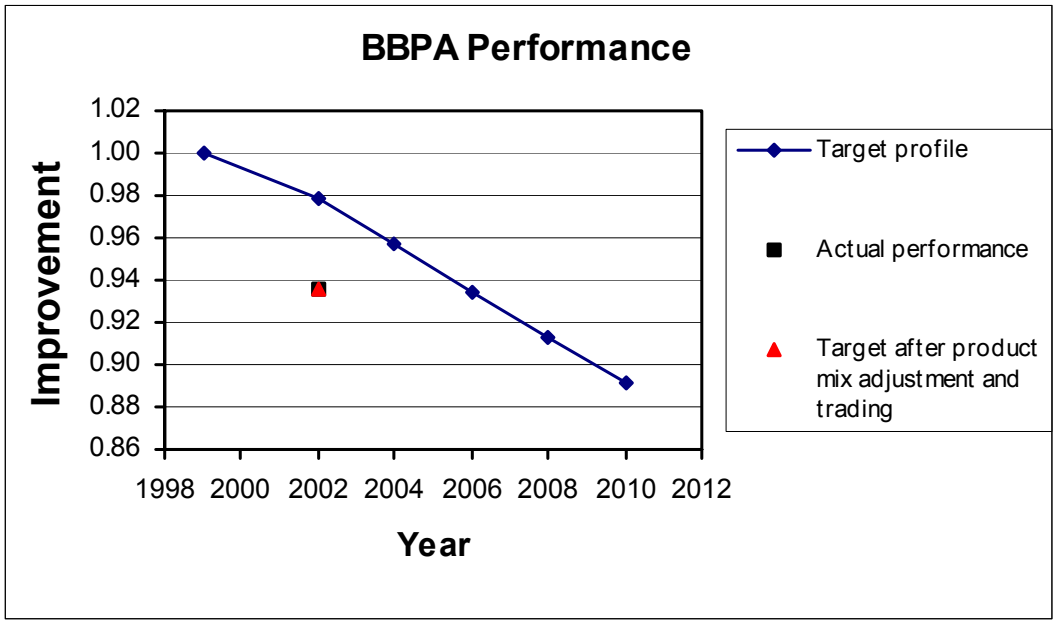
Actual sector performance for 2002 was 59.50 kWh_p/hl

Commentary

The sector has achieved an improvement in specific energy consumption of 6.4% relative to its base year position. This compares with an unadjusted target of a 2.2% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base-year



NB: The adjusted target and the actual performance are almost the same in this case.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.87 PJ more energy, equivalent to 12 ktC (44 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.73 PJ less energy than in the base year, equivalent to 10 ktC (37 $ktCO_2$) less. At the same time there was a 1% increase in production.

FES Reference Date

27 February 2004

NATIONAL MICROELECTRONICS INSTITUTE (CATHODE RAY TUBES)

Scope and membership of the umbrella agreement

NMI represents various electronics manufacturers in the UK, including both semiconductor and cathode ray tube (CRT) production.

Targets

In the "analysis of sector energy efficiency targets" published in 2001, the original milestone targets for this sector were given in primary kWh_p/kg glass. In the signed agreement, the sector changed the format to ratios of target year performance to base year performance for a particular level of throughput. These targets have now changed as a result of baseline corrections as shown below.

	Original Targets			Current Targets	
	kWh_p/kg	Ratio	Improvement	Ratio	Improvement
2002	5.52	0.94	6%	0.71	29%
2004	5.11	0.87	13%	0.65	35%
2006	4.95	0.84	16%	0.63	37%
2008	4.79	0.81	19%	0.61	39%
2010	4.65	0.79	21%	0.59	41%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 38.5 $ktCO_2$, which is equivalent to a target reduction of 0.13.

The adjusted target for 2002 is therefore 0.58 (ratio of target year to base year for actual 2002 throughput level).

Sector Performance Recorded

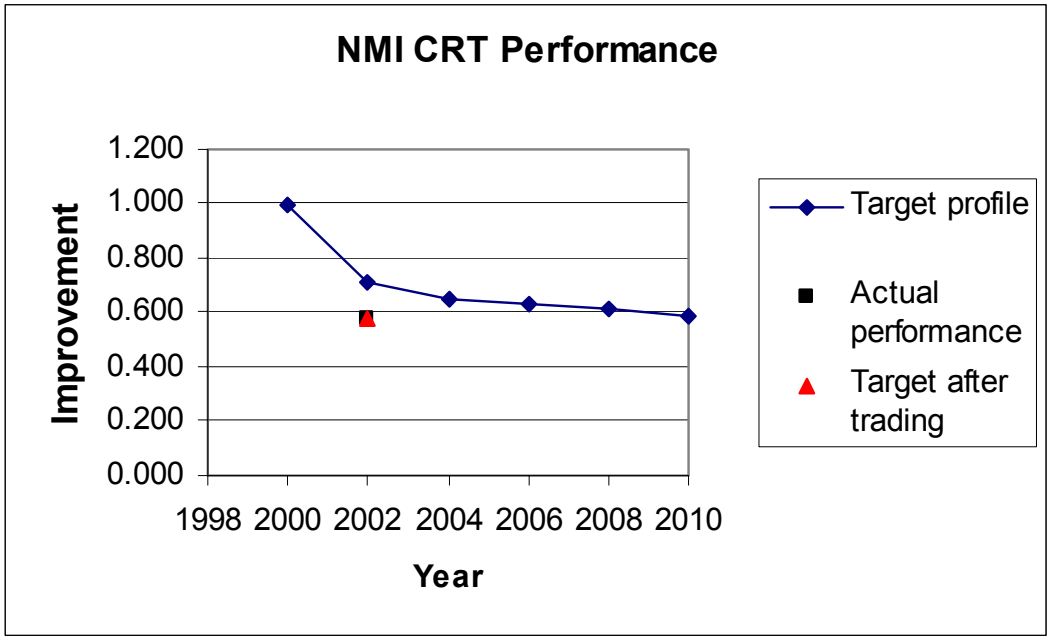
Actual sector performance for 2002 was 0.58 (ratio of target year to base year for actual 2002 throughput level).

Commentary

The sector has achieved an improvement in specific energy consumption of 42% relative to its base year position. This compares with a target, unadjusted for trading, of a 29% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



NB: The target after trading and ringfencing and the actual performance are the same in this case.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 2.4 PJ more energy, equivalent to 32 ktC (117 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.44 PJ less energy than in the base year, equivalent to 5.7 ktC (21 $ktCO_2$) less. At the same time there was a 30% increase in production.

FES Reference Date

26 March 2003

THE BRITISH CEMENT ASSOCIATION (BCA)

Scope and membership of the umbrella agreement

The BCA covers the whole of the UK Portland cement industry.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per kilogram of cement, and as percentage improvements relative to the base year of 1990. Milestone targets have changed because of base-line corrections.

	Original targets		Current targets	
	kWh_p/kg	Improvement	kWh_p/kg	Improvement
2002	1.457	13.2%	1.463	13.2%
2004	1.408	16.1%	1.414	16.1%
2006	1.298	22.6%	1.303	22.6%
2008	1.282	23.6%	1.287	23.6%
2010	1.249	25.6%	1.253	25.6%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 341 $ktCO_2$, which is equivalent to a target reduction of 0.109 kWh_p/kg.

The adjusted target for 2002 is therefore 1.354 kWh_p/kg.

Sector Performance Recorded

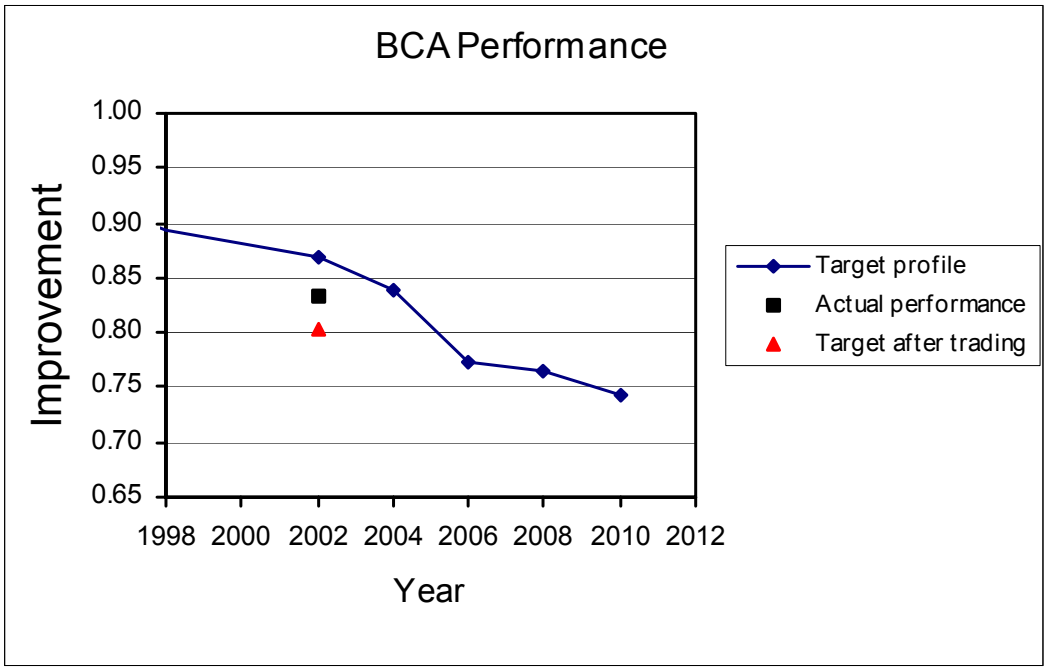
Actual sector performance for 2002 was 1.406 kWh_p/kg.

Commentary

The sector has achieved an improvement in specific energy consumption of 16.6% relative to its base year position. This compares with an unadjusted target of a 13.2% improvement.

All the facilities have been re-certified because they have met their individual targets outright.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per kilogram as in the base year it would have used 12 PJ more energy, equivalent to 240 ktC (880 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 25 PJ less energy than in the base year, equivalent to 510 ktC (1,900 $ktCO_2$). This is a 30% reduction, and at the same time there has been a 16% reduction in production relative to 1990.

FES Reference Date

27 February 2004

THE SLAG GRINDERS SECTOR LTD

Scope and membership of the umbrella agreement

This sector has six sites. Five of these take granulated blastfurnace slag and grind it to form products for the Construction and Glass Industries. The other site grinds metallurgical slags to produce a range of products, mainly abrasives.

Targets

Original and current milestone targets for this sector are shown below as primary kWh/tonnes (kWh_p/tonne) of product, and as percentage improvements relative to the base year. Milestones have changed because of baseline corrections and entrants.

	Original targets		Current targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	280	0.4%	278	0.0%
2004	273	2.8%	272	2.1%
2006	263	6.4%	261	6.1%
2008	257	8.5%	255	8.2%
2010	252	10.2%	251	9.7%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 6 ktCO2, which is equivalent to a target reduction of 20 kWh_p/tonne.

The adjusted target for 2002 is therefore 258 kWh_p/tonne.

Sector Performance Recorded

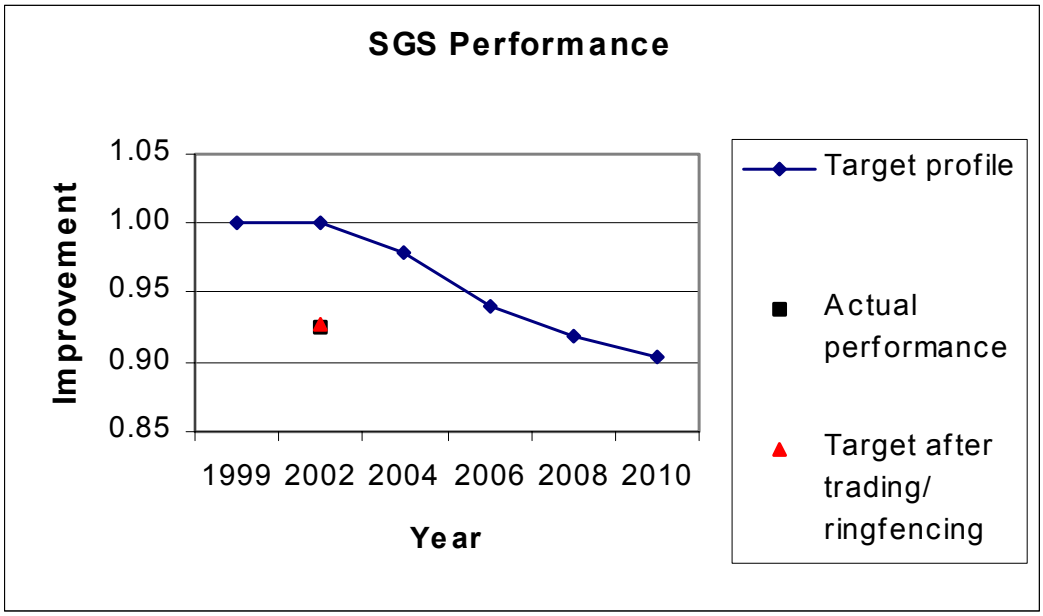
Actual sector performance for 2002 was 257 kWh_p/tonne.

Commentary

The sector has achieved an improvement in specific energy consumption of 8% relative to its base year position. This compares with a target, unadjusted for trading, of no improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.1 PJ more energy, equivalent to 1.7 ktC (6.2 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.1 PJ less energy than in the base year, equivalent to 1.0 ktC (3.5 $ktCO_2$) less. At the same time there was a 3.3% increase in production.

FES Reference Date

25 March 2003

BRITISH CERAMIC CONFEDERATION

Scope and membership of the umbrella agreement

BCC represents the ceramics manufacturing industry in the UK, including potteries, heavy clay products including non-fletton bricks, fletton bricks, refractories and industrial ceramics and ceramic materials.

Targets

The BCC agreement covers five sub-sectors, each with their own targets. There are no overall sector targets. Targets for the sub-sectors are as follows:

Non-Fletton

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	870	2.41%	1003	1.73%
2004	848	4.79%	985	3.50%
2006	833	6.30%	968	5.14%
2008	811	8.84%	949	6.99%
2010	799	10.22%	938	8.07%

Fletton

Original and current milestone targets for this sector are shown below as primary kWh_p/1000 bricks, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections.

	Original Targets		Current Targets	
	kWh_p/1000	Improvement	kWh_p/1000	Improvement
2002	578	0.86%	768	0.85%
2004	569	2.40%	756	2.38%
2006	558	4.29%	742	4.19%
2008	547	6.17%	727	6.15%
2010	536	8.06%	713	7.96%

Refractories

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants and exits.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	2253	3.06%	3640	1.33%
2004	2213	4.82%	3599	1.81%
2006	2189	5.83%	3559	2.90%
2008	2130	8.37%	3502	4.46%
2010	2084	10.33%	3436	6.24%

Whitewares

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants and non-respondents.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	7867	2.83%	10352	3.73%
2004	7375	8.90%	9767	9.26%
2006	7273	10.16%	9637	10.47%
2008	7173	11.40%	9509	11.66%
2010	7092	12.40%	9385	12.81%

Materials

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	985	2.39%	960.5	2.46%
2004	960	4.84%	937.1	4.82%
2006	937	7.13%	914.5	7.12%
2008	921	8.69%	899.8	8.61%
2010	907	10.10%	887.7	9.84%

Additional adjustments to the 2002 sub-sector targets

Non-Fletton

- Trading has resulted in a net allocation of allowances/ring-fencing of 22 $ktCO_2$, which is equivalent to a target reduction of 19 kWh_p/tonne.

The adjusted target for 2002 is therefore 984 kWh_p/tonne.

Fletton

- Trading has resulted in a net purchase of 2.3 $ktCO_2$, which is equivalent to a target increase of 36 kWh_p/1000.

The adjusted target for 2002 is therefore 804 kWh_p/1000.

Refractories

- Trading has resulted in a net allocation of allowances/ring-fencing of 19 $ktCO_2$, which is equivalent to a target reduction of 275 kWh_p/tonne.

The adjusted target for 2002 is therefore 3365 kWh_p/tonne.

Whitewares

- Trading has resulted in a net allocation of allowances/ring-fencing of 58 $ktCO_2$, which is equivalent to a target reduction of 1124 kWh_p/tonne.

The adjusted target for 2002 is therefore 9228 kWh_p/tonne.

Materials

- Trading has resulted in a net allocation of allowances/ring-fencing of 11 $ktCO_2$, which is equivalent to a target reduction of 104 kWh_p/tonne.

The adjusted target for 2002 is therefore 856 kWh_p/tonne.

Sub-Sector Performance Recorded

Non-Fletton - Actual sub-sector performance for 2002 was 982 kWh_p/tonne.

Fletton - Actual sub-sector performance for 2002 was 864 kWh_p/1000.

Refractories – Actual sub-sector performance for 2002 was 3769 kWh_p/tonne.

Whitewares – Actual sub-sector performance for 2002 was 9441 kWh_p/tonne.

Materials – Actual sub-sector performance for 2002 was 871 kWh_p/tonne.

Commentary

Non-Fletton

The sub-sector has achieved an improvement in specific energy consumption of 3.8% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.7% improvement. All the facilities have been re-certified.

Fletton

The sub-sector has seen an increase in specific energy consumption of 11% relative to its base year position. This compares with a target, unadjusted for trading, of a 0.85% improvement. All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Refractories

The sub-sector has seen an increase in specific energy consumption of 2.8% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.3% improvement. All but two of the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Whitewares

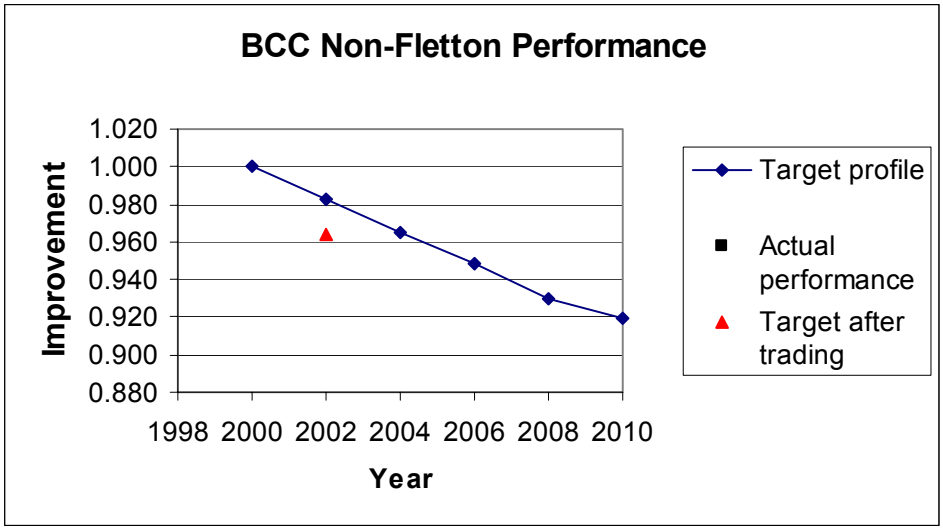
The sub-sector has achieved an improvement in specific energy consumption of 12% relative to its base year position. This compares with a target, unadjusted for trading, of a 3.7% improvement. All but one of the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

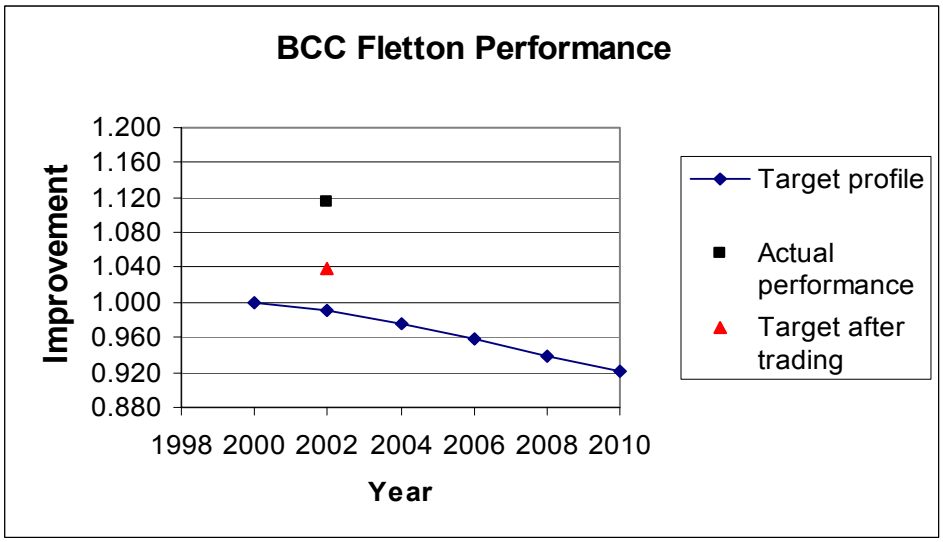
Materials

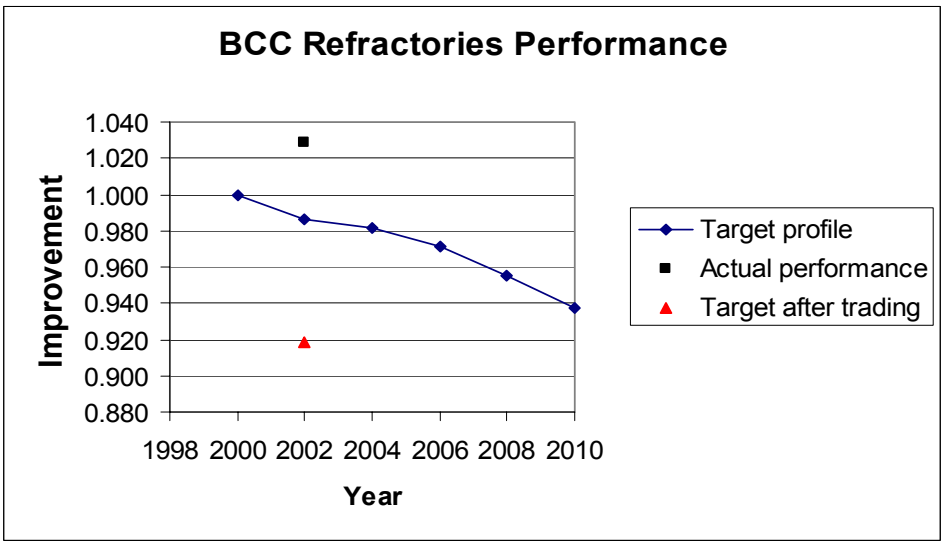
The sub-sector has achieved an improvement in specific energy consumption of 11% relative to its base year position. This compares with a target, unadjusted for trading, of a 2.5% improvement. All but one of the facilities have been re-certified because they have met

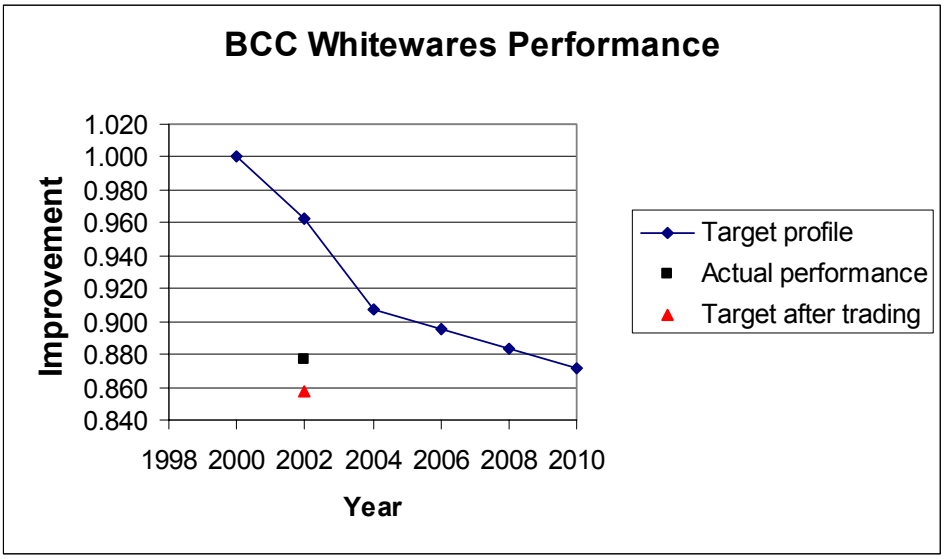
their individual targets either outright, or through a mixture of trading and/or product mix.

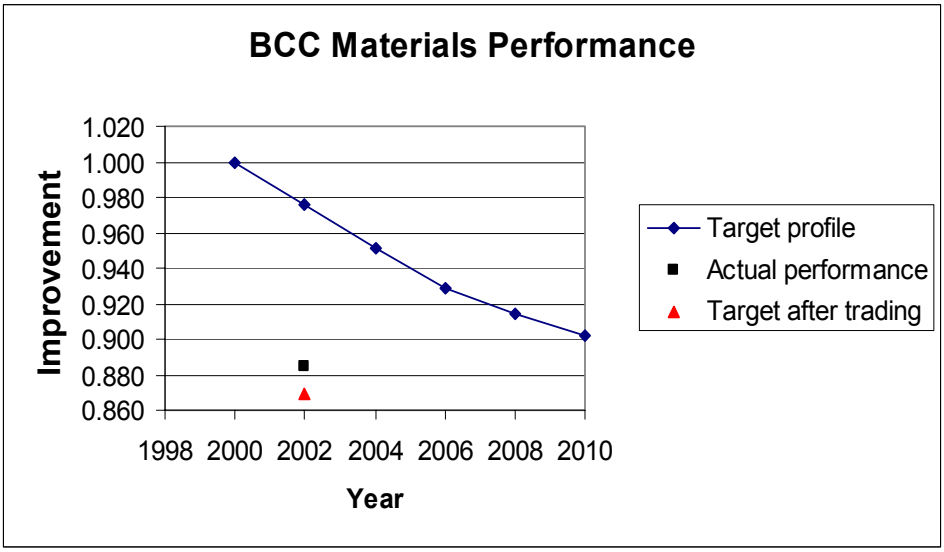
Graphs of performance and current targets relative to base year











Impact of the sub-sector performance

Non-Fletton

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.86 PJ more energy, equivalent to 12 ktC (45 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 1.4 PJ less energy than in the base year, equivalent to 19 ktC (71 $ktCO_2$) less. At the same time there was a 2.1% decrease in production.

Fletton

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.1 PJ less energy, equivalent to 1.6 ktC (5.7 $ktCO_2$). It should be noted that there has been a significant change in the mixture of products produced.

Absolute
In absolute terms the sector has actually used 0.11 PJ more energy than in the base year, equivalent to 1.6 ktC (5.9 $ktCO_2$) more. At the same time there was a 0.31% increase in production.

Refractories
Relative
If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.14 PJ less energy, equivalent to 2 ktC (7.3 $ktCO_2$).

Absolute
In absolute terms the sector has actually used 1.2 PJ less energy than in the base year, equivalent to 17 ktC (62 $ktCO_2$) less. At the same time there was a 21% decrease in production.

Whitewares
Relative
If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 1.4 PJ more energy, equivalent to 19 ktC (68 $ktCO_2$).

Absolute
In absolute terms the sector has actually used 1.2 PJ less energy than in the base year, equivalent to 16 ktC (58 $ktCO_2$) less. At the same time there was a 1.9% increase in production.

Materials
Relative
If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.24 PJ more energy, equivalent to 3.3 ktC (12 $ktCO_2$).

Absolute
In absolute terms the sector has actually used 0.06 PJ less energy than in the base year, equivalent to 0.86 ktC (3.2 $ktCO_2$) less. At the same time there was a 9.3% increase in production.

FES Reference Date
25 March 2003

THE CHEMICAL INDUSTRIES ASSOCIATION

Scope and membership of the umbrella agreement

The chemicals sector covers a range of activities from continuous bulk chemical operations to small batch production of specialty chemicals. The agreement is operated through CIABATA, a wholly owned subsidiary of the Chemical Industries Association.

Targets

Original and current milestone targets for this sector are shown below as an energy efficiency improvement ratio of target performance relative to the production of the predicted throughput at base year (1998) performance. The products of the sector are diverse and so one standard throughput unit is not possible. This method relates targets to product SEC improvements. Milestone targets have changed because of baseline corrections, exits and entrants.

	Original targets		Current targets	
	EER	Improvement	EER	Improvement
2002	0.877	12.3%	0.908	9.2%
2004	0.850	15%	0.879	12.1%
2006	0.835	16.5%	0.864	13.6%
2008	0.822	17.8%	0.850	15%
2010	0.817	18.3%	0.845	15.5%

Additional adjustments to the 2002 sector target

- Product mix adjustments have increased the target by 0.010.
- Trading has resulted in a net allocation of allowances/ring-fencing of 962 ktCO_2, which is equivalent to a target reduction of 0.056.

The adjusted target for 2002 is therefore 0.862.

Sector Performance Recorded

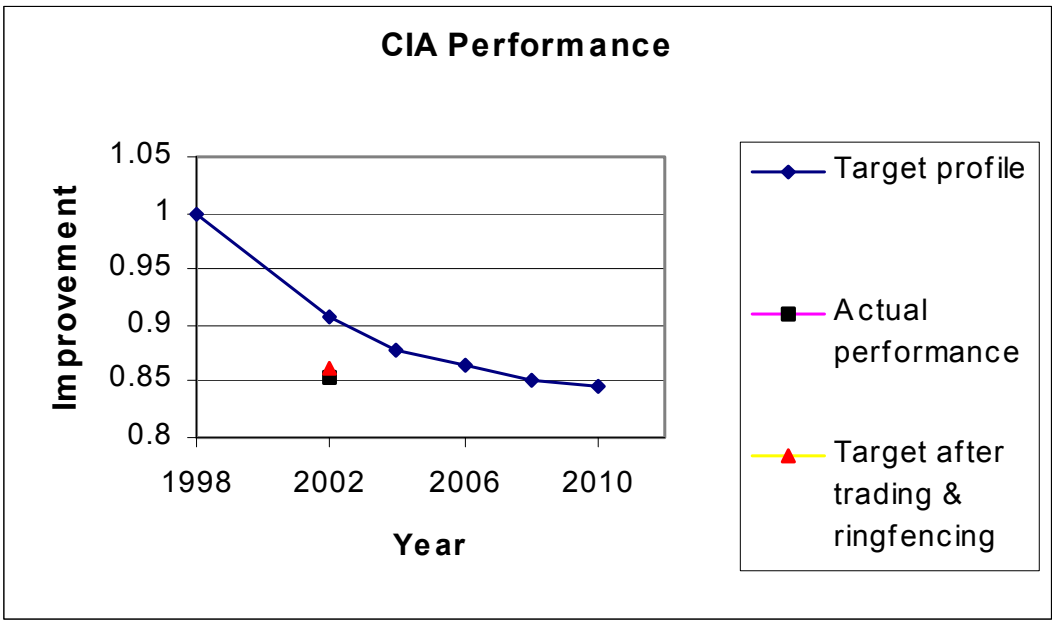
Actual sector performance for 2002 was 0.855.

Commentary

The sector has achieved an improvement in specific energy consumption of 14.5% relative to its base year position. This compares with a target, unadjusted for trading, of a 9.2% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 49 PJ more energy, equivalent to 690 ktC (2,500 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 38 PJ less energy than in the base year, equivalent to 540 ktC (2,000 $ktCO_2$) less.

FES Reference Date

14 April 2003

CRAFT BAKERIES

Scope and membership of the umbrella agreement

The Craft Baking sector is represented by the National Association of Master Bakers (NAMB) throughout the UK except for in Scotland where the Scottish Association of Master Bakers (SAMB) represents the sector. The agreement covers the craft baking industry, which is generally distinguished from industrial bakeries by a smaller scale of operation, a greater range of products produced by individual sites and the linking of bakery operations with dedicated high street shops.

Targets

Original and current milestone targets for this sector are shown below as primary kWh per thousand pounds of added value (kWh_p/£k), and as percentage improvements relative to 2000. Milestone targets have changed as a result of base-line corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/£k	Improvement	kWh_p/£k	Improvement
2002	1,643	1.3%	1,659	1.2%
2004	1,614	3.0%	1,631	2.8%
2006	1,591	4.4%	1,609	4.2%
2008	1,562	6.2%	1,581	5.8%
2010	1,532	7.9%	1,553	7.5%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 16.1 $ktCO_2$, which is equivalent to a target reduction of 111 kWh_p/£k.

The adjusted target for 2002 is therefore 1,548 kWh_p/£k.

Sector Performance Recorded

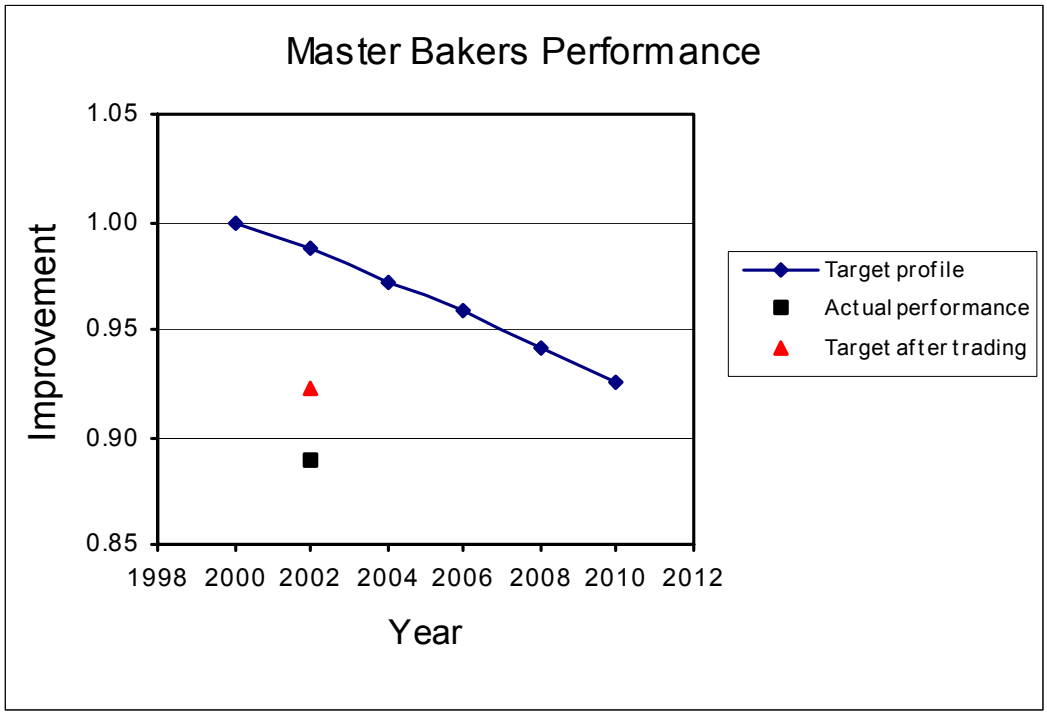
Actual sector performance for 2002 was 1,494 kWh_p/£k.

Commentary

The sector has achieved an improvement in specific energy consumption of 11.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.2% improvement.

All facilities have been re-certified as a consequence of the sector meeting its target adjusted for trading.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per thousand pounds of added value as in the base year it would have used 0.55 PJ more energy, equivalent to 7.5 ktC (27 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.20 PJ more energy than in the base year (a 4.6% increase), equivalent to 2.5 ktC (9.0 $ktCO_2$) more. However, at the same time there was a 17.6% increase in production.

FES Reference Date

27 March 2003

DAIRY INDUSTRY ASSOCIATION LTD (DIAL)

Scope and membership of the umbrella agreement

The agreement with Dairy Energy Savings Ltd (on behalf of DIAL) covers the majority of UK production of dairy produce from raw milk and raw milk products.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne, and as percentage improvements relative to the base year. Milestone target improvements have changed as a result of base-line corrections.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	469.57	15.1%	478.22	13.5%
2004	458.89	17.0%	466.88	15.6%
2006	454.41	17.9%	462.03	16.4%
2008	449.65	18.7%	456.81	17.4%
2010	444.76	19.6%	451.46	18.3%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 79 $ktCO_2$, which is equivalent to a target reduction of 38.91 kWh_p/t.

The adjusted target for 2002 is therefore 439.31 kWh_p/t.

Sector Performance Recorded

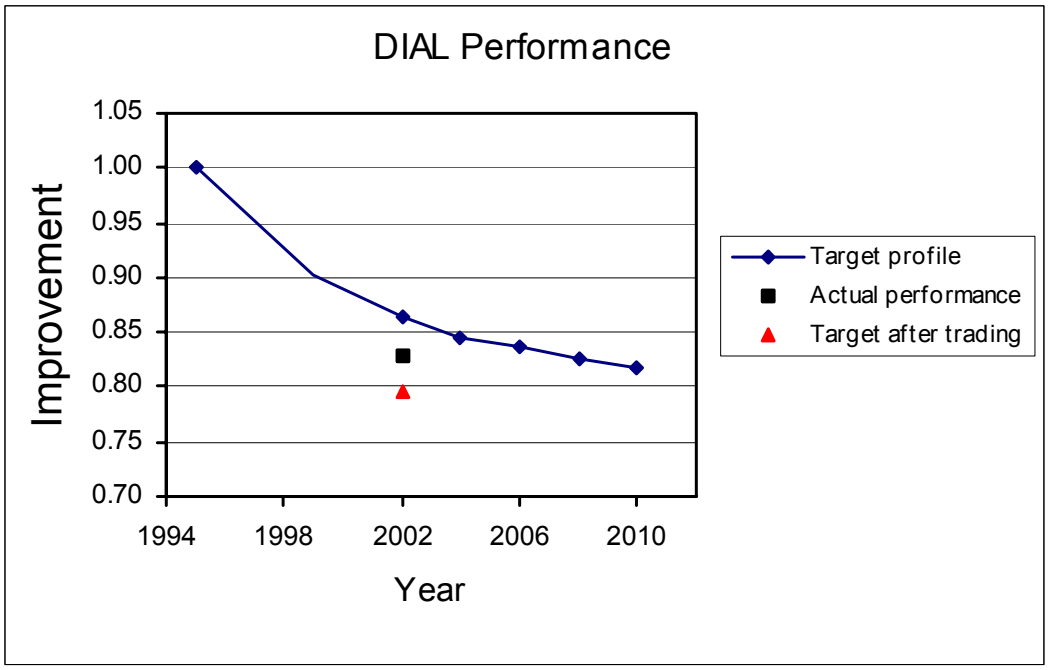
Actual sector performance for 2002 was 458.67 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 17.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 13.5% improvement.

All but one of the facilities have been re-certified. Those re-certified have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1995.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 3.5 PJ more energy, equivalent to 52 ktC (190 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 1.1 PJ less energy than in the base year, equivalent to 16 ktC (58 $ktCO_2$) less. At the same time there was a 13% increase in production.

FES Reference Date

27 February 2004

NATIONAL FARMERS UNION (NFU) – EGG PRODUCTION

Scope and membership of the umbrella agreement

The NFU egg agreement covers sites undertaking the production of eggs from birds under cage, barn and free-range production systems. The agreement was developed with the close co-operation of the British Egg Industry Council.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per dozen eggs, and as percentage improvements relative to the base year. There were a number of facilities that left the agreement prior to the first milestone, and also a number of entrants and base line corrections. However, as this did not change the product mix of the sector, the agreements provide that the sector milestone targets would not be changed.

	Original targets		Current targets	
	kWh_p/doz	Improvement	kWh_p/doz	Improvement
2002	0.390	4.9%	0.390	4.9%
2004	0.380	7.4%	0.380	7.4%
2006	0.370	9.8%	0.370	9.8%
2008	0.362	11.8%	0.362	11.8%
2010	0.354	13.7%	0.354	13.7%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 14 $ktCO_2$, which is equivalent to a target decrease of 0.088 kWh_p/doz.

The adjusted target for 2002 is therefore 0.302 kWh_p/doz.

Sector Performance Recorded

Actual sector performance for 2002 was 0.336 kWh_p/doz.

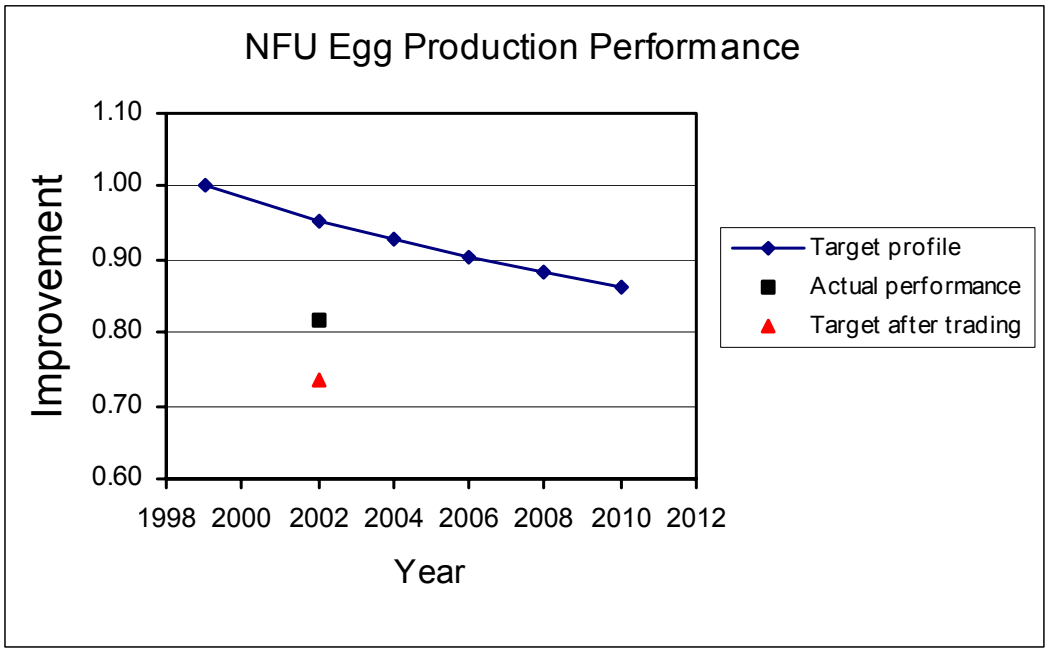
Commentary

The sector has achieved an improvement in specific energy consumption of 18.1% relative to its base year position. This compares with a target, unadjusted for trading, of a 4.9% improvement.

The significant adjustment to the sector target for trading is a consequence of substantial ring-fencing by those target units that have exceeded their targets, and a relatively small amount of allowance buying by those with short-falls in performance.

Of the facilities reporting, 68 % have been re-certified having met their individual targets outright or traded.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If those target units reporting at the milestone had produced the 2002 throughput at their base year energy per dozen eggs, they would have used 0.31 PJ more energy, equivalent to 4.2 ktC (15 $ktCO_2$).

Absolute

In absolute terms, those reporting have used 0.2 PJ less energy than in the base year, equivalent to 2.7 ktC (10 $ktCO_2$) less. This is a 16% reduction. At the same time those target units increased their overall production by 8% compared with the base year.

FES Reference Date

24 March 2004

THE BRITISH EGG PRODUCTS ASSOCIATION (BEPA)

Scope and membership of the umbrella agreement

The BEPA agreement covers all the major producers of egg products. Production includes liquid and frozen egg, mayonnaise, boiled eggs and other cooked egg products.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per kilogram of product, and as percentage improvements relative to the base year. Milestone targets have changed as a result of base-line corrections, exits and entrants.

	Original targets		Current targets	
	kWh_p/kg	Improvement	kWh_p/kg	Improvement
2002	1.041	7.0%	1.118	10.1%
2004	1.022	8.7%	1.096	11.9%
2006	1.007	10.0%	1.079	13.3%
2008	0.990	11.5%	1.061	14.8%
2010	0.970	13.3%	1.038	16.6%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 6.0 $ktCO_2$, which is equivalent to a target reduction of 0.348 kWh_p/kg.

The adjusted target for 2002 is therefore 0.770 kWh_p/kg.

Sector Performance Recorded

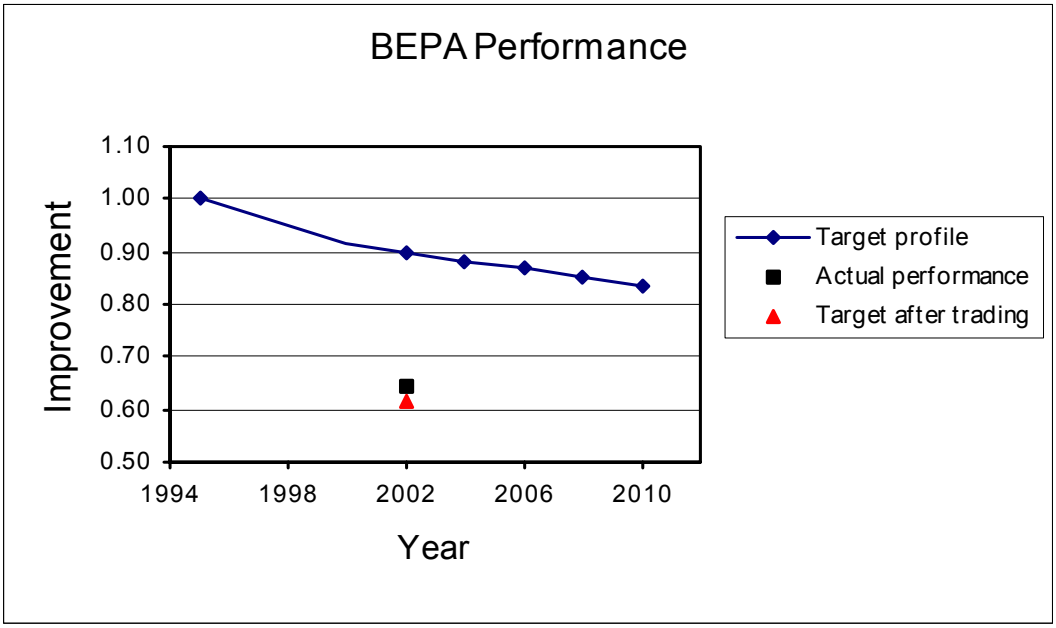
Actual sector performance for 2002 was 0.804 kWh_p/kg

Commentary

The sector has achieved an improvement in specific energy consumption of 35.4% relative to its base year position. This compares with a target, unadjusted for trading, of a 10.1% improvement.

All the facilities have been re-certified because they have met their individual targets.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1995.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per kilogram as in the base year it would have used 0.15 PJ more energy, equivalent to 2.1 ktC (7.5 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.04 PJ less energy than in the base year, equivalent to 0.50 ktC (1.8 $ktCO_2$) less. At the same time there was a 37% increase in production.

FES Reference Date

28 February 2004

FOOD & DRINK FEDERATION (FDF)

Scope and membership of the umbrella agreement

The FDF agreement covers a substantial proportion of the UK food and drink manufacturing industry, though some specific sectors of the industry are covered by other agreements

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of base-line corrections, absolute target corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	962.7	7.8%	959.3	8.3%
2004	942.8	9.7%	935.0	10.7%
2006	922.9	11.6%	915.0	12.6%
2008	911.6	12.7%	903.3	13.7%
2010	899.6	13.8%	890.9	14.9%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net selling/ring-fencing of 389 $ktCO_2$, which is equivalent to a target reduction of 54.0 kWh_p/t.

The adjusted target for 2002 is therefore 905.3 kWh_p/t

Sector Performance Recorded

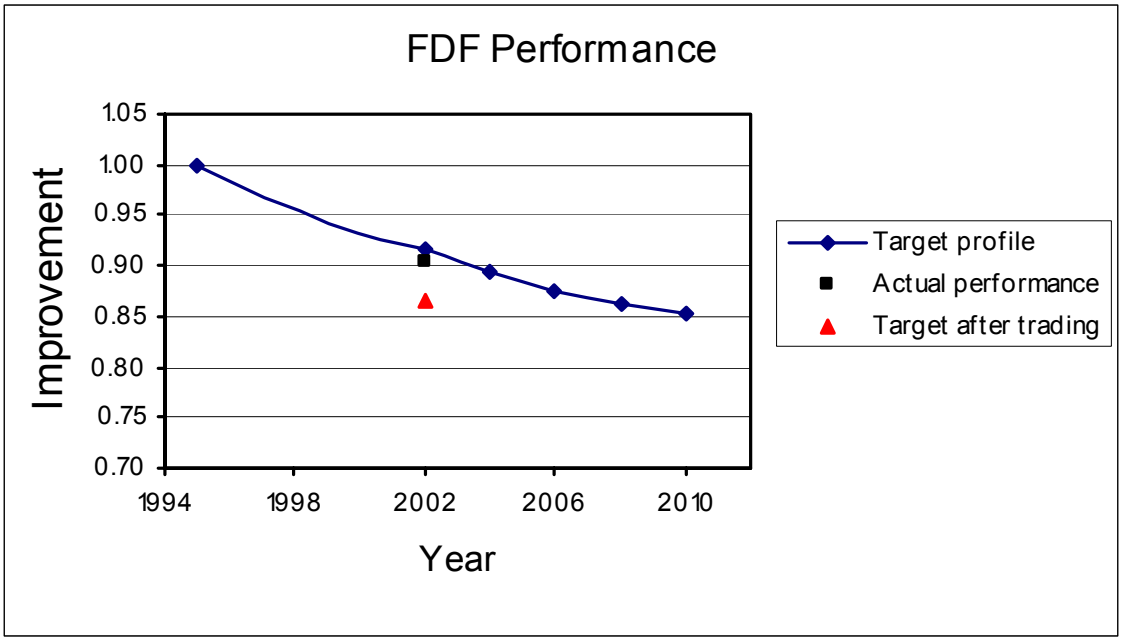
Actual sector performance for the 2002 was 944.1 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 9.8% relative to its base year position. This compares with a target, unadjusted for trading, of an 8.3% improvement.

All facilities have been re-certified.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1995.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 14 PJ more energy, equivalent to 170 ktC (620 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 4.7 PJ less energy than in the base year, equivalent to 45 ktC (160 $ktCO_2$) less. At the same time there was a 7% increase in production.

FES Reference Date

27 March 2003

TARGET 2010 (FOUNDRIES)

Scope and membership of the umbrella agreement

Target 2010 is a company set up by the Foundries industry to represent them for the purposes of the CCL Agreement. The sector covers ferrous and non-ferrous foundries in the UK.

Targets

In the "analysis of sector energy efficiency targets" published in 2001, the original milestone targets for this sector were given in primary kWh_p/tonne. In the signed agreement these targets were changed as a result of corrections and new entrants. Milestone targets have changed again as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets			Current Targets	
	Analysis (kWh_p/te)	Agreement (kWh_p/te)	Improvement	kWh_p/tonne	Improvement
2002	6497	6566	1.64%	6507	1.74 %
2004	6352	6420	3.82%	6371	3.78%
2006	6193	6259	6.24%	6229	5.92%
2008	6036	6100	8.62%	6078	8.21%
2010	5879	5941	11.00%	5901	10.89%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 53 $ktCO_2$, which is equivalent to a target reduction of 229 kWh_p/tonne.

The adjusted target for 2002 is therefore 6278 kWh_p/tonne.

Sector Performance Recorded

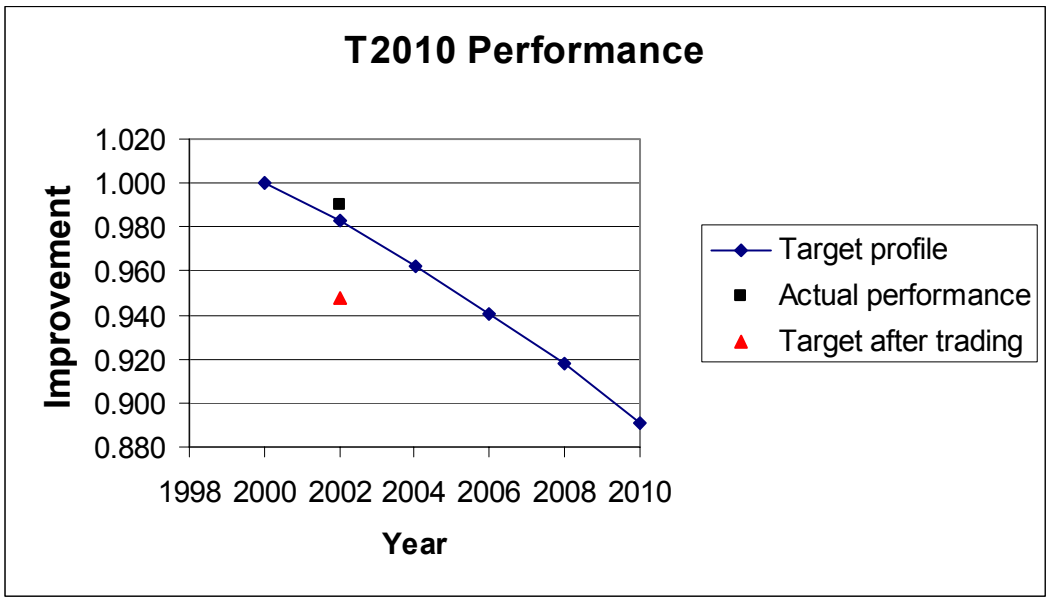
Actual sector performance for 2002 was 6554 kWh_p/tonne.

Commentary

The sector has achieved an improvement in specific energy consumption of 1.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.74% improvement.

All but ten of the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.28 PJ more energy, equivalent to 4.2 ktC (16 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 2.5 PJ less energy than in the base year, equivalent to 38 ktC (139 $ktCO_2$) less. At the same time there was a 7.5% decrease in production.

FES Reference Date

26 March 2003

BRITISH GLASS

Scope and membership of the umbrella agreement

British Glass represents the glass manufacturing industry in the UK, including all manufacturing processes involving molten glass.

Targets

The original milestone targets for this sector were in terms of primary MWh_p/tonne glass packed/processed. These targets have changed as a result of baseline corrections, entrants and exits, as shown below.

	Original Targets		Current Targets	
	MWh_p/te	Improvement	MWh_p/te	Improvement
2002	3.76	2.8%	3.67	3.9%
2004	3.66	5.4%	3.57	6.5%
2006	3.56	8.0%	3.49	8.6%
2008	3.48	10.1%	3.41	10.7%
2010	3.51	9.3%	3.41	10.7%

Additional adjustments to the 2002 sector target.

- Trading has resulted in a net allocation of allowances/ring-fencing of approximately 100 $ktCO_2$, which is equivalent to a target reduction of 0.17 MWh_p/te.

The adjusted target for 2002 is therefore 3.50 MWh_p/te.

Sector Performance Recorded

Actual sector performance for 2002 was 3.39 MWh_p/te.

Commentary

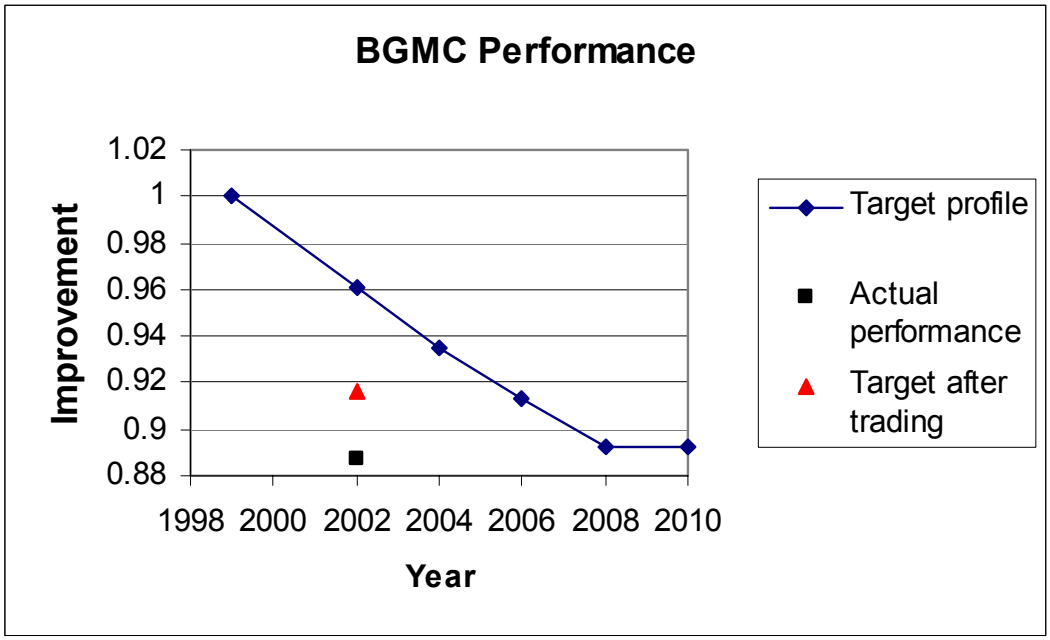
The sector has achieved an improvement in specific energy consumption of 11.3% relative to its base year position. This compares with a target, unadjusted for trading, of a 3.9% improvement.

Mathematical effects associated with assessment procedures, agreed with government, resulted in the overall sector performance versus target being much greater than the sum of the individual over and under performances at underlying agreement level.

The sector has an extremely diverse range of glass products with an equally wide range of specific energy consumptions. Entrants and exits have altered the sector profile, which has changed the sector target. Additionally, the product mix in the sector has changed, which has affected the sector performance.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 4.8 PJ more energy, equivalent to 68.5 ktC (251 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.75 PJ less energy than in the base year, equivalent to 10.6 ktC (39 $ktCO_2$) less. At the same time there was a 10.5% increase in production.

FES Reference Date

01 April 2003

GYPSUM PRODUCTS DEVELOPMENT ASSOCIATION

Scope and membership of the umbrella agreement

The GDPA represents the three major manufacturers of gypsum products in the UK, British Gypsum, Lafarge Plasterboard Ltd and Knauf.

Targets

The targets for this sector are expressed as 'at an assumed level of throughput' and they have agreed a procedure with Defra for this. Though the target appears to be an absolute one – it is in fact a relative target. Original and current milestone targets for this sector are shown below in $kWh_{(primary)}$ and as percentage improvements relative to the base year. Milestone target values have changed because of baseline corrections, but the percentage change is virtually identical.

	Original targets		Current targets	
	KWh_p	Improvement	KWh_p	Improvement
2002	1,921,418,337	1.1%	1,976,700,401	1.1%
2004	1,907,567,050	2.3%	1,962,244,655	2.3%
2006	1,883,290,011	3.8%	1,937,132,444	3.8%
2008	1,851,558,442	5.7%	1,904,519,248	5.7%
2010	1,826,834,050	7.1%	1,878,921,483	7.2%

Additional adjustments to the 2002 sector target

- Product mix adjustments have changed the target by 140,327,404 KWh_p.
- Trading has resulted in a net purchase of 1.3 kt CO_2 which is equivalent to a target increase of 7,172,412 KWh_p.

The adjusted target for 2002 is therefore 2,124,200,217 KWh_p.

Sector Performance Recorded

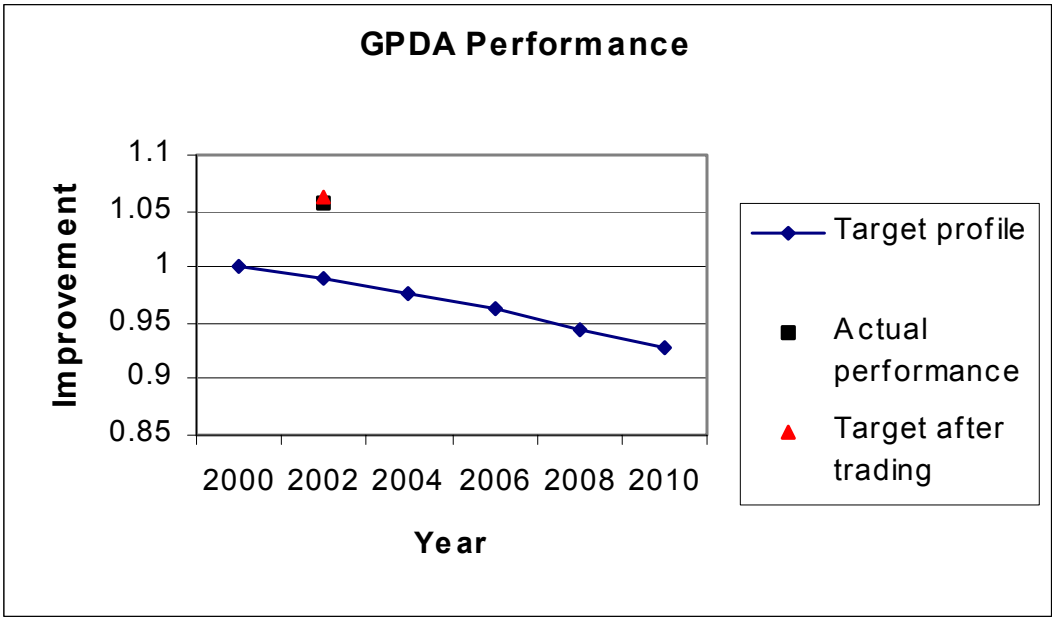
Actual sector performance for 2002 was 2,110,100,697 KWh_p

Commentary

The sector has moved to higher energy consuming products, hence the product mix adjustment for the sector is significant. However, the sector has achieved its adjusted target, showing the inherent energy savings associated with the facility targets have been achieved.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.11 PJ more energy, equivalent to 1.5 ktC (5.7 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.40 PJ more energy than in the base year, equivalent to 5.6 ktC (21 $ktCO_2$) more. There is no simple throughput measure available for this sector.

FES Reference Date

25 March 2003

BLC - LEATHER

Scope and membership of the umbrella agreement

BLC represents the leather industry in the UK, carrying out various activities from tanning of hides to production of finished leather.

Original Targets

The original milestone targets were given in terms of primary kWh_p/m^2. These targets have changed as a result of baseline corrections, entrants and exits, as shown below.

	Original Targets		Current Targets	
	KWh_p/m^2	Improvement	KWh_p/m^2	Improvement
2002	11.39	2%	11.06	2%
2004	11.16	4%	10.84	4%
2006	10.93	6%	10.61	6%
2008	10.70	8%	10.39	8%
2010	10.48	10%	10.17	10%

Additional adjustments to the 2002 sector target

- There are no further adjustments to the 2002 sector target.

The target for 2002 is therefore 11.06 kWh_p/m^2.

Sector Performance Recorded

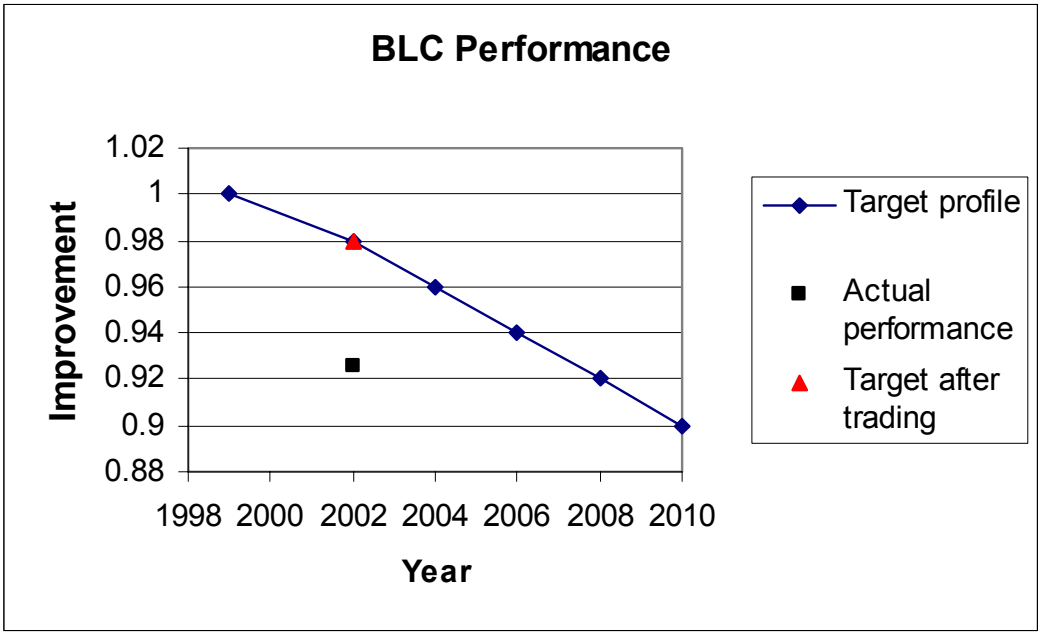
Actual sector performance for 2002 was 10.45 kWh_p/m^2.

Commentary

The sector has achieved an improvement in specific energy consumption of 7.4% relative to its base year position. This compares with a target, unadjusted for trading, of a 2% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.053 PJ more energy, equivalent to 0.78 ktC (2.9 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.11 PJ less energy than in the base year, equivalent to 1.6 ktC (6.0 $ktCO_2$) less. At the same time there was a 7.5% decrease in production.

FES Reference Date

22 August 2003

BRITISH LIME ASSOCIATION (BLA)

Scope and membership of the umbrella agreement

The agreement embraces the vast majority of UK merchant lime production and some captive production. Lime production associated with certain other processes (mainly 'captive' lime production) is not included within this agreement.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne, and as percentage improvements relative to the base year of 1998. Milestone targets have changed as a result of base-line corrections.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	956	6.1%	976	6.3%
2004	952	6.5%	970	6.9%
2006	949	6.8%	964	7.5%
2008	940	7.7%	952	8.6%
2010	938	7.9%	949	8.9%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 60 $ktCO_2$, which is equivalent to a target reduction of 65 kWh_p/t.

The adjusted target for 2002 is therefore 911 kWh_p/t.

Sector Performance Recorded

Actual sector performance for 2002 was 969 kWh_p/t.

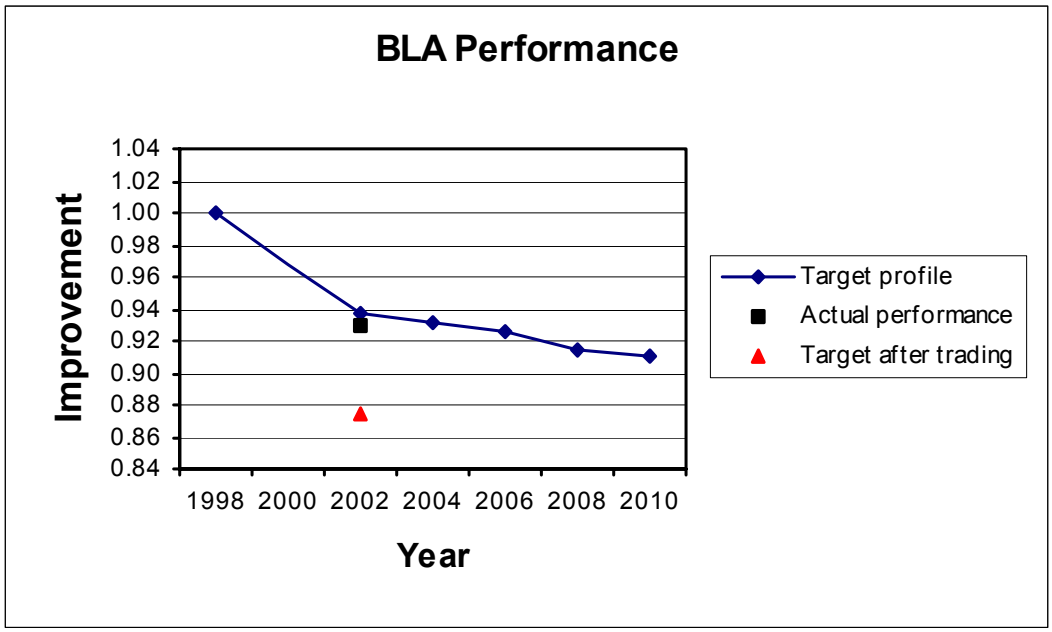
Commentary

The sector has achieved an improvement in specific energy consumption of 7.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 6.3% improvement.

The significant fall in the target adjusted for trading is as a result of over-performing target units ring-fencing, whereas target units with short-falls principally invoked product mix adjustments, which do not affect the sector target.

All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.70 PJ more energy, equivalent to 14 ktC (51 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 2.4 PJ less energy than in the base year, equivalent to 47 ktC (170 $ktCO_2$) less. At the same time there was a 14% decrease in production.

FES Reference Date

28 February 2004

MALTSTERS ASSOCIATION OF GREAT BRITAIN (MAGB)

Scope and membership of the umbrella agreement

The MAGB agreement covers the vast majority of the UK malting industry.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne of malt, and as percentage improvements relative to the base year of 1999. Milestone targets have changed because of base-line corrections.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	1283.30	1.7%	1,290.74	1.7%
2004	1263.25	3.2%	1,270.58	3.2%
2006	1243.20	4.7%	1,250.42	4.7%
2008	1223.15	6.3%	1,230.26	6.3%
2010	1203.10	7.8%	1,210.11	7.8%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 16 $ktCO_2$, which is equivalent to a target reduction of 54.43 kWh_p/t.

The adjusted target for 2002 is therefore 1,236.31 kWh_p/t.

Sector Performance Recorded

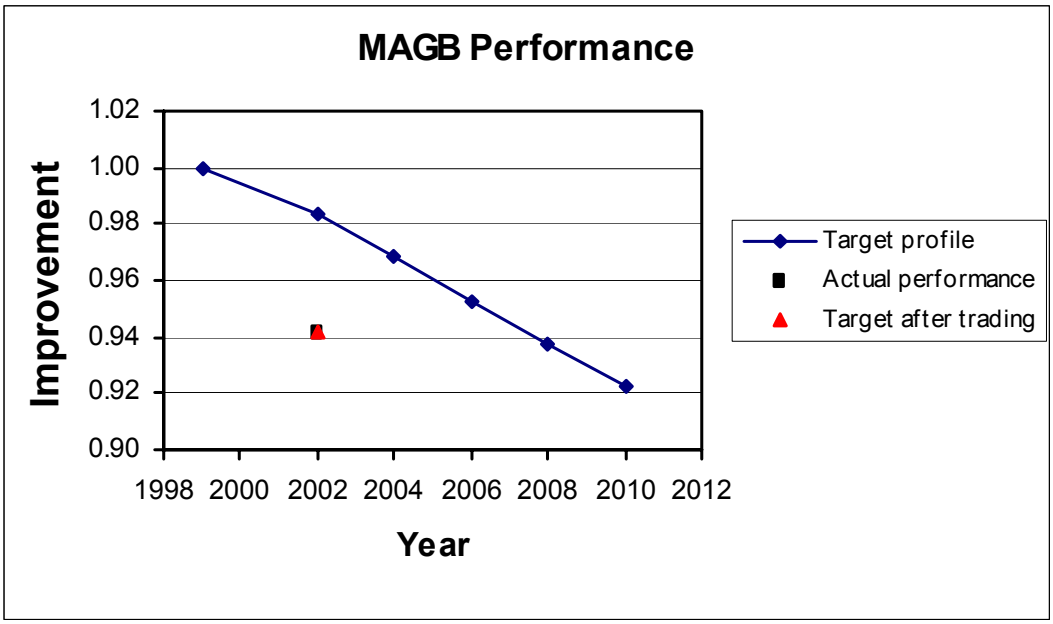
Actual sector performance for 2002 was 1,236.30 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 5.8% relative to its base year position. This compares with an unadjusted target of a 1.7% improvement.

All the facilities have been re-certified as a consequence of the sector meeting its adjusted target.

Graph of performance and current targets relative to the base-year



NB: The adjusted target and the actual performance are the same in this case.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.43 PJ more energy, equivalent to 6.1 ktC (22 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.14 PJ less energy than in the base year, equivalent to 2.0 ktC (7.5 $ktCO_2$) less. At the same time there was a 4% increase in production.

FES Reference Date

28 February 2004

METAL PACKAGING MANUFACTURERS ASSOCIATION

Scope and membership of the umbrella agreement

MPMA represents the manufacturers of various metal packing products in the UK, including beverage and food cans and closures (e.g. bottle tops).

Targets

Original and current milestone targets for this sector are shown below as kgC for a particular level of throughput, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets		Current Targets	
	kgC	Improvement	kgC	Improvement
2002	79,525,128	4.0%	77,091,828	4.0%
2004	78,282,548	5.5%	75,887,268	5.5%
2006	77,039,968	7.0%	74,682,709	7.0%
2008	76,211,581	8.0%	73,879,669	8.0%
2010	75,383,194	9.0%	73,076,629	9.0%

Additional adjustments to the 2002 sector target

- Adjustments to the target for the actual 2002 throughput level have increased the target by 759,793 kgC.
- Trading has resulted in a net allocation of allowances/ring-fencing of 17 ktCO_2, which is equivalent to a target reduction of 4,148,535 kgC.

The adjusted target for 2002 is therefore 73,703,086 kgC.

Sector Performance Recorded

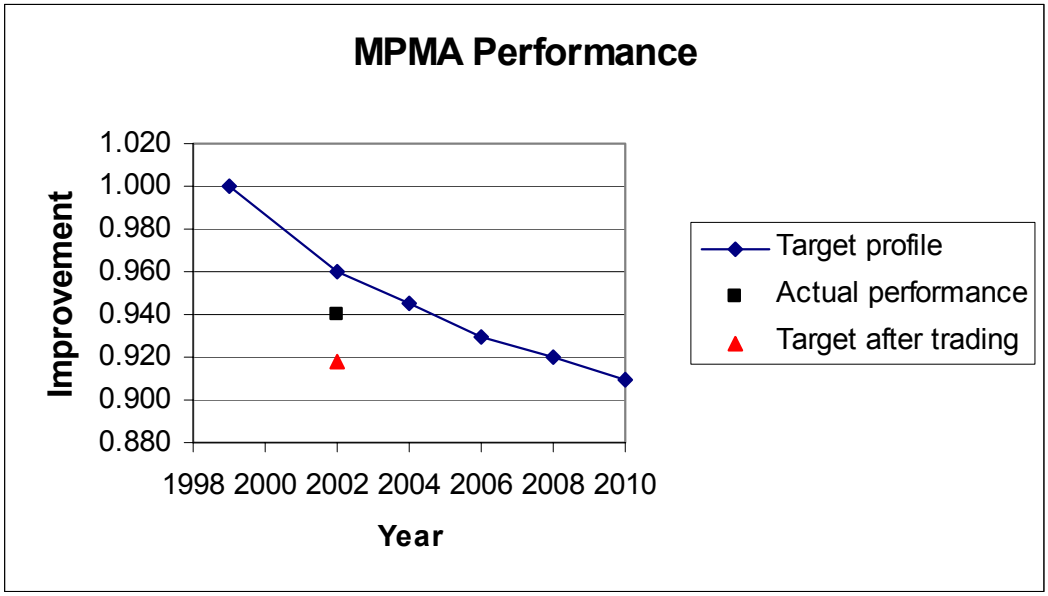
Actual sector performance for 2002 was 75,296,282 kgC.

Commentary

The sector has achieved an improvement in specific carbon consumption of 6% relative to its base year position. This compares with a target, unadjusted for trading, of a 4% improvement.

All but one of the facilities have been re-certified because they have met their individual targets either outright, through a mixture of trading and/or product mix or by proving a Relevant Constraint.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific carbon consumption as in the base year it would have used 0.55 PJ more energy, equivalent to 7.5 ktC (28 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.36 PJ less energy than in the base year, equivalent to 5.0 ktC (18 $ktCO_2$) less. It is not possible to determine the change in sector throughput as there is no appropriate measure for the sector as a whole.

FES Reference Date

27 November 2003

CONFEDERATION OF BRITISH METALFORMING

Scope and membership of the umbrella agreement

CBM represents the forging and metal forming industry in the UK. Members of the industry produce a wide range of products, chiefly for the automotive and aerospace industries.

Targets

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	12361	1.4%	2719	1.4%
2004	12186	2.8%	2680	2.8%
2006	12010	4.2%	2642	4.2%
2008	11835	5.6%	2603	5.6%
2010	11659	7.0%	2564	7.0%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 115 $ktCO_2$, which is equivalent to a target reduction of 682 kWh_p/tonne.

The adjusted target for 2002 is therefore 2037 kWh_p/tonne.

Sector Performance Recorded

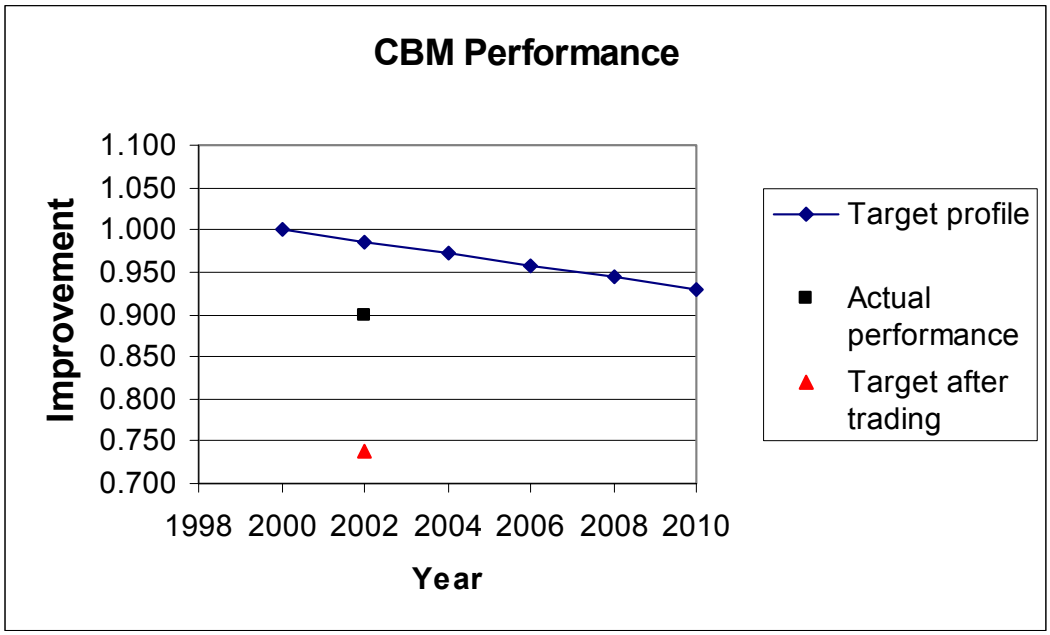
Actual sector performance for 2002 was 2480 kWh_p/tonne.

Commentary

The sector has achieved an improvement in specific energy consumption of 10% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.4% improvement.

All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.95 PJ more energy, equivalent to 12 ktC (46 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.49 PJ less energy than in the base year, equivalent to 6.3 ktC (23 $ktCO_2$) less. At the same time there was a 5.1% increase in production.

FES Reference Date

25 March 2003

MINESCO (EURISOL) – MINERAL WOOL

Scope and membership of the umbrella agreement

MINESCO (the Mineral Wool Energy Savings Company) represents the mineral wool insulation manufacturers' trade association, Eurisol, for the CCL agreement. The member companies represent almost all of the UK's domestic mineral wool insulation manufacturing capability. They produce glass and mineral wool insulation material for building fabric, pipe insulation, specialist applications and high temperature industrial applications.

Targets

Original and current milestone targets for this sector are shown below as primary kWh_p/tonne of product, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections.

	Original Targets		Current Targets	
	kWh_p/tonne	Improvement	kWh_p/tonne	Improvement
2002	4874	7.5%	4954	7.3%
2004	4691	11.0%	4767	10.8%
2006	4610	12.5%	4682	12.3%
2008	4512	14.4%	4582	14.2%
2010	4485	14.9%	4551	14.8%

Additional adjustments to the 2002 sector target

- Product mix adjustments have decreased the target by 29 kWh_p/tonne.
- There has been no trading.

The adjusted target for 2002 is therefore 4925 kWh_p/tonne.

Sector Performance Recorded

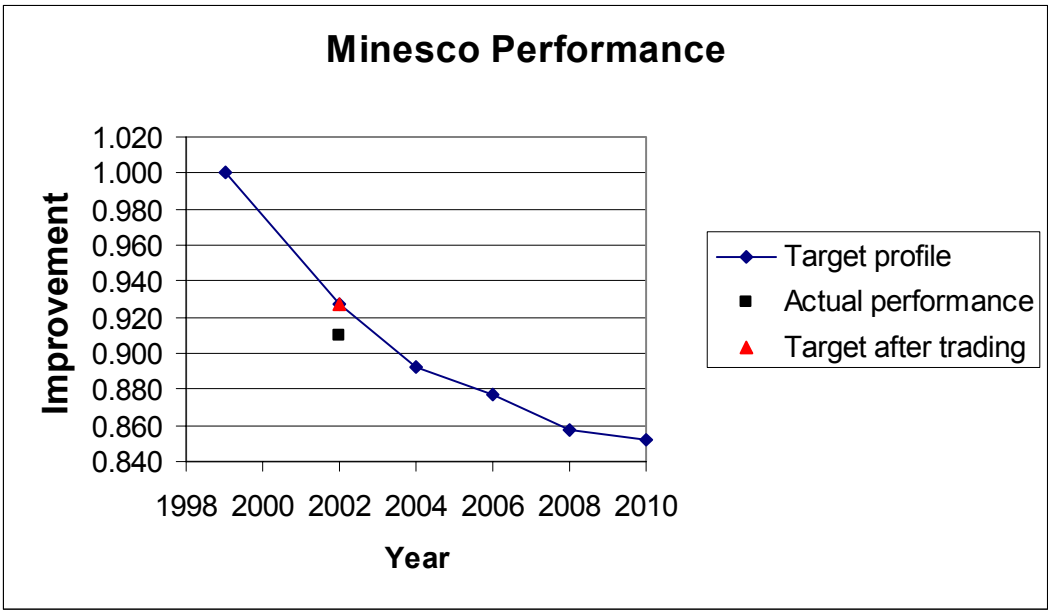
Actual sector performance for 2002 was 4861 kWh_p/tonne.

Commentary

The sector has seen an improvement in specific energy consumption of 9% relative to its base year position. This compares with a target of a 7.3% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.41 PJ more energy, equivalent to 6.7 ktC (24 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.15 PJ less energy than in the base year, equivalent to 2.4 ktC (8.9 $ktCO_2$) less. At the same time there was an increase in production.

FES Reference Date

25 March 2003

SOCIETY OF MOTOR MANUFACTURERS AND TRADERS

Scope and membership of the umbrella agreement

SMMT represents the major motor manufacturing companies in the UK, including manufacturers of cars, commercial vehicles and automotive components.

Targets

Original and current milestone targets for this sector are shown below as primary kWh_p/vehicle, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants and exits.

	Original Targets		Current Targets	
	kWh_p/vehicle	Improvement	kWh_p/vehicle	Improvement
2002	3036	7.94%	3147	7.53%
2004	2962	10.19%	3069	9.82%
2006	2881	12.64%	2980	12.43%
2008	2839	13.92%	2930	13.92%
2010	2792	15.34%	2876	15.49%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 146 $ktCO_2$, which is equivalent to a target reduction of 473 kWh_p/vehicle.

The adjusted target for 2002 is therefore 2674 kWh_p/vehicle.

Sector Performance Recorded

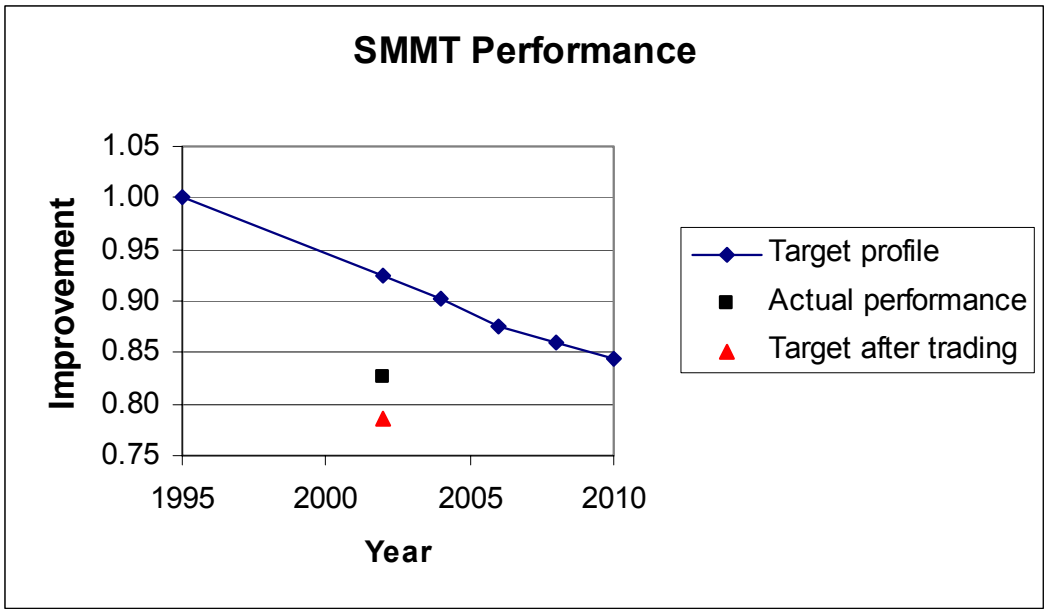
Actual sector performance for 2002 was 2809 kWh_p/vehicle.

Commentary

The sector has achieved an improvement in specific energy consumption of 17% relative to its base year position. This compares with a target, unadjusted for trading, of a 7.5% improvement.

All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 3.7 PJ more energy, equivalent to 50 ktC (185 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.7 PJ less energy than in the base year, equivalent to 10 ktC (36 $ktCO_2$) less. At the same time there was a 16% increase in production.

FES Reference Date

26 March 2003

THE NON FERROUS ALLIANCE (NFACCLA Ltd)

Scope and membership of the umbrella agreement

The Non ferrous (excluding aluminium) sector is a small sector, and comprises six sub-sectors – batteries, copper, galvanising, lead, nickel and zinc. Aluminium is the subject of a separate agreement

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p), and as percentage improvements relative to the base year. The targets for this sector are expressed as 'at an assumed level of throughput' and the sector has agreed a procedure with Defra for this. Milestone targets have changed because of baseline corrections, entrants, exits and non-respondents. The improvement built into the targets is based on the target year performance at the predicted level of throughput for the target period, compared to the base year performance at the predicted level of throughput.

	Original targets		Current targets	
	kWh_p	Improvement	kWh_p	Improvement
2002	5,568,437,819	5.6%	6,345,235,016	4.7%
2004	5,939,713,376	8.3%	6,705,213,171	7.3%
2006	5,976,922,362	10.1%	6,722,001,578	9.2%
2008	5,716,221,438	11.4%	6,437,918,013	10.6%
2010	5,776,580,063	14.7%	6,470,971,972	13.7%

Additional adjustments to the 2002 sector target

- Corrections for actual throughput have reduced the target by 546,848,230 kWh_p.
- Trading has resulted in a net allocation of allowances/ring-fencing of 90.3 $ktCO_2$, which is equivalent to a target reduction of 409,936,848 kWh_p.

The adjusted target for 2002 is therefore 5,388,449,938 kWh_p.

Sector Performance Recorded

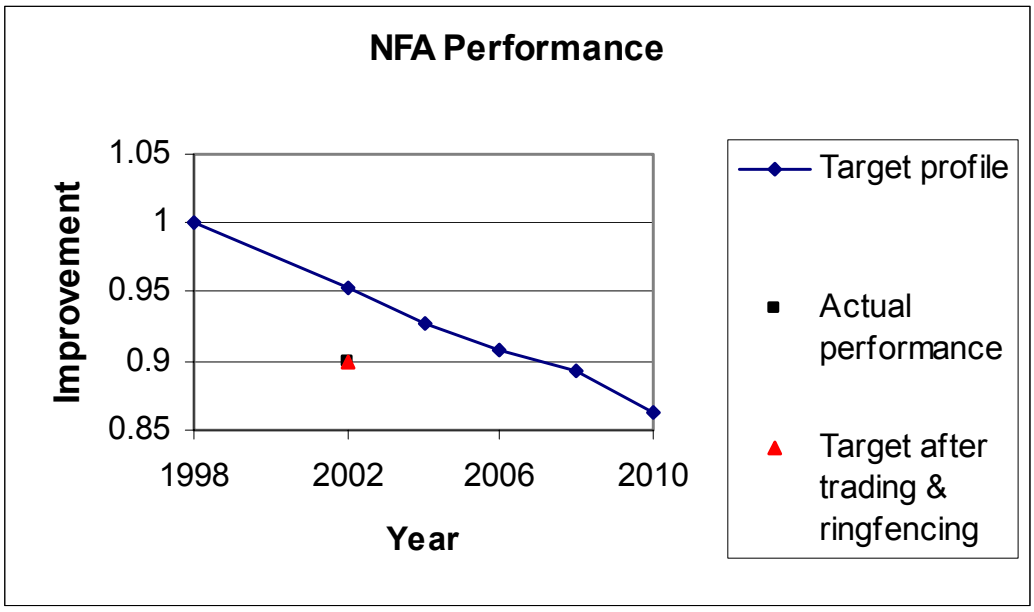
Actual sector performance for 2002 was 5,380,280,623 kWh_p.

Commentary

The sector has achieved an improvement in energy consumption relative to their predicted throughput at base year efficiency of 10.1% relative to its base year position. This compares with a target, unadjusted for trading, of a 4.7% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 2.2 PJ more energy, equivalent to 37 ktC (140 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 2.2 PJ less energy than in the base year, equivalent to 37 ktC (130 $ktCO_2$) less. There is no simple throughput measure available for this sector.

FES Reference Date

26 March 2003

THE PAPER FEDERATION OF GREAT BRITAIN (TPF)

Scope and membership of the umbrella agreement

The Paper Federation Agreement covers the vast majority of the UK paper industry.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne of paper, and as percentage improvements relative to the base year of 1990. Milestone targets have changed because of corrections made for entrants and exits.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	4,659	29.4%	4,637	29.7%
2004	4,420	33.0%	4,416	33.1%
2006	4,199	36.3%	4,349	34.1%
2008	4,090	38.0%	4,265	35.3%
2010	3,959	40.0%	4,163	36.9%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 193 $ktCO_2$, which is equivalent to a target reduction of 159 kWh_p/t.

The adjusted target for 2002 is therefore 4,478 kWh_p/t.

Sector Performance Recorded

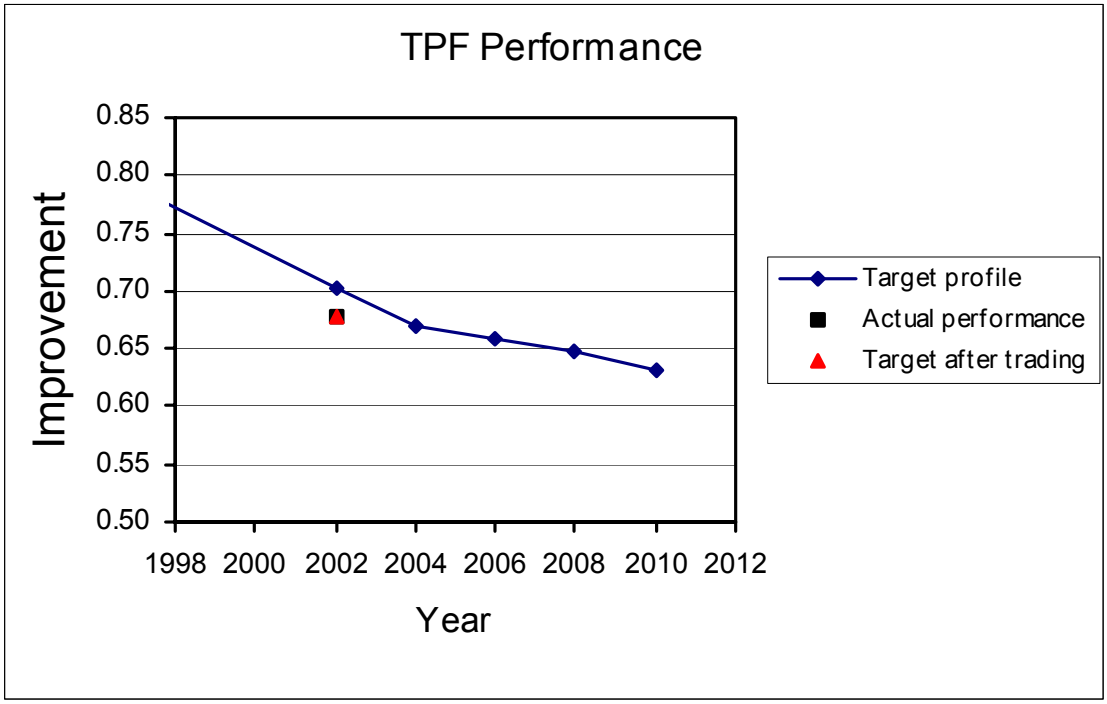
Actual sector performance for 2002 was 4,476 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 32.1% relative to its base year position. This compares with an unadjusted target of a 29.7% improvement.

All the facilities have been re-certified as a consequence of the sector meeting its adjusted target.

Graph of performance and current targets relative to the base-year



NB: The adjusted target and the actual performance are essentially the same in this case.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 49 PJ more energy, equivalent to 700 ktC (2,600 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 9.7 PJ more energy than in the base year, equivalent to 140 ktC (510 $ktCO_2$). This is 10% more; but at the same time there has been a 62% increase in production relative to the 1990 reference.

FES Reference Date

28 February 2004

NATIONAL FARMERS UNION (NFU) – THE PIG INDUSTRY

Scope and membership of the umbrella agreement

The NFU pigs agreement covers sites undertaking the intensive rearing of pigs.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per kilogram of live weight, and as percentage improvements relative to the base year. There were a number of facilities that left the agreement prior to the first milestone, and also a number of entrants and base line corrections. However, as this did not change the product mix of the sector, the agreements provide that the sector milestone targets would not be changed.

	Original targets		Current targets	
	kWh_p/kg	Improvement	kWh_p/kg	Improvement
2002	1.104	6.3%	1.104	6.3%
2004	1.058	10.2%	1.058	10.2%
2006	1.035	12.2%	1.035	12.2%
2008	1.001	15.1%	1.001	15.1%
2010	0.966	18.0%	0.966	18.0%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net purchase of 1.7 $ktCO_2$, which is equivalent to a target increase of 0.026 kWh_p/kg.

The adjusted target for 2002 is therefore 1.130 kWh_p/kg.

Sector Performance Recorded

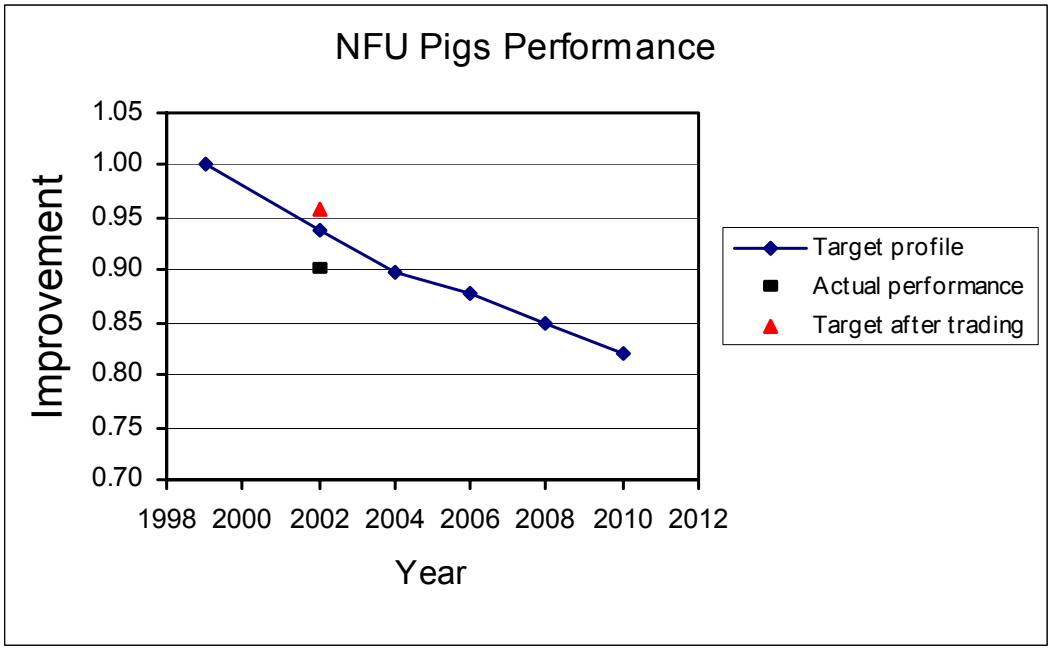
Actual sector performance for 2002 was 1.060 kWh_p/kg.

Commentary

The sector has achieved an improvement in specific energy consumption of 10.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 6.3% improvement.

All facilities have been re-certified as consequence of the sector target, adjusted for trading, having been met.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If those target units reporting at the milestone had produced the 2002 throughput at their base year energy per tonne, they would have used 0.21 PJ more energy, equivalent to 2.9 ktC (11 $ktCO_2$).

Absolute

In absolute terms those reporting have used 0.3 PJ less energy than in the base year, equivalent to 3.7 ktC (14 $ktCO_2$) less. This is a 17% reduction. At the same time those target units decreased their overall production by 4% compared with the base year.

FES Reference Date

24 March 2004

BRITISH POULTRY COUNCIL – POULTRY MEAT PROCESSING

Scope and membership of the umbrella agreement

The British Poultry Council poultry meat processing agreement principally covers slaughter/meat processing plants, but also a small number of feed mills that are dedicated to serving farms within companies' integrated production structures.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne of production, and as percentage improvements relative to the base year. Milestone targets have changed as a result of base-line corrections, absolute target corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	689.7	7.2%	649.8	6.4%
2004	680.1	8.5%	640.6	7.7%
2006	670.5	9.8%	631.5	9.0%
2008	661.0	11.1%	622.6	10.3%
2010	651.5	12.3%	613.6	11.6%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 57.2 $ktCO_2$, which is equivalent to a target reduction of 92.6 kWh_p/t.

The adjusted target for 2002 is therefore 557.2 kWh_p/t.

Sector Performance Recorded

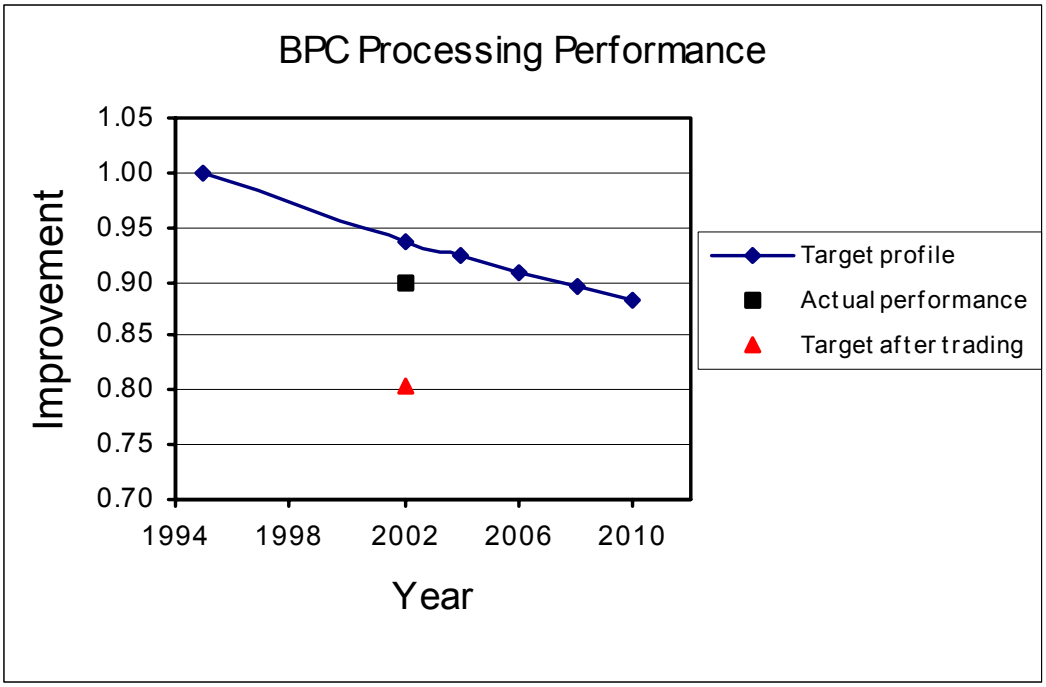
Actual sector performance for 2002 was 624.5 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 10.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 6.4% improvement.

All but two of the facilities have been re-certified. Those re-certified have met their individual targets outright, through trading, or by invoking a product mix adjustment.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1995.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.85 PJ more energy, equivalent to 10 ktC (38 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.49 PJ more energy than in the base year (a 7.0% increase), equivalent to 8.1 ktC (30 $ktCO_2$) more. At the same time there was a 19% increase in production.

FES Reference Date

24 March 2004

BRITISH POULTRY COUNCIL – POULTRY MEAT REARING

Scope and membership of the umbrella agreement

The British Poultry Council poultry meat rearing agreement covers sites undertaking the intensive rearing of poultry for meat. The scope of this agreement is essentially the same as the NFU Poultry Meat Rearing agreement, but participants in the BPC agreement tend to be the larger integrated producers.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne live weight, and as percentage improvements relative to the base year. Milestone targets have changed as a result of base-line corrections, absolute target corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	1,425	4.9%	1,414	5.1%
2004	1,392	7.1%	1,381	7.3%
2006	1,351	9.8%	1,340	10.1%
2008	1,310	12.5%	1,299	12.8%
2010	1,283	14.3%	1,271	14.7%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 71.8 $ktCO_2$, which is equivalent to a target reduction of 298 kWh_p/t.

The adjusted target for 2002 is therefore 1,116 kWh_p/t.

Sector Performance Recorded

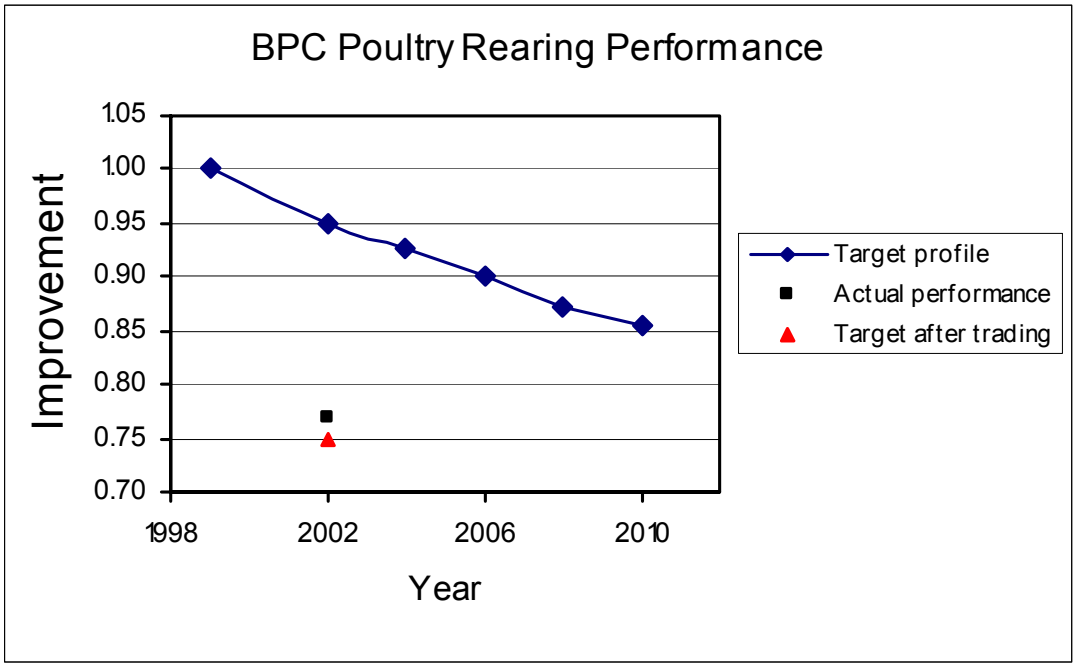
Actual sector performance for 2002 was 1,147 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 22.6% relative to its base year position. This compares with a target, unadjusted for trading, of a 5.1% improvement.

All but two of the facilities have been re-certified. Those re-certified have met their individual targets outright, or have traded.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1999.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 1.5 PJ more energy, equivalent to 22 ktC (82 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 1.3 PJ less energy than in the base year, equivalent to 20 ktC (72 $ktCO_2$) less. At the same time there was a 3% increase in production.

FES Reference Date

24 March 2004

NATIONAL FARMERS UNION (NFU) – POULTRY MEAT REARING

Scope and membership of the umbrella agreement

The NFU poultry meat rearing agreement covers sites undertaking the intensive rearing of poultry for meat.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per kilogram of live weight, and as percentage improvements relative to the base year. There were a substantial number of facilities that left the agreement prior to the first milestone, and also a number of entrants and base line corrections. However, as this did not change the product mix of the sector, the agreements provide that the sector milestone targets would not be changed.

	Original targets		Current targets	
	kWh_p/kg	Improvement	kWh_p/kg	Improvement
2002	0.731	4.3%	0.731	4.3%
2004	0.713	6.8%	0.713	6.8%
2006	0.690	9.7%	0.690	9.7%
2008	0.668	12.7%	0.668	12.7%
2010	0.653	14.7%	0.653	14.7%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 40 $ktCO_2$, which is equivalent to a target decrease of 0.317 kWh_p/kg.

The adjusted target for 2002 is therefore 0.414 kWh_p/kg.

Sector Performance Recorded

Actual sector performance for 2002 was 0.955 kWh_p/kg.

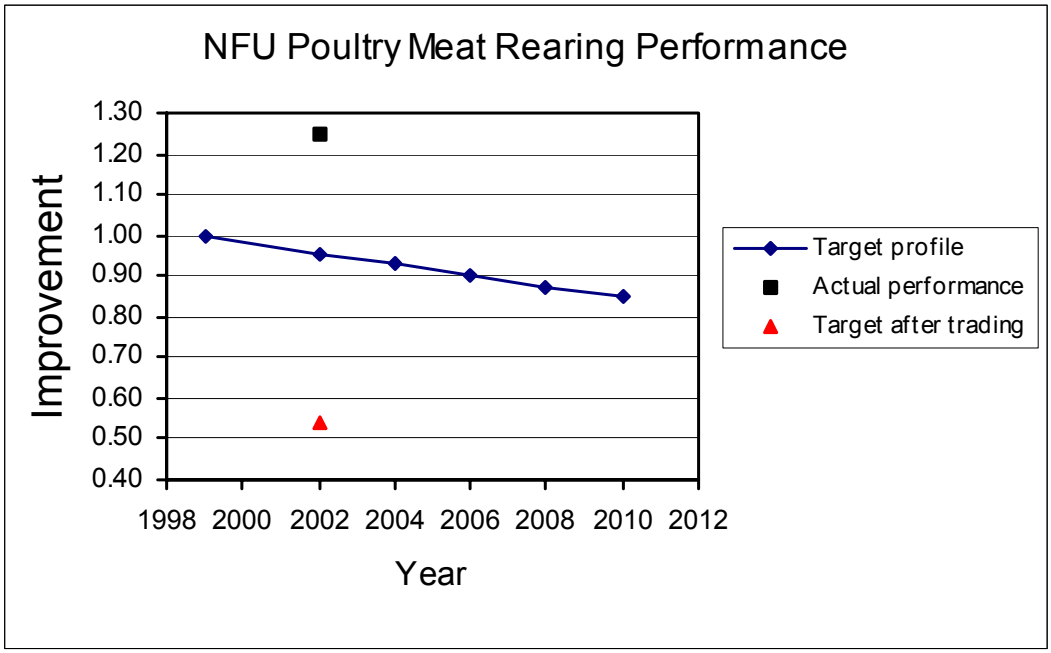
Commentary

The sector's specific energy consumption has increased by 24.9% relative to its base year position. This compares with a target, unadjusted for trading, of a 4.3% improvement.

The significant adjustment to the sector target for trading is a consequence of substantial ring-fencing by those target units that have exceeded their targets, and a relatively small amount of allowance buying by those with short-falls in performance.

Of the target units reporting, 83% have been re-certified since they have met their individual targets either outright or through trading.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If those target units reporting at the milestone had produced the 2002 throughput at their average base year energy per tonne, they would have used 0.48 PJ more energy, equivalent to 7.6 ktC (28 $ktCO_2$).

Absolute

In absolute terms those reporting have used 0.17 PJ less energy than in the base year, equivalent to 2.7 ktC (9.7 $ktCO_2$) less. This is a 7.5% reduction. At the same time those target units increased their overall production by 14% compared with the base year.

FES Reference Date

25 March 2004

BRITISH PRINTING INDUSTRIES FEDERATION

Scope and membership of the umbrella agreement

BPIF represents the printing industry in the UK, including printers of newspapers, books, magazines and stationery, carrying out a range of printing activities, including lithography, letterpress, flexography, gravure and screen process.

Targets

Original and current milestone targets for this sector are shown below as primary kWh_p/m^2 of product, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets		Current Targets	
	kWh_p/m^2	Improvement	kWh_p/m^2	Improvement
2002	0.078545	1%	0.05971	1%
2004	0.076959	3%	0.05851	3%
2006	0.074578	6%	0.05670	6%
2008	0.072198	9%	0.05489	9%
2010	0.069818	12%	0.05308	12%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 32 $ktCO_2$, which is equivalent to a target reduction of 0.00378 kWh_p/m^2.

The adjusted target for 2002 is therefore 0.05594 kWh_p/m^2.

Sector Performance Recorded

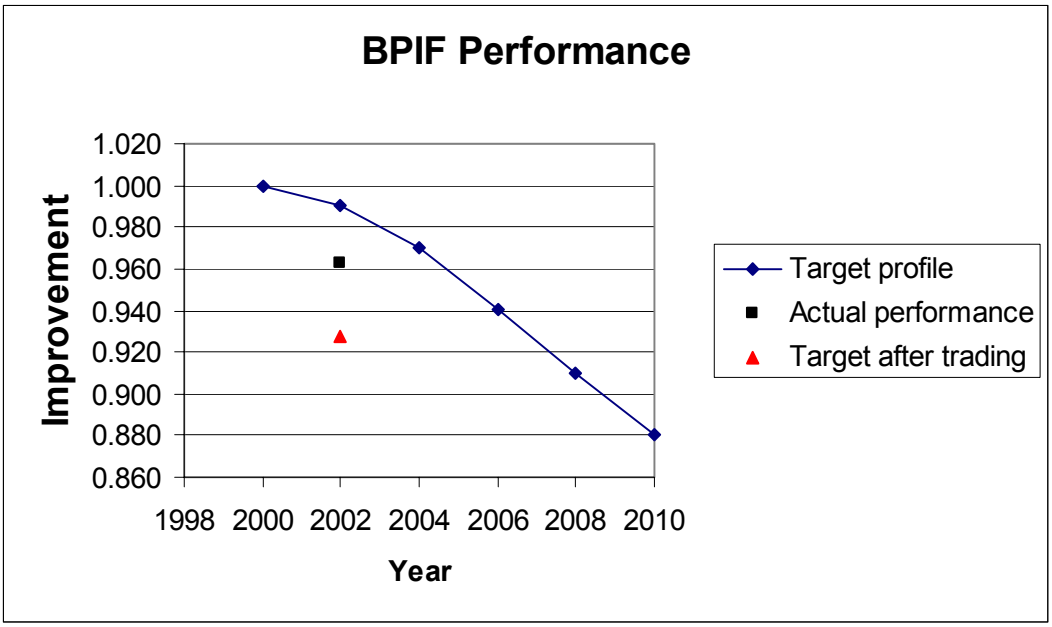
Actual sector performance for 2002 was 0.05809 kWh_p/m^2.

Commentary

The sector has seen an improvement in specific energy consumption of 3.7% relative to its base year position. This compares with a target, unadjusted for trading, of a 1% improvement.

All but four of the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.39 PJ more energy, but 1.5 ktC (5.4 $ktCO_2$) less carbon.

Absolute

In absolute terms the sector has actually used 0.056 PJ less energy than in the base year, but has used 5.9 ktC (22 $ktCO_2$) more carbon. At the same time there was a 3.3% increase in production.

FES Reference Date

25 March 2003

BRITISH MEAT FEDERATION (BMF)

Scope and membership of the umbrella agreement

The BMF agreement covers abattoirs and primary processing for the red meat sector.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne, and as percentage improvements relative to the base year. Milestone targets have changed as a result of base-line corrections, absolute target corrections, entrants, exits and non-respondents.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	607.3	6.4%	636.0	6.4%
2004	587.6	9.4%	614.6	9.5%
2006	571.5	11.9%	597.1	12.1%
2008	563.3	13.2%	588.2	13.4%
2010	554.9	14.4%	579.1	14.8%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 43.2 $ktCO_2$, which is equivalent to a target reduction of 106.9 kWh_p/t.

The adjusted target for 2002 is therefore 529.1 kWh_p/t.

Sector Performance Recorded

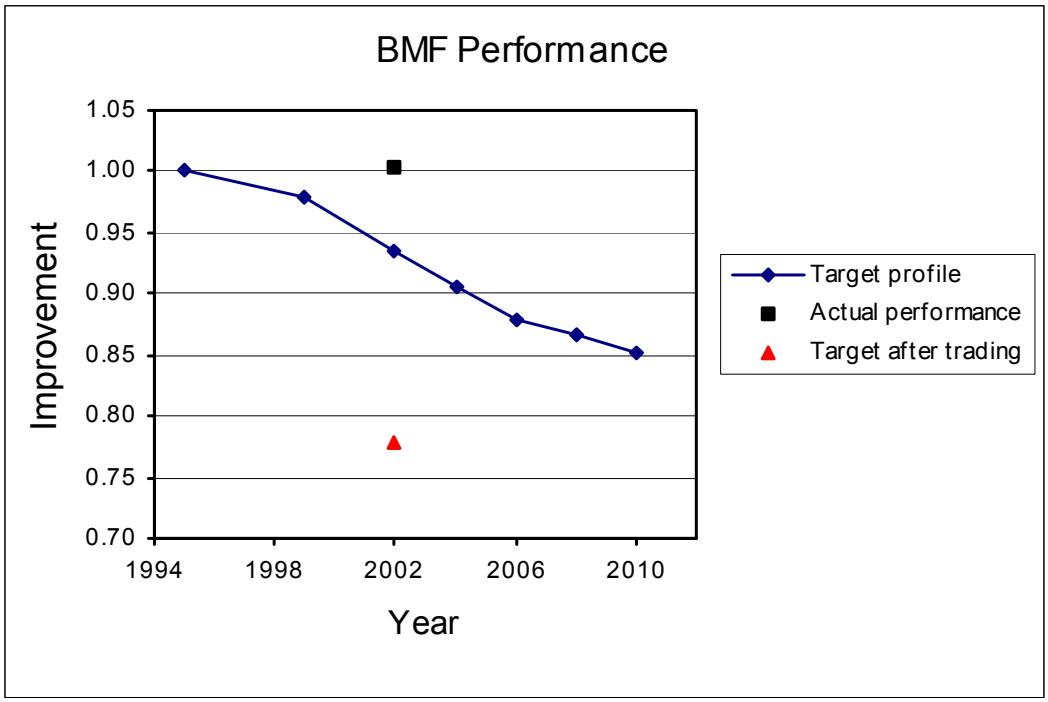
Actual sector performance for 2002 was 681.6 kWh_p/t.

Commentary

The sector's specific energy consumption has increased by 0.3% relative to its base year position. This compares with a target, unadjusted for trading, of a 6.4% improvement.

All but four of the facilities have been re-certified. Those re-certified have met their individual targets outright, or have traded and/or used a product mix adjustment, or have invoked relevant constraints.

Graph of performance and current targets relative to the base-year



Participants were given the freedom to choose their base year between 1995 and 2000, though most chose 1999/2000. In the graph, the base year is nominally set at 1995.

Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.02 PJ less energy. However, the sector would have produced 3.3 ktC (12 $ktCO_2$) more.

Absolute

In absolute terms the sector has actually used 0.27 PJ less energy than in the base year (a 4.7% reduction), equivalent to 7.5 ktC (27 $ktCO_2$) less. At the same time there was a 5.0% decrease in production.

FES Reference Date

25 March 2004

UK RENDERER'S ASSOCIATION (UKRA)

Scope and membership of the umbrella agreement

The UKRA agreement covers plants in the UK rendering industry.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) per tonne of throughput, and as percentage improvements relative to the base year of 1999. Milestone targets have changed because of base-line corrections and exits.

	Original targets		Current targets	
	kWh_p/t	Improvement	kWh_p/t	Improvement
2002	891.2	1.7%	877.0	1.7%
2004	871.4	3.9%	857.5	3.9%
2006	856.0	5.6%	842.4	5.6%
2008	840.7	7.3%	827.3	7.3%
2010	825.3	9.0%	812.2	9.0%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 24.7 $ktCO_2$, which is equivalent to a target reduction of 65.4 kWh_p/t.

The adjusted target for 2002 is therefore 811.6 kWh_p/t.

Sector Performance Recorded

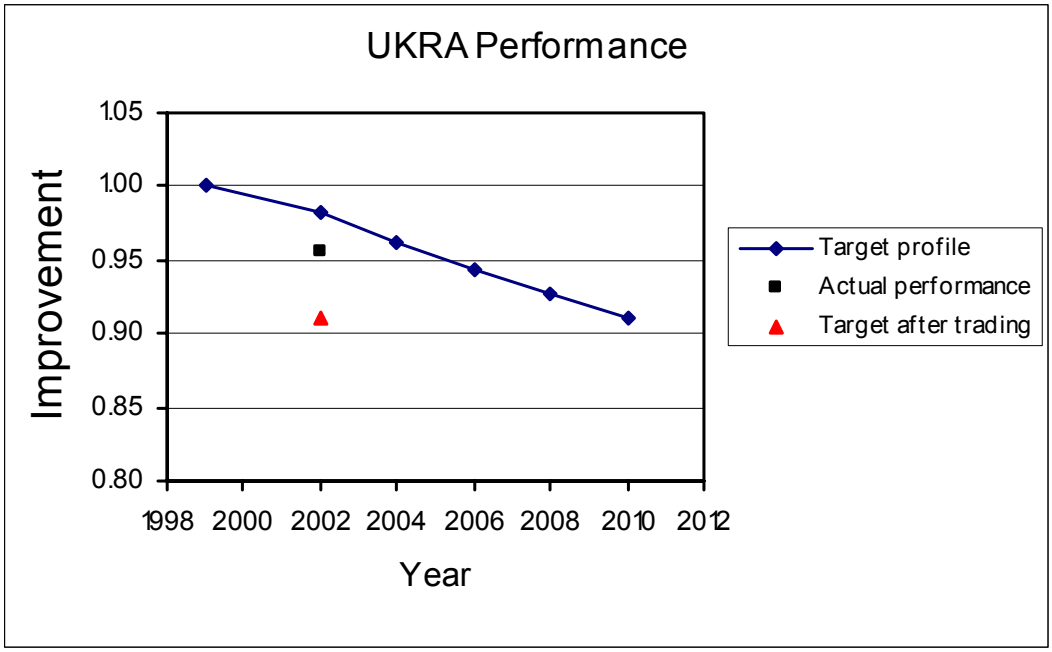
Actual sector performance for 2002 was 853.0 kWh_p/t.

Commentary

The sector has achieved an improvement in specific energy consumption of 4.4% relative to its base year position. This compares with an unadjusted target of a 1.7% improvement.

All the facilities have been re-certified as they have either met their individual targets outright, or have traded and/or used a product mix adjustment, or have invoked relevant constraints.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.23 PJ more energy, but would have produced 0.16 ktC (0.59 $ktCO_2$) less.

Absolute

In absolute terms the sector has actually used 0.47 PJ less energy than in the base year (an 8.2% decrease), equivalent to 3.9 ktC (14 $ktCO_2$) less. At the same time there has been a 4.4% decrease in production.

FES Reference Date

28 February 2004

THE BRITISH RUBBER MANUFACTURERS ASSOCIATION

Scope and membership of the umbrella agreement

This agreement is specifically on new tyre manufacture.

Targets

Original and current milestone targets for this sector are shown below as actual primary kWh/tonne (kWh_p/tonne)of product, and as percentage improvements relative to the base year. Milestone targets have changed because of baseline corrections and exits.

	Original targets		Current targets	
	kWh_p /tonne	Improvement	kWh_p /tonne	Improvement
2002	6,475	3.4%	6,887	3.3%
2004	6,363	5.2%	6,756	5.2%
2006	6,252	6.9%	6,651	6.7%
2008	6,136	8.5%	6,525	8.5%
2010	5,993	10.3%	6,400	10.2%

The improvement percentages quoted in the 2001 target review are different to the above as they were calculated simplistically on SEC improvement. The above figures utilise predicted throughputs to gain a more accurate saving.

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 38.7 $ktCO_2$, which is equivalent to a target reduction of 714 kWh_p /tonne.

The adjusted target for 2002 is therefore 6173 kWh_p /tonne.

Sector Performance Recorded

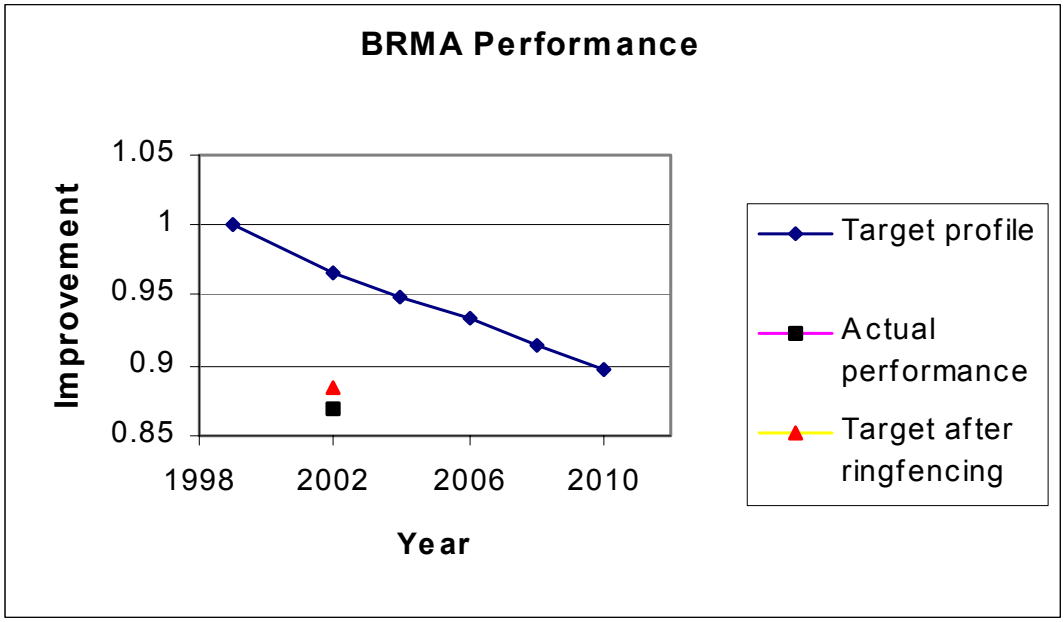
Actual sector performance for 2002 was 6,073 kWh_p /tonne.

Commentary

The sector has achieved an improvement in energy consumption of 13 % relative to its performance at base year energy per tonne position. This compares with a target, unadjusted for ringfencing, of a 3.3 % improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per tonne as in the base year it would have used 0.94 PJ more energy, equivalent to 13 ktC (49 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 3.3 PJ less energy than in the base year, equivalent to 47 ktC (171 $ktCO_2$) less. At the same time there was a 22% decline in production.

FES Reference Date

14 April 2003

NATIONAL MICROELECTRONICS INSTITUTE (SEMICONDUCTORS)

Scope and membership of the umbrella agreement

NMI represents various electronics manufacturers in the UK, including both semiconductor and cathode ray tube (CRT) production.

Targets

The original milestone targets were given as ratios of target year performance to base year performance for a particular level of throughput. These have changed because of baseline corrections, new entrants and exits.

	Original Targets		Current Targets	
	Ratio	Improvement	Ratio	Improvement
2002	0.7943	21%	0.4664	53.4%
2004	0.5089	49%	0.2825	71.8%
2006	0.4784	52%	0.2524	74.8%
2008	0.4426	56%	0.2410	75.9%
2010	0.4108	59%	0.2308	76.9%

Additional adjustments to the 2002 sector target

- Product mix adjustments have increased the target by 0.5914 (ratio of target year to base year for actual 2002 throughput level).
- Trading has resulted in a net allocation of allowances/ring-fencing of 33.4 $ktCO_2$, which is equivalent to a target reduction of 0.0885.

The adjusted target for 2002 is therefore 0.9693 (ratio of target year to base year for actual 2002 throughput level).

Sector Performance Recorded

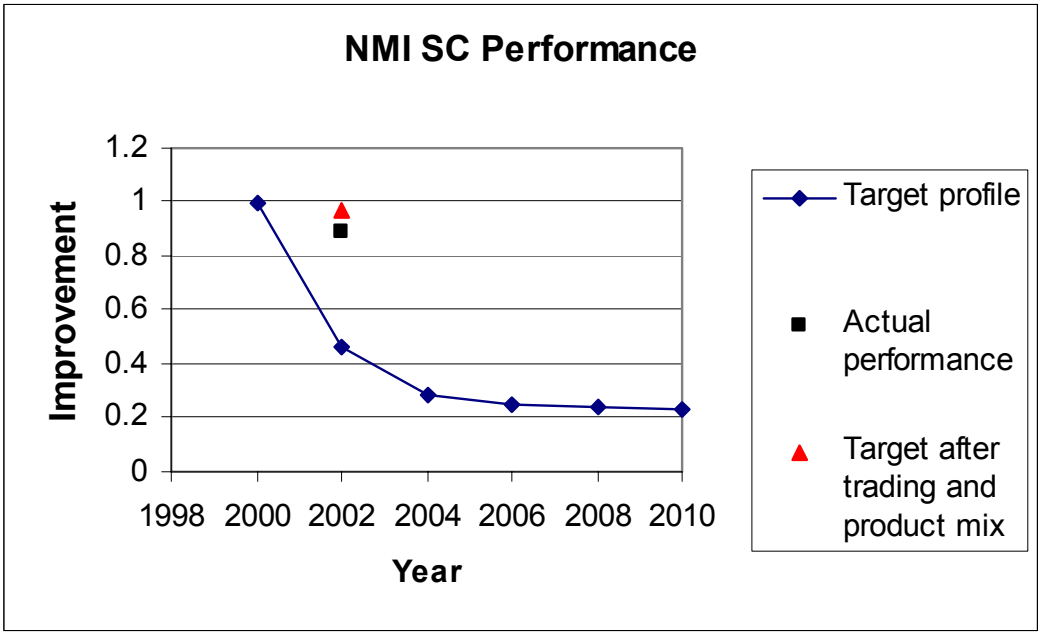
Actual sector performance for 2002 was 0.8897 (ratio of target year to base year for actual 2002 throughput level).

Commentary

The sector has achieved an improvement in specific energy consumption of 11% relative to its base year position. This compares with a target, unadjusted for product mix and trading of a 53% improvement and a target, adjusted for sector product mix, of a 5.8% deterioration.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.88 PJ more energy, equivalent to 11 ktC (41 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 1.3 PJ less energy than in the base year, equivalent to 16 ktC (60 $ktCO_2$) less. At the same time there was a 32% increase in production. (It should be noted that although the throughput has increased significantly since the base year, the sector product mix has also changed significantly).

FES Reference Date

26 November 2003

THE SPIRITS ENERGY EFFICIENCY COMPANY (SEEC)

Scope and membership of the umbrella agreement

The SEEC agreement covers the majority of UK spirits production of around 450 million litres of pure alcohol (lpa) per annum.

Targets

Original and current milestone targets for this sector are shown below as primary kWh per litre of pure alcohol (kWh_p/lpa), and as percentage improvements relative to the base year of 1999. Milestone targets have changed as a result of base-line corrections.

	Original targets		Current targets	
	kWh_p/lpa	Improvement	kWh_p/lpa	Improvement
2002	7.70	0.18%	7.70	0.47%
2004	7.63	1.16%	7.63	1.44%
2006	7.50	2.76%	7.50	3.02%
2008	7.44	3.63%	7.44	3.88%
2010	7.37	4.50%	7.37	4.73%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 22 $ktCO_2$, which is equivalent to a target reduction of 0.27 kWh/lpa.

The adjusted target for 2002 is therefore 7.43 kWh/lpa.

Sector Performance Recorded

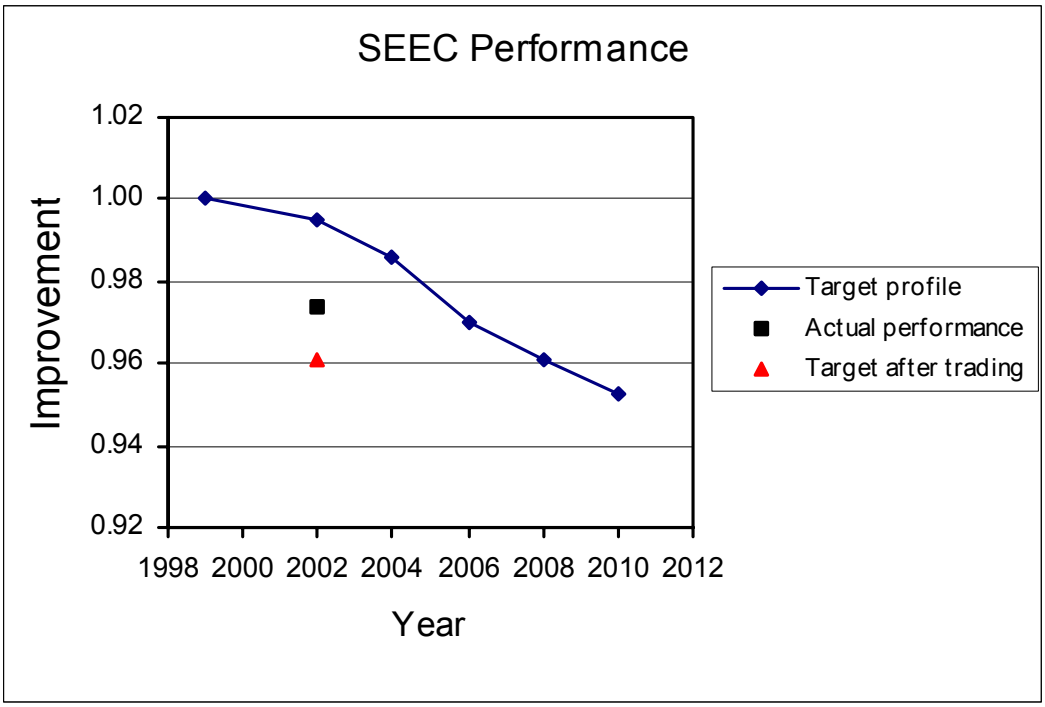
Actual sector performance for 2002 was 7.53 kWh/lpa.

Commentary

The sector has achieved an improvement in specific energy consumption of 2.61% relative to its revised base year position. This compares with a target, unadjusted for trading, of a 0.47% improvement.

All the facilities have been re-certified because each target unit has met its individual target either outright, or by employing trading or a product mix/throughput adjustment.

Graph of performance and current targets relative to the base-year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the energy per litre of pure alcohol as in the base year it would have used 0.31 PJ more energy, equivalent to 4.6 ktC (17 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.82 PJ less energy than in the base year (a 6.6% reduction), equivalent to 12 ktC (45 $ktCO_2$) less. At the same time there was a 4% decrease in production.

FES Reference Date

28 February 2004

UK STEEL (Environmental) Ltd

Scope and membership of the umbrella agreement

The sector consists of five steel-making companies and a larger number of downstream companies. UK Steel is the sector body that represents about 98% of the sector by energy use.

Targets

Original and current milestone targets for this sector are shown below as primary petajoules (PJ), and as percentage improvements relative to the base year. The sector agreement is an absolute energy agreement, though some facilities have a relative energy agreement. The 2002 target has changed because of baseline corrections, throughput changes and entrants. Targets for 2004 and beyond are yet to be renegotiated.

	Original targets		Current targets	
	PJ	Improvement	PJ	Improvement
2002	388.3	4.7%	304.3	25.4%
2004	376.6	7.6%		
2006	368.8	9.5%		
2008	365.0	10.5%		
2010	360.8	11.5%		

Additional adjustments to the 2002 sector target

- Within the sector, one company has reserved 1600 $ktCO_2$ for future use against their own targets under an arrangement with the Secretary of State. Trading by the rest of the sector has resulted in a net allocation of allowances/ring-fencing of 70 $ktCO_2$. Together these are equivalent to a target reduction of 22.8 PJ.

The adjusted target for 2002 is therefore 281.5 PJ.

Sector Performance Recorded

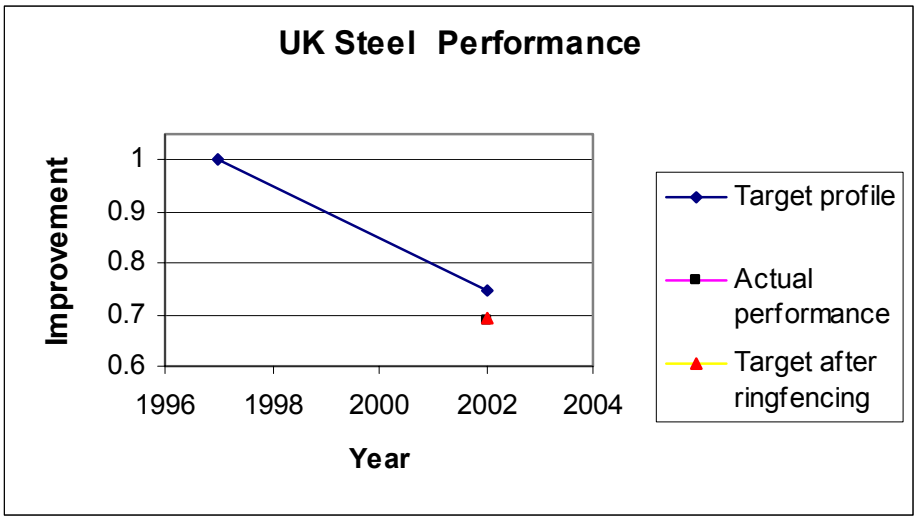
Actual sector performance for 2002 was 281.0 PJ.

Commentary

The sector has achieved an improvement in energy consumption of 31.1% relative to its base year position. This compares with a target, unadjusted for trading, of a 25.4% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Absolute

In absolute terms the sector has actually used 127 PJ less energy than in the base year, equivalent to 2,600 ktC (9,400 $ktCO_2$) less. At the same time there was a 27.5% decrease in production.

FES Reference Date

1 April 2003

SUPERMARKETS

Scope and membership of the umbrella agreement

The supermarkets' agreement, under the auspices of the Food & Drink Federation, covers the in store bakery and other relatively minor food processing activities. A total of around 1,500 stores, from Asda, Sainsbury, Safeway and Tesco are participating in the agreement.

Targets

Original and current milestone targets for this sector are shown below as primary kWh (kWh_p) and as percentage improvements relative to the 2001 base line. The sector targets are expressed as absolute energy and as such are subject to an adjustment should the target period throughput fall below 90% of the reference throughput. This situation has arisen and consequently the sector targets have been revised. This was principally due to decreases in output in those target units with relative targets. The throughput of all those with absolute targets stayed above the 90% threshold and so no individual target unit targets have been modified. . The 2002 target is notably lower than the other targets as the target period is significantly shorter than the full twelve months duration of the other four target periods.

	Original targets		Current targets	
	kWh_p	Improvement	kWh_p	Improvement
2002	304,228,156	0.9%	288,957,043	5.9%
2004	773,935,798	3.2%	730,470,310	8.6%
2006	762,586,016	4.6%	719,738,653	10.0%
2008	747,879,965	6.4%	705,820,677	11.7%
2010	733,173,913	8.3%	691,902,700	13.4%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 2.2 $ktCO_2$, which is equivalent to a target reduction of 13,336,144 kWh_p.

The adjusted target for 2002 is therefore 275,620,899 kWh_p.

Sector Performance Recorded

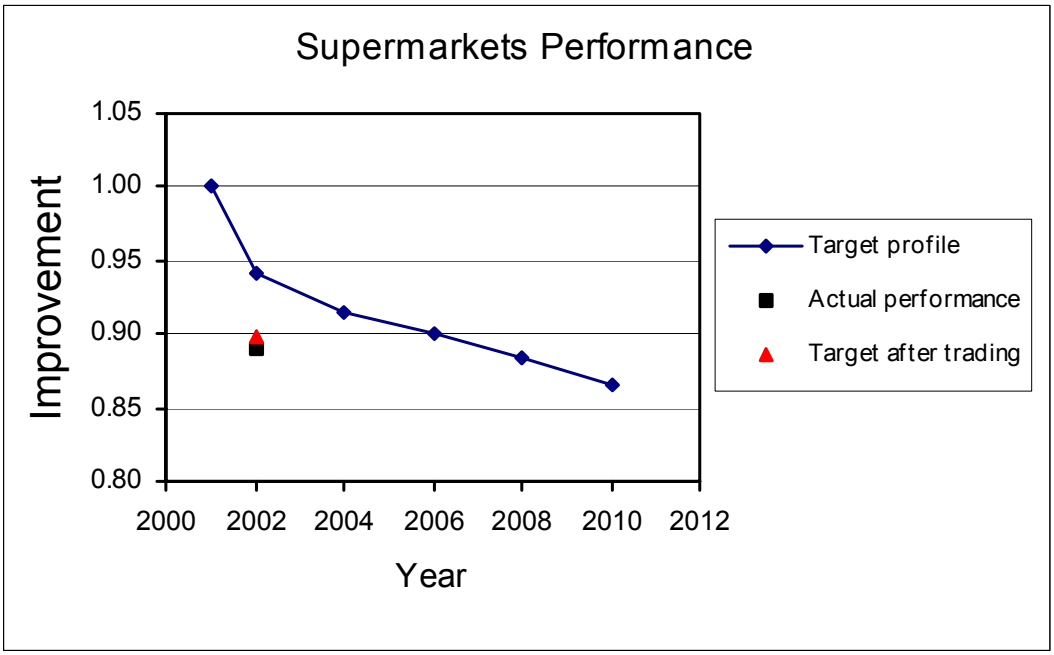
Actual sector performance for 2002 was 272,986,625 kWh_p.

Commentary

The sector has achieved an improvement in absolute energy consumption of 11.1% relative to its base year position. This compares with a target, not adjusted for trading, of a 5.9% improvement.

All the facilities have been re-certified, as the sector has met its target adjusted for trading.

Graph of performance and current targets relative to the base-year



NB: The actual performance and the target after trading and adjustment for throughput are almost the same.

Impact of the sector performance

NB: Figures presented here are on an annualised basis.

Relative

If the sector had produced the annualised first milestone throughput using the energy per tonne as at the baseline it would have used 0.02 PJ more energy, equivalent to 0.29 ktC (1.1 $ktCO_2$).

Absolute

In absolute terms, and on an annualised basis, the sector has used 0.32 PJ less energy than during the baseline period, equivalent to 4.0 ktC (15 $ktCO_2$) less. This represents an 11.1% decrease, and at the same time there has been a 10.3% decrease in production.

FES Reference Date

2 March 2004

SURFACE ENGINEERING ASSOCIATION

Scope and membership of the umbrella agreement

SEA represents the metal finishing sector, carrying out processes including electro-plating, and anodising. SEA is a subsidiary part of the British Jewellery and Giftware Federation, which is the formal signatory to the agreement.

Targets

In the "analysis of sector energy efficiency targets" published in 2001, quantitative targets were yet to be agreed and the savings were expressed in percentage terms. In the latest version of the signed agreement, the sector target figures are expressed in primary kWh (kWh_p) for a particular level of throughput. These targets have changed further as a result of baseline corrections, entrants, exits and non-respondents.

		Original Targets		**Current Targets***	
	Analysis	Agreement (kWh_p)	Improvement	kWh_p	Improvement
2002	2.89%	2,023,331,546	3.67%	2,890,361,508	3.03%
2004	5.17%	1,985,927,438	5.65%	2,905,688,604	4.74%
2006	7.10%	1,982,247,644	7.57%	2,881,610,368	6.80%
2008	8.77%	1,954,811,334	8.89%	2,833,907,376	8.54%
2010	10.28%	1,928,896,664	11.08%	2,786,494,745	10.7%

* The kWh_p targets are based on varying predicted throughput for the five milestones – the percentage improvement refers to the energy required for the same level of throughput in the base year.

Additional adjustments to the 2002 sector target

- Adjustments to the target for the actual 2002 throughput level have increased the target by 227,720,651 kWh_p.
- Trading has resulted in a net allocation of allowances/ring-fencing of 25 $ktCO_2$, which is equivalent to a target reduction of 140,675,824 kWh_p.

The adjusted target for 2002 is therefore 2,977,406,335 kWh_p (for actual 2002 throughput level).

Sector Performance Recorded

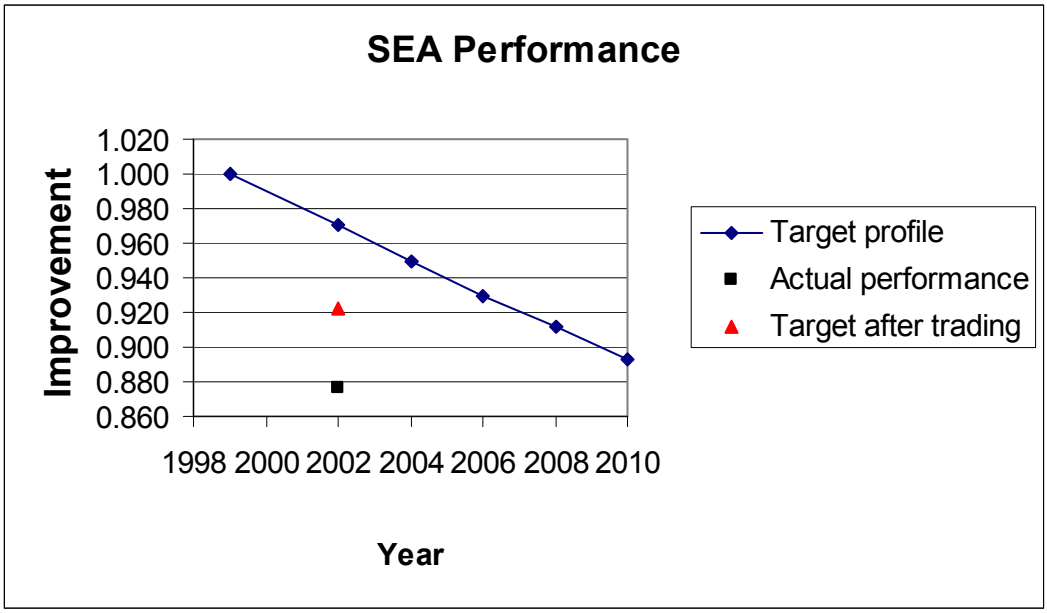
Actual sector performance for 2002 was 2,828,683,776 kWh_p (for actual 2002 throughput level).

Commentary

The sector has achieved an improvement in specific energy consumption of 12% relative to its base year position. This compares with a target, unadjusted for trading, of a 3% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 1.4 PJ more energy, equivalent to 21 ktC (75 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.5 PJ less energy than in the base year, equivalent to 8.0 ktC (29 $ktCO_2$) less. It is not possible to determine the change in sector throughput as there is no appropriate measure for the sector as a whole.

FES Reference Date

26 March 2003

BRITISH APPAREL AND TEXTILES CONFEDERATION

Scope and membership of the umbrella agreement

BATC represents the textile and clothing industry in the UK, carrying out various activities in textile dyeing, finishing and scouring.

Targets

In the "analysis of sector energy efficiency targets" published in 2001, the original milestone targets were given in terms of primary kWh (kWh_p) for a particular level of throughput. In the signed agreement, the sector changed the target figures slightly as a result of data corrections. These targets have changed as a result of baseline corrections, entrants, exits and non-respondents.

	Original Targets			Current Targets	
	Analysis (kWh_p)	Agreement (kWh_p)	Improvement	KWh_p	Improvement
2002	3,774,694,416	3,773,360,985	1.2%	3,693,676,535	1.1%
2004	3,707,972,372	3,705,460,831	3.0%	3,624,881,861	3.0%
2006	3,639,365,167	3,635,353,875	4.8%	3,554,357,028	4.9%
2008	3,560,689,812	3,555,113,619	6.9%	3,471,562,685	7.1%
2010	3,474,799,992	3,474,799,992	9.0%	3,388,313,526	9.3%

Additional adjustments to the 2002 sector target

- Adjustments to the target for the actual 2002 throughput level have reduced the target by 175,086,938 kWh_p.
- Trading has resulted in a net selling/ring-fencing of 44 $ktCO_2$, which is equivalent to a target reduction of 227,884,737 kWh_p.

The adjusted target for 2002 is therefore 3,290,704,859 kWh_p (for actual 2002 throughput level).

Sector Performance Recorded

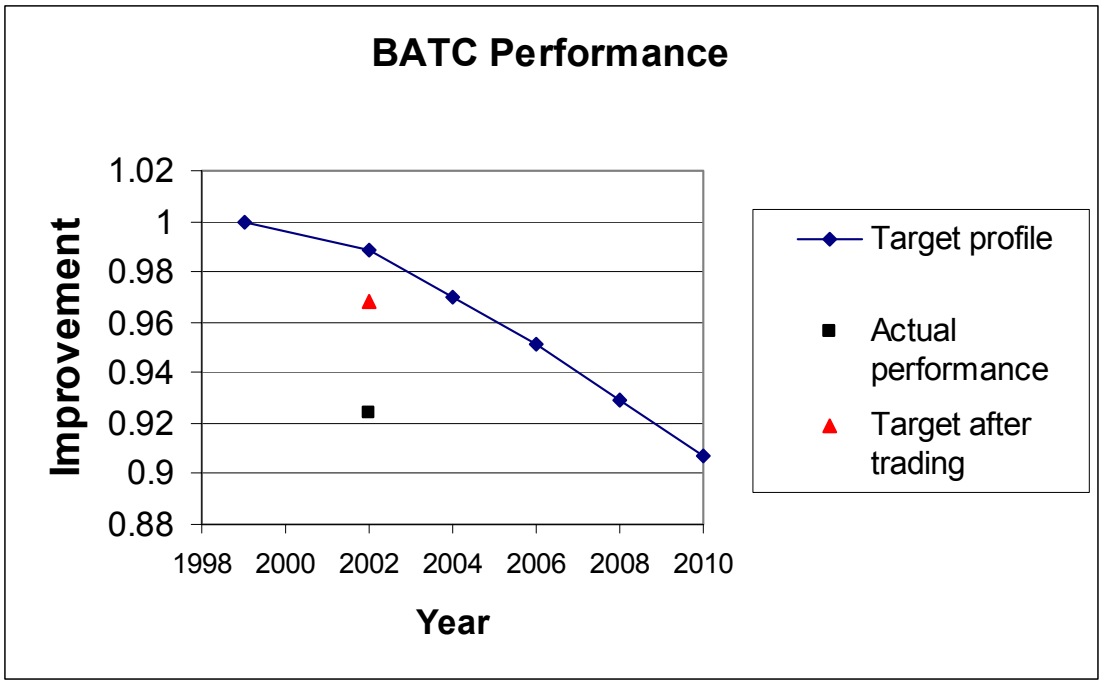
Actual sector performance for 2002 was 3,141,386,873 kWh_p (for actual 2002 throughput level).

Commentary

The sector has achieved an improvement in specific energy consumption of 7.6% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.1% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.93 PJ more energy, equivalent to 14 ktC (50 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 2.1 PJ less energy than in the base year, equivalent to 31ktC (114 $ktCO_2$) less. At the same time there was a 3.1% increase in production.

FES Reference Date

1 April 2004

VEHICLE BUILDERS AND REPAIRERS ASSOCIATION

Scope and membership of the umbrella agreement

VBRA represents a large proportion of the vehicle body repair companies in the UK.

Original Targets

The original milestone targets were given in terms of primary kWh_p/unit through paint booths. These targets have changed as a result of baseline corrections, entrants and exits, as shown below.

	Original Targets		Current Targets	
	kWh_p/unit	Improvement	kWh_p/unit	Improvement
2002	437.15	2.00%	1043.85	2.00%
2004	419.31	6.00%	1001.24	6.00%
2006	413.42	7.32%	987.18	7.32%
2008	407.53	8.64%	973.12	8.64%
2010	401.46	10.00%	958.64	10.00%

Additional adjustments to the 2002 sector target

There are no further adjustments to the 2002 sector target.

The target for 2002 is therefore 1043.85 kWh_p/unit.

Sector Performance Recorded

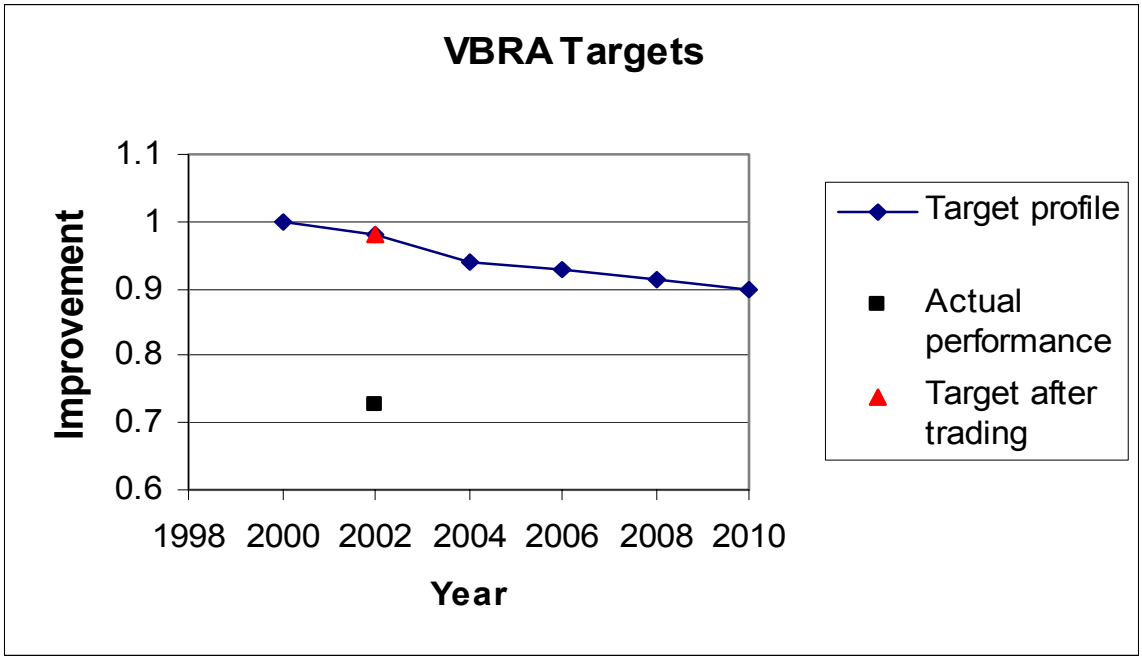
Actual sector performance for 2002 was 774 kWh_p/unit.

Commentary

There were significant errors in the original data submitted for this sector and, following detailed study only seven participants were re-certified out of 34 with 2002 targets. The revised targets and performance data in this analysis are based solely on the data for these seven participants.

The sector has achieved an improvement in specific energy consumption of 27% relative to its base year position. This compares with a target, unadjusted for trading, of a 2% improvement.

Graph of current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.015 PJ more energy, equivalent to 0.2 ktC (0.75 $ktCO_2$).

Absolute

In absolute terms the sector has actually used 0.012 PJ less energy than in the base year, equivalent to 0.15 ktC (0.57 $ktCO_2$) less. At the same time there was a 7% increase in production.

FES Reference Date

10 December 2003

THE WALLCOVERING MANUFACTURERS ASSOCIATION

Scope and membership of the umbrella agreement

Companies in this sector manufacturer wallcoverings and related products.

Targets

Original and current milestone targets for this sector are absolute targets and are shown below as primary kWh (kWh_p) and as percentage improvements relative to the base year. Milestone targets have changed because of baseline corrections, entrants, exits and target changes due to throughput drops over 10%.

	Original targets		Current targets	
	kWh_p	Improvement	kWh_p	Improvement
2002	593,353,219	1.6%	698,383,887	10.9%
2004	566,783,703	6.0%	673,517,244	14.0%
2006	558,013,278	7.4%	662,753,550	15.4%
2008	553,424,653	8.2%	656,290,427	16.2%
2010	548,564,629	9.0%	649,708,821	17.1%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net purchase of 6.6 $ktCO_2$, which is equivalent to a target increase of 36,492,821 kWh_p.

The adjusted target for 2002 is therefore 734,876,708 kWh_p.

Sector Performance Recorded

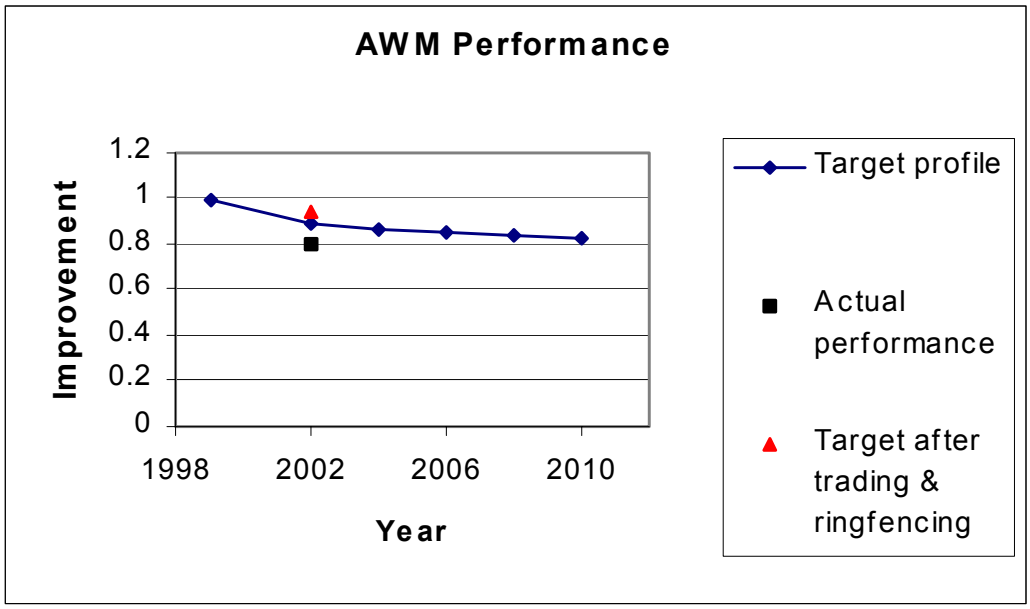
Actual sector performance for the 2002 milestone period was 627,286,792 kWh_p.

Commentary

The sector has achieved an improvement in specific energy consumption of 19.9% relative to its base year position. This compares with a target, unadjusted for trading, of a 6.2% improvement.

All the facilities have been re-certified.

Graph of performance and current targets relative to the base year



Impact of the sector performance

Absolute

In absolute terms the sector has actually used 0.56 PJ less energy than in the base year, equivalent to 7.7 ktC (28 $ktCO_2$) less. At the same time there was a 5% decrease in production.

FES Reference Date

25 November 2003

WOOD PANEL INDUSTRIES FEDERATION

Scope and membership of the umbrella agreement

WPIF represents the manufacturers of wood panels in the UK, including chipboard, Oriented Strand Board and MDF.

Targets

Original and current milestone targets for this sector are shown below as primary kWh_p/m^3 of product, and as percentage improvements relative to the base year. Milestone targets have changed as a result of baseline corrections, entrants and exits.

	Original Targets		Current Targets	
	kWh_p/m^3	Improvement	kWh_p/m^3	Improvement
2002	940	1.26%	959	1.34%
2004	919	3.47%	938	3.50%
2006	899	5.57%	917	5.66%
2008	890	6.51%	909	6.48%
2010	882	7.35%	900	7.41%

Additional adjustments to the 2002 sector target

- Trading has resulted in a net allocation of allowances/ring-fencing of 20 $ktCO_2$, which is equivalent to a target reduction of 35 kWh_p/m^3.

The adjusted target for 2002 is therefore 924 kWh_p/m^3.

Sector Performance Recorded

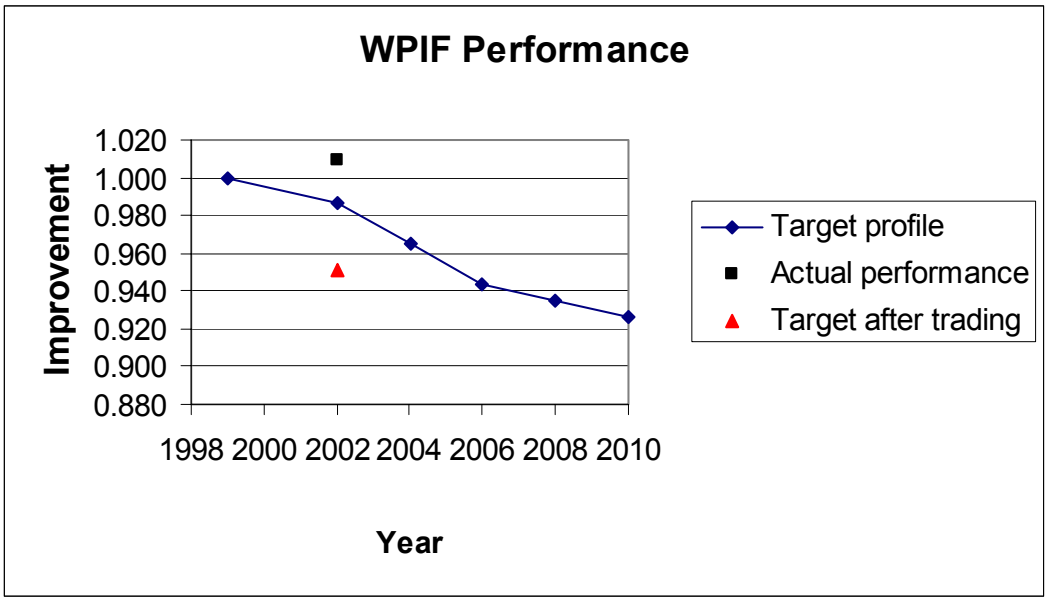
Actual sector performance for 2002 was 981 kWh_p/m^3.

Commentary

The sector has seen an increase in specific energy consumption of 1.0% relative to its base year position. This compares with a target, unadjusted for trading, of a 1.34% improvement.

All the facilities have been re-certified because they have met their individual targets either outright, or through a mixture of trading and/or product mix.

Graph of performance and current targets relative to base year



Impact of the sector performance

Relative

If the sector had produced the 2002 throughput using the specific energy consumption as in the base year it would have used 0.11 PJ less energy, equivalent to 1.5 ktC (5.5 $ktCO_2$). It should be noted that there has been significant change in the mixture of products produced.

Absolute

In absolute terms the sector has actually used 0.43 PJ more energy than in the base year, equivalent to 6.0 ktC (22 $ktCO_2$) more. At the same time there was a 2.9% increase in production.

FES Reference Date

26 March 2003