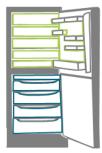


### **Mapping Document**







Country:	United Kingdom
Technology:	Domestic refrigerated appliances
Sub Category:	Refrigerators, refrigerator-freezers and freezers

#### Introduction

The first stage in the Mapping and Benchmarking process is the definition of the products, i.e. clearly setting the boundaries that define the products for use in data collection and analysis. This ensures that comparison between the participating countries is done against a specific and consistent set of products.

The summary definition for this product is:

M&B Category	Description
Refrigerator only and refrigerators with freezer compartments	The primary compartment is for fresh storage in the temperature range 5°C >= T> 0°C and The unit has no freezer compartment, or The unit has a freezer compartment of any temperature rating but a volume of less than 14 litres, or The unit has a frozen food compartment of any volume that is rated as 0°C >= T > -15°C
Refrigerator/Freezer	The primary compartment for fresh storage in the temperature range 5°C >= T> 0°C and the primary frozen food compartment is greater than 14 litres and has a rated temperature T <= -15°C
Freezer only	A unit where <i>all</i> compartments have a temperature rating T <= -15°C

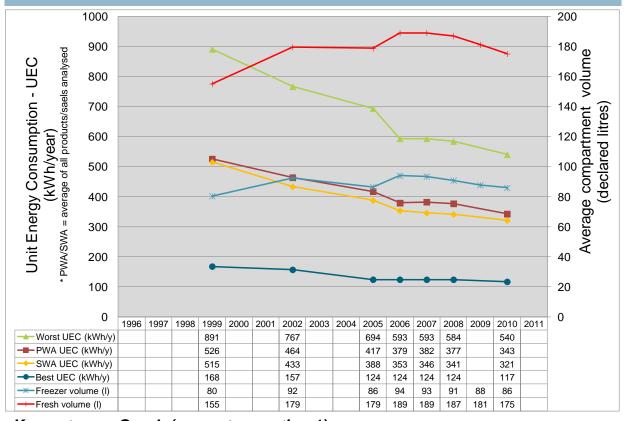
The detailed product definition can be found at the Annex website:

http://mappingandbenchmarking.iea-4e.org/matrix?type=product&id=13





# Unit Energy Consumption of new refrigerator freezers in the United Kingdom

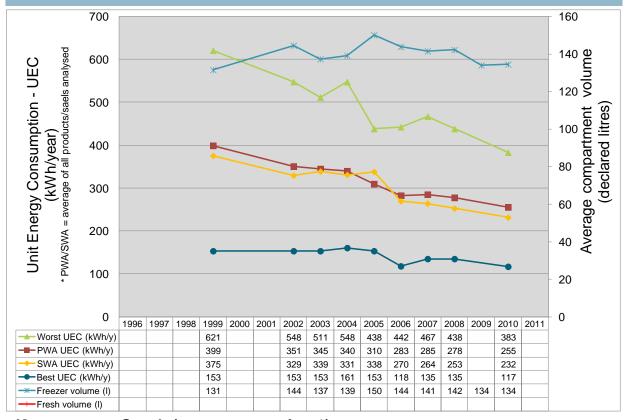


- Data supplied has been edited to remove a number of products in each year for which
  one or more of the recorded values for UEC or volume were considered unrealistic. In
  all years the data included in the analysis remains market representative.
- The database for 2009 had no energy consumption data.
- All volumes shown are sales weighted averages.
- The 'Worst UEC' is the UEC of the product at the 'worst 5%' point of a ranked list of products in the dataset.



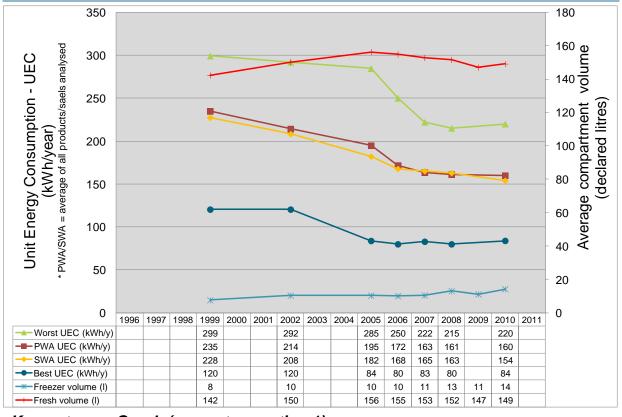


### Unit Energy Consumption of new freezers in the United Kingdom



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- The database for 2009 had no energy consumption data.
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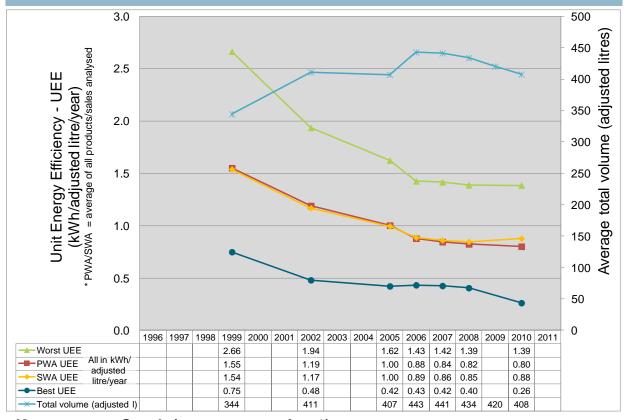
### Unit Energy Consumption of new refrigerators and refrigerators with freezer compartments in the United Kingdom



- Data supplied has been edited to remove a number of products in each year for which
  one or more of the recorded values for UEC or volume were considered unrealistic. In
  all years the data included in the analysis remains market representative.
- The database for 2009 had no energy consumption data.
- All volumes shown are sales weighted averages.
- The 'Worst UEC' is the UEC of the product at the 'worst 5%' point of a ranked list of products in the dataset.



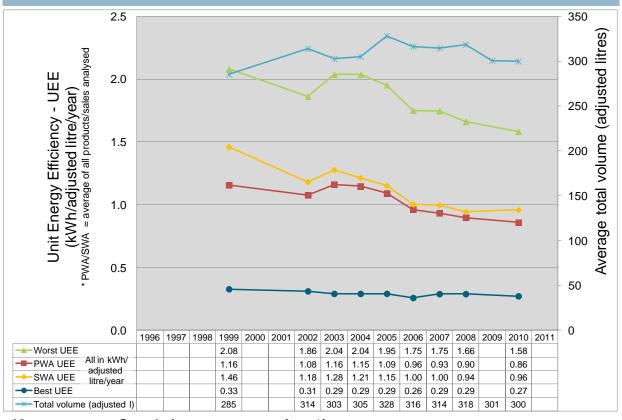
# Unit Energy Efficiency of new refrigerator freezers in the United Kingdom



- Data supplied has been edited to remove a number of products in each year for which
  one or more of the recorded values for UEC or volume were considered unrealistic. In
  all years the data included in the analysis remains market representative.
- The database for 2009 had no energy consumption data.
- The average total volumes shown (adjusted litres) are calculated using the temperatures and a slightly modified version of the volume adjustment method defined in EU/regulations. The average unit energy efficiency (UEE) is then calculated using these total adjusted volumes.
- All volumes shown are sales weighted averages.



### Unit Energy Efficiency of new freezers in the United Kingdom



- Data supplied has been edited to remove a number of products in each year for which
  one or more of the recorded values for UEC or volume were considered unrealistic. In
  all years the data included in the analysis remains market representative.
- The database for 2009 had no energy consumption data.
- The average total volumes shown (adjusted litres) are calculated using the temperatures and a slightly modified version of the volume adjustment method defined in EU/regulations. The average unit energy efficiency (UEE) is then calculated using these total adjusted volumes.
- All volumes shown are sales weighted averages.



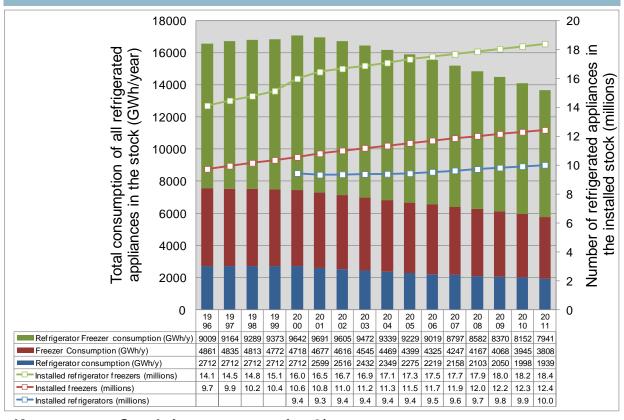
## Unit Energy Efficiency of new refrigerators and refrigerators with freezer compartments in The United Kingdom



- Data supplied has been edited to remove a number of products in each year for which
  one or more of the recorded values for UEC or volume were considered unrealistic. In
  all years the data included in the analysis remains market representative.
- The database for 2009 had no energy consumption data.
- The average total volumes shown (adjusted litres) are calculated using the temperatures and a slightly modified version of the volume adjustment method defined in EU/regulations. The average unit energy efficiency (UEE) is then calculated using these total adjusted volumes.
- All volumes shown are sales weighted averages.



# Energy Consumption of the installed stock of refrigerated appliances in the United Kingdom



#### Key notes on Graph (see notes section 2)

 The refrigerator freezer data shown includes refrigerators and refrigerators with freezer compartments as it was supplied in combination. Refrigerator freezers are the most common products in the stock<sup>1</sup>.

25% fridges

25% fridges



<sup>&</sup>lt;sup>1</sup> Proportions of stock based on Defra's Market Transformation Programme assumptions are: 45% fridge-freezers 30% freezers (chest and upright)

### Major Policy Interventions (see notes section 3 and Annex 1)

Policy impacting UK refrigerated appliances primarily occurs at the EU wide level or at the national level. Summary details of the policies are given below. For more detail on EU regulatory requirements refer to notes section 3, and for wider details on all policies including scope, implementing organisations and outcomes, please refer to Annex 1.

#### **EU Wide Regulations and Voluntary Agreements with Industry:**

Policy name	Period in force	Description	Impact Relative impact of policy
EC Energy Label <sup>2</sup>	1995 – 2010	Defines A to G efficiency classes	All domestic refrigeration appliances to be labelled – improvement in the average efficiency over time
EC MEPS (EuP) <sup>3</sup>	1999 – (July) 2010	Limit sales to A, B, C class, plus D & E for chest freezers	All domestic refrigeration - improvement in the average efficiency over time
Industry Commitment <sup>4</sup>	2002 - 2010	CECED commitment: only B or better (except chest freezers) on market by end 2004	Improvement in the average efficiency over time
EC Energy Label⁵	2004-2010	Defines A+ and A++ classes	All domestic refrigeration - improvement in the average efficiency over time
EC MEPS (EuP) <sup>6</sup>	July 2010	Limits sales to products to those reaching at least A class.	All domestic refrigeration - improvement in the average efficiency over time
	July 2012	Limits sales to products attaining at least A+ class. (note that the maximum EEI requirement for A+ is lowered in 2014)	

www.legislation.hmso.gov.uk/si/si1994/Uksi\_19943076\_en\_1.htm.



http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1996:236:0036:0043:EN:PDF

<sup>&</sup>lt;sup>4</sup> "Voluntary commitment of reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010)" 31st October 2002.

http://www.ceced.eu/ICECED/easnet.dll/ExecReg/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow/UICCOLD20 02.pdf

<sup>5</sup> http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:170:0010:0014:EN:PDF





Policy name	Period in force	Description	Impact Relative impact of policy
EC Energy Label <sup>7</sup>	2011-	Introduces new labelling format and the introduction of A+++. Also slightly revises EEI definition of A+.	All domestic refrigeration - improvement in the average efficiency over time

In addition to mandatory EU requirements, there have been two EU wide voluntary agreements with Industry:

CECED Voluntary Industry Commitment (2002-2007)

CECED Vision (2005-2007)

#### **National Policies**

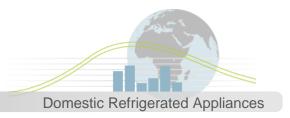
National policies that are considered to have impacted refrigerated appliances are as follows:

- Energy Saving Trust Recommended (2000-2010)
- Code for Sustainable Homes (2006-ongoing)
- Energy Efficiency Commitment /Energy Efficiency Standards of Performance/Carbon Emissions Reduction Target (1994-ongoing)
- Government Buying Standards
- Act on CO<sub>2</sub>

<sup>&</sup>lt;sup>6</sup> Directive 96/57/EC repealed and replaced by Regulation 2009/643/EC <a href="http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:191:0053:0068:EN:PDF">http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:314:0017:0046:EN:PDF</a>
To Directive 94/2/EC repealed and replaced by Regulation 1060/2010 <a href="http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:314:0017:0046:EN:PDF">http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:314:0017:0046:EN:PDF</a>







### Cultural Issues (see notes section 4)

There is relatively little UK specific cultural information on refrigerated appliances, although the data suggest the following items:

- Gradual shift in consumer preferences over time from refrigerators to refrigerator/freezer combination units
- Volume of refrigerator/freezer combination units has grown significantly over time. This
  seems to imply a gradual move from "standard EU appliance footprint" units to larger
  footprint side by side and top/bottom combination units.
- Average Fridge-Freezer volumes (the most popular products) are increasing.
- There is a greater propensity in the UK towards following US trends than in the rest of Europe. This includes an increase in side-by-side fridges, although this sector has been worst hit by recent economic slowdown in sales.
- Most Fridge-Freezers now have freezers at the bottom instead of the top and freezers are of relatively larger capacity. Accordingly, they tend to use an increasing amount of overall energy.







# Section 1. Unit Energy Consumption and Unit Energy Efficiency Graphics

### 1.1 Test methodologies, Performance Standards and Labelling Requirements

Energy consumption is claimed according to the requirements of the EC energy label and the appropriate energy efficiency class allocated according to the calculations given in the energy label directives.

The test standard for EC energy labelling is EN 153 which calls upon the EN ISO 15502.

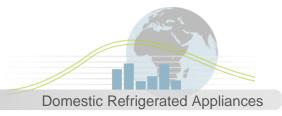
Test Standard name	Date in force	Description	Comments
EN 153:2005  Methods of measuring the energy consumption of electric mains operated household refrigerators, frozen food storage cabinets, food freezers and their combinations, together with associated characteristics.	2005	Energy, temperature and volume of all types of domestic cold appliances are measured in accordance with test standard (BS) EN 153 and used for energy label declarations.  EN 153 refers to EN ISO 15502:2005	Supersedes EN 153:1995 (withdrawn 30 June 2008). Although there is some debate as to which test standard is currently valid under UK law.
EN ISO 15502: 2005  Household refrigerating appliances, refrigerator freezers – characteristics and test methods.	2005	Defines characteristics and test methods	Prior to this standard there were four test standards for each of the main refrigerating appliance types

#### Specific information:

External/ambient test temperature	
	25 ± 0.5°C (Deviations from 25°C within ± 0.5°C are corrected in accordance with EN 153:2006 Clause 15.2.1.)







Internal temperatures for the applian	nces
Fridge compartment	Mean temp of +5°C (no tolerance because in general, the energy consumption at this temp is obtained by interpolation.)
Freezers (0-2 Star)	Various classifications incorporating temperature ranges from +3 to -18°C
Freezer compartment (3 or 4 star compartment)	-18°C or colder

#### **Product Classifications** 1.2

(Source: COMMISSION REGULATION (EC) No 643/20098)

Group	Description
1	Refrigerator with one or more fresh-food storage compartments
	Refrigerator-cellar, cellar and wine storage appliance
3	Refrigerator-chiller and refrigerator with a 0-star compartment
4	Refrigerator with a 1-star compartment
5	Refrigerator with a 2-star compartment
6	Refrigerator with a 3-star compartment
7	Refrigerator-freezer
8	Upright freezer
9	Chest freezer
10	Multi-use and other appliances

#### 1.3 Data sources and limitations

Sources: UK data is sourced from GfK via the UK Market Transformation *Programme*.

Data supplied has been edited to remove a number of products in each year for which one or more of the recorded values for UEC or volume were considered unrealistic.

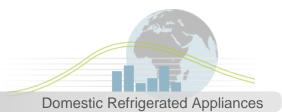
Other specific data limitations include:

- It is assumed that if the appliance has only 1 door it is a fridge (larder or with ice box) and anything with 2 doors or more is generally a fridge-freezers. Although a few 2 door fridges are recorded (identified by the lack of freezer)
- There is a potential flaw in this method that if the number of doors is miss recorded then some fridge-freezers could be categorised as fridges; there are a few units with large 4star compartments that might actually be fridge-freezers rather than fridges.

In all years the data included in the analysis remains market representative.

<sup>&</sup>lt;sup>8</sup> Directive 96/57/EC repealed and replaced by Regulation 2009/643/EC http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:191:0053:0068:EN:PDF





#### Refrigerator freezers:

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Products in dataset	0	0	0	234	0	0	718	0	0	626	1247	1344	1620	1583	1433	0
Products analysed	0	0	0	234	0	0	684	0	0	527	1233	1300	1341	0	1108	0
% products included	0%	0%	0%	100%	0%	0%	95%	0%	0%	84%	99%	97%	83%	0%	77%	0%
Sales in dataset	-	-	-	846,062	-	-	984,127	-	-	820,570	1,402,270	1,439,900	1,476,169	1,417,438	1,474,301	-
Sales analysed	-	-	-	846,062	-	-	901,947	-	-	713,195	1,367,904	1,407,366	1,376,243	-	1,404,237	
% Sales included	0%	0%	0%	100%	0%	0%	92%	0%	0%	87%	98%	98%	93%	0%	95%	0%

#### Freezers:

United Kingdom

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Products in dataset	0	0	0	356	0	0	465	373	255	191	722	618	784	723	627	0
Products analysed	0	0	0	348	0	0	440	373	255	179	705	600	618	0	508	0
% products included	0%	0%	0%	98%	0%	0%	95%	100%	100%	94%	98%	97%	79%	0%	81%	0%
Sales in dataset	-	-	-	480,533	-	-	631,724	194,207	153,454	90,697	861,251	728,287	766,325	699,167	704,396	-
Sales analysed	-	-	-	461,050	-	-	577,927	194,207	153,454	82,634	854,778	723,747	673,835	-	639,245	-
% Sales included	0%	0%	0%	96%	0%	0%	91%	100%	100%	91%	99%	99%	88%	0%	91%	0%

#### Refrigerators and refrigerators with freezer compartments:

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Products in dataset	0	0	0	196	0	0	602	0	0	711	747	712	741	659	615	0
Products analysed	0	0	0	163	0	0	319	0	0	290	617	478	515	0	411	0
% products included	0%	0%	0%	83%	0%	0%	53%	0%	0%	41%	83%	67%	70%	0%	67%	0%
Sales in dataset	-	-	-	647,824	-	-	924,831	-	-	959,171	974,419	902,473	800,826	661,507	666,883	-
Sales analysed	-	-	-	631,087	-	-	532,216	-	-	350,113	818,949	704,315	666,421	-	606,981	-
% Sales included	0%	0%	0%	97%	0%	0%	58%	0%	0%	37%	84%	78%	83%	0%	91%	0%

#### 1.4 Data manipulations and specific limitations

#### 1.4.1 Overview of the mapping and benchmarking process

There are essentially 4 stages to the mapping and benchmarking process for domestic refrigerated appliances as detailed below:

Stage:	Description
--------	-------------

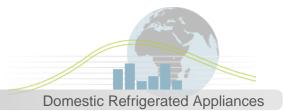
- 1. Data Cleaning and Pre-processing
- · Removal of duplicate entries
- Pre-processing to align all terminology and reported test values to be consistent between countries
- · Assigning of local, mapping and benchmarking and EU categories
- Ft
- 2. Production of mapping outputs
- Production of mapping outputs based on local test methodologies
- 3. Normalisation of test data
- Calculation of adjusted volumes
- Assignment Unit Energy Consumption to individual compartments
- Normalisation for test temperature differentials
- 4. Production of Benchmarking outputs
- Post processing of benchmarking results
- · Production of benchmarking report

The details of this process are described in three supporting documents that accompany this mapping report:

 The product definition describes the exact characteristics of the product being analysed; the energy metrics that will be calculated; the technological, usage and other characteristics that will be considered; and any other policy or cultural information that will be collected







- 2. The **summary of approach** provides an overview of the mapping and benchmarking process for analyzing domestic refrigerated appliances for all countries and regions.
- 3. The **actions and assumptions** report details the specific steps that were necessary to allow the data submitted from a specific country or region to be included in the mapping and benchmarking process as described in the product definition and summary of approach.

All these documents can be found at the annex website:

http://mappingandbenchmarking.iea-4e.org/matrix

by clicking on the "X" in the matrix table that aligns with *United Kingdom* and *Domestic refrigerated appliances 2012*.

1.4.2 Specific cautions for this data

Please refer to the actions and assumptions document described in Section 1.4.1.







# Section 2. Energy Consumption of the installed stock of refrigerated appliances graphic

#### 2.1 Data sources and limitations

Source: BNDA KO01: Domestic Appliances: Government Standards Evidence Base 2009: Key Outputs.

The information is drawn from MTP's model which is a based on stock projections (not actual data). The model is a stock-based model, which calculates sales using the stock projection. The key inputs contributing to these projections are the number (%) of households owning difference refrigerating appliances and the product lifetime. Real total sales data is input into evidence sheets as a check only, to help evaluate the robustness of the output sales calculated from the model. This data series is usually incomplete. (The sales shown in the product graphs are based on the full stock-generated (rather than input) sales data series.) Sales data from market research (GfK) is reviewed alongside the model calculation in order to confirm that the trend in the model is appropriate. Reported sales data (GfK) are used as evidence for assumptions regarding the number of units sold according to different levels of efficiency and average annual consumption.

The model calculates the number of units entering the stock. These units are required to replace models removed from stock as old units fail. The assumed lifetime is between 12.5 years and 16 years depending upon the type of refrigerating appliance. The units are also needed to meet the increase in sales of units caused by the increase in household numbers and the increase in the percentage of households owning different types or combinations of refrigerating appliances.

For the different key input evidence, the total sales and levels of efficiency recorded in the sales data is considered to be the most complete element, certainly for the last 5 to 10 years. Percentage of ownership is based upon historical assumptions as it is difficult to find consistent evidence regarding levels of ownership particularly when indentifying chest and upright freezers separately. The unit lifetime used in the MTP modelling is similar to that reported in the European EuP preparatory studies with the exception of fridges where the UK assumption is for a shorter lifetime.







### Section 3. Major Policy Interventions

Policy impacting UK refrigerated appliances primarily occurs at the EU wide level or at the national level. An overview of EU regulatory requirements is given below. For wider details on all EU and National policies including scope, implementing organisations and outcomes, please refer to Annex 1.

#### 3.1 Pan-European Mandatory Legislation

#### COMMISSION REGULATION (EC) No 1060/20109

Program Type: Mandatory Label

**Year Published:** 28/09/2010

**Year Effective:** 30/11/2011<sup>10</sup>

**Economy:** EU Member Countries

Implementing Agency: National bodies of EU member Countries

#### **Description:**

Revises energy labelling scale for domestic refrigeration appliances through the introduction of a new high efficiency class (A+++ where unit EEI<22) from 30 November 2011. The regulations also revises the maximum EEI value for A+ declarations from EEI<44 to EEI<42 from 1 July 2014.

This deregulated regulation repeals and replaces by Directive 96/57/EC.

<u>COMMISSION REGULATION (EC) No 643/2009</u> (implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for household refrigerating appliances)<sup>11</sup>

**Program Type:** Mandatory Minimum Performance Standards

**Year Published: 22/07/2009** 

Year Effective: 1 July 2010 and 1 July 2014

**Economy Affected:** EU Member Countries

Implementing Agency: National bodies of EU member Countries

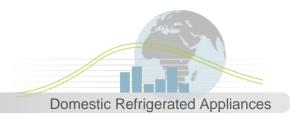
<sup>&</sup>lt;sup>11</sup> Directive 96/57/EC repealed and replaced by Regulation 2009/643/EC <a href="http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:191:0053:0068:EN:PDF">http://eurlex.europa.eu/LexUriServ.do?uri=OJ:L:2009:191:0053:0068:EN:PDF</a>



<sup>&</sup>lt;sup>9</sup>Directive 94/2/EC repealed and replaced by Regulation 1060/2010 <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:314:0017:0046:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:314:0017:0046:EN:PDF</a>

<sup>&</sup>lt;sup>10</sup> Implementation of some requirements delayed to 30/3/2012





#### **Description:**

Technically this regulation repeals Directive 96/57/EC and places a requirement on national governments to enact appropriate legislation to restrict the sales of domestic refrigerated products to those where the performance exceeds a specified energy efficiency index (EEI) as follows:

Application date	EEI	Equivalent EU Label
01 July 2010	EEI < 55	А
01 July 2012	EEI < 44	A+
01 July 2014	EEI < 42	A+ <sup>12</sup>

**In general**, other requirements laid out in the preceding directives detailed below remain the same.

#### Commission Directive 2003/66/EC13

Program Type: Mandatory Label

**Year Published:** 03/07/2003

Year Effective: 2004

**Economy:** EU Member Countries

Implementing Agency: National bodies of EU member Countries

#### **Description:**

Revises and extends the existing A-G energy labelling scale for domestic refrigeration appliances through the introduction of 2 new high efficiency classes (A+ and A++) from 1 July 2004.

This directive is the amendment of the framework directive 94/2/EC implementing Council Directive 92/75/EEC for mandatory labelling scheme, which was agreed in 1992 and cancelled the framework directive 79/530/EEC.

<sup>13</sup> http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:170:0010:0014:EN:PDF



<sup>&</sup>lt;sup>12</sup> Note the maximum required EEI for A+ units were reduced from 44 to 42 from 1 July 2014





#### Directive 96/57/EC14

Program Type: Minimum Energy Performance Standard - Mandatory

**Product:** Refrigerator-freezers

**Economy:** EU Member Countries

Year Published: 03/09/1996

Year Effective: 03/09/1999

Implementing Agency: National bodies of EU member Countries

#### **Description:**

Introduces Minimum Energy Performance Standards for all domestic refrigeration types. In effect removes all products below European Label C from the market (labels D and E allowed for chest freezers).

#### <u>Commission Directive 94/2/EC<sup>15</sup></u> Program Type: Mandatory Label

Year Published: 22/09/1992

Year Effective: 21/01/1994

**Economy:** EU Member Countries

Implementing Agency: National bodies of EU member Countries

#### **Description:**

Introduces the EU's A-G energy label for refrigerated domestic appliances.

15 www.legislation.hmso.gov.uk/si/si1994/Uksi\_19943076\_en\_1.htm.



<sup>14</sup> http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:1996:236:0036:0043:EN:PDF





#### 3.1.1 Voluntary Initiatives

#### <u>Voluntary Commitment on Reducing Energy Consumption of Household</u> Refrigerators, Freezers and their Combinations<sup>16</sup>

**Program Type:** Minimum Energy Performance Standard - Voluntary

**Product:** Refrigerator-freezers

**Economy:** EU Member Countries

**Description:** The European Commission has pursued voluntary agreement with the European Federation of Domestic Appliance Manufacturers (CECED) to improve the energy efficiency of household refrigerating appliances.

**Year Published:** 31/10/2002

Year Effective: Applicable from 2002-2010

Implementing Agency: European Federation of Domestic Appliance Manufacturers -

http://www.ceced.org/

 $<sup>\</sup>underline{\text{http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow/UICCOLD20} \underline{02.pdf}$ 



<sup>&</sup>lt;sup>16</sup> "Voluntary commitment of reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010)" 31<sup>st</sup> October 2002.





Section 4. Cultural Issues

No additional information.







## **Annex 1: Summary of Policies Impacting UK Refrigerated Appliances**

The material on UK policies for refrigerated appliances detailed below was produced as part of a pilot exercise examining how best to capture policies impacting particular product groups. Therefore, at present and pending further consideration by the Mapping and Benchmarking Management Committee, this UK mapping document is the only mapping document to capture policy in such detail.



**Classical Product efficiency distribution curve** 

Drive the existing market towards greater

Pricing and trading Voluntary initiatives

Producer responsibility

 Labelling Public information Encourage

development

of new, more

sustainable products

Interventions:

More

· Support

#### **Policy Overview**

Policies to promote the efficiency of domestic refrigerated appliances within the UK are presented in the summary table overleaf<sup>17</sup>. This table provides an overview of the policies that are known to have been in effect, or have been announced for implementation, over the period 1995-2015. The table also provides an indication of which of these policies have been demonstrated to improve the efficiency of products within the UK, and identifies the policies that have generated data that allow the tracking of changes in product efficiency. Within the table policies are categorised as standards, labels and codes; fiscal policy (both subsidy and taxation related); business support; energy supplier actions/energy pricing; voluntary initiatives; procurement; innovation or R&D support; or general consumer information/awareness raising. Summary details of each policy are provided below the table.

Clearly policies are, or have been, in place in the UK to address the all aspects of the product efficiency distribution curve<sup>18</sup>, many of which are similar to policies implemented around the world. For example:

Numbers of products in the market

Cut out the

sustainable

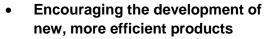
Minimum

standards

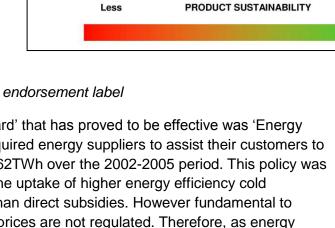
products

- Removing the least efficient product **EU MEPS**
- **Driving the existing market towards** higher efficiency products EU categorical energy labelling CECED (European White Goods Trade association) voluntary agreement

Energy Efficiency Commitment 1 Government Buying Standards



Energy Saving Trust Recommended endorsement label However, one policy which is 'non standard' that has proved to be effective was 'Energy Efficiency Commitment 1'. This policy required energy suppliers to assist their customers to achieve a defined total energy saving of 62TWh over the 2002-2005 period. This policy was shown to have significantly accelerated the uptake of higher energy efficiency cold appliances at a cost substantially lower than direct subsidies. However fundamental to functioning of the scheme is that energy prices are not regulated. Therefore, as energy suppliers are forced to pass the costs of the efficiency actions to consumers, the energy suppliers are motivated to identify and implement the most cost effective efficiency actions.



Graphic drawn from "Saving Energy Through Better Products and Appliances" available at http://www.defra.gov.uk/publications/2011/06/16/pb13559-energy-products/



<sup>&</sup>lt;sup>17</sup> Note that policies included within the review include pan-national, national and regional policies implemented by government, but also include actions initiated or implemented by third party organisations (eg trade associations).





United Kingdom
Summary of Policies: 1995-2015

		Policy active beyond national limits										,	Yeaı	r								
Policy Type/Name	Demonstrable evidence for hig effectiveness	Policy a beyond limits	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Standards, labels and codes																						
EU MEPS and Ecodesign	Yes	Yes		X													Χ	<b>+</b>				
EU Energy Label (original and revised)	Yes	Yes									Х	<b>→</b>										
Energy Saving Trust Recommended	No	No						X														
Code for Sustainable Homes	No	No												Х								
Fiscal (taxation or product subsidy)																						
None Reported																						
Business support																						
None Reported																						
Energy supplier actions/ energy pricing																						
Energy Efficiency Commitment and Carbon Emissions Reduction Target	No	No							X				<b>→</b>			<b>→</b>						
Voluntary initiatives																						
CECED Voluntary Commitment	No	Yes								Х												
CECED Vision	No	Yes											X									
Procurement																						
Government Buying Standards											X											
Innovation or R&D support																						
None Reported																						







United Kingdom Domestic Refrigerated Appliances

		strable e for high sness ctive national		Year																		
Policy Type/Name	Demons evidenc effective	Policy a beyond limits	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Consumer information/awareness raising																						
Act on CO2															X							

#### **Key to graphics**

Policy Announcement	X
Period of Policy Implementation	
Point of major policy review/revision	<b>→</b>
Anticipated period of Implementation	
Implementation Status Unknown	

Summary descriptions of each policy including policy objective, market and cultural context, scale/coverage, implementing organisations and structure, and details of both qualitative and quantitative outcomes of the policy where such information is available.





Domestic Refrigerated Appliances

United Kingdom

Policy Name	EU MEPS (original)	U MEPS (original)							
Previously known as	None	lone							
Policy Type	Minimum Energy Perform	Minimum Energy Performance Standards							
Objectives	market – specifically 15% by 1999 over the	• (European Commission Objective) Remove lowest efficiency appliances from the market – specifically to reduce the energy consumption of the average model by 15% by 1999 over the 1992 level <sup>19</sup> (the UK, as a member of the EU, was required to transpose (copy) this EU directive into national legislation <sup>20</sup> ).							
Key Dates	Announcement:	Implementation:	Termination:						
	1996	1999	2009						

#### **Additional Timelines**

UK regulations dated 1997 but otherwise as above. Replaced by MEPS under the Eco-design directive see 'EU MEPS (ecodesign)' for details.

#### Other Key information

#### Context (market and cultural aspects that influenced the policy design and efficacy)

MEPS were introduced following on from the introduction of EU wide categorical energy labelling in 1995 (see entry on 'EU Energy Label (original) for details). The MEPS used largely the same categorisation of products and the same metrics (such as 'adjusted volume' and energy efficiency index).<sup>21</sup>

As part of the implementation procedure for Energy Labelling, the UK Government's Department of Environment Food and Rural Affairs (Defra) produced guidelines and set up the Market Transformation Programme (MTP)<sup>22</sup>.

#### Scale/coverage of Policy

Domestic appliances manufactured or imported into the EU (UK).

#### Implementing organisations (and their roles)

Defra is the policy lead within Government. Technical support on policy assessment and stakeholder consultation was provided by the by the Market Transformation Programme<sup>23</sup>. Enforcement was originally provided by Local Authority Trading Standards Officers<sup>24</sup>.



 $<sup>^{19}</sup>$  Schiellerup (2002) An examination of the effectiveness of the EU minimum standards on cold appliances: the British case

www.opsi.gov.uk/si/si1997/19971941.htm

<sup>&</sup>lt;sup>21</sup> European Commission/ DG TREN (2000): COLD II, The revision of energy labelling and minimum energy efficiency standards for domestic refrigeration appliances, http://www.ceecap.org/img\_assets/File/Cold%20II.pdf <sup>22</sup> SQW Consulting (2007) Phase 2: exploring the relationship between environmental regulation and competitiveness, A case study on the Energy Labelling Directive <sup>23</sup> SQW Consulting (2007) Phase 2: exploring the relationship between environmental regulation and

competitiveness, A case study on the Energy Labelling Directive <sup>24</sup> For more information see http://www.tradingstandards.gov.uk/



Domestic Refrigerated Appliances

**United Kingdom** 

Policy Name EU MEPS (original)

#### **Quantitative Outcomes (Energy)**

Most overall evaluation has been based on commercially produced sales data based on energy labelling information. As described by Waide<sup>25</sup> using the energy label categories has made it possible to track improvements in energy efficiency. It is difficult to separate out the effect of labelling from those of MEPS, however the attempt has been made.

The ECEEE 2002 paper<sup>26</sup> found that for the UK: "Energy savings to the consumer can be estimated by comparing the energy consumption in 1998 to a projection for the whole of 2000 based on the structure and volume of sales in 1998. Some 3 TWh of electricity will be saved as a result of the reduction in energy consumption over the period, resulting in electricity bills reduced by £205m over the lifetime of the appliances and a saving of 0.33 MtC."

A more recent analysis (2007)<sup>27</sup>, also focused on the UK, tried to separate out the effects of labels and MEPS using a technique that had been developed for an Australian analysis. It found that "The minimum efficiency performance standard improved the efficiency of products sold by over 10 % in one year with no increase in purchase price. The cumulative effect of this policy should mean savings of around 2TWh per annum in 2010 due to this policy."

#### **Quantitative Outcomes (other)**

Market average data in an evaluation report for the EU <sup>28</sup> showed that by 1999 most categories had made good progress towards compliance but some (for example chest freezers) compliance was still quite low. A UK specific analysis published in 2002<sup>29</sup> found that "A year after the standard came into effect, close to 95% of the refrigerator, fridge-freezer and chest freezer markets meet the standard."

#### **Qualitative Outcomes**

The policy was seen by officials as a more effective way of removing the worst performing products from the market than voluntary approaches<sup>30</sup>.

http://www.topten.eu/uploads/File/Factors%20influencing%20the%20penetration%20of%20energy%20efficient%20electrical%20appliances%20into%20national%20markets%20in%20Europe-1.pdf



<sup>&</sup>lt;sup>25</sup> Waide (2001) European evaluation experience, Paper presented at 2001 Regional Symposium on Energy Efficiency S&L, Thailand, http://www.un.org/esa/sustdev/sdissues/energy/op/clasp\_waide.pdf

<sup>&</sup>lt;sup>26</sup> Schiellerup (2002) An examination of the effectiveness of the EU minimum standards on cold appliances: the

<sup>&</sup>lt;sup>27</sup> Lane et al (2007) Evaluating the impact of energy labelling and MEPS - a retrospective look at the case of refrigerators in the UK and Australia, Presented at 2007 eceee Summer Study, France, http://www.eceee.org/conference\_proceedings/eceee/2007/Panel\_4/4.292/paper

http://www.eceee.org/conference\_proceedings/eceee/2007/Panel\_4/4.292/paper

<sup>28</sup> European Commission/ DG TREN (2000): COLD II, The revision of energy labelling and minimum energy efficiency standards for domestic refrigeration appliances, http://www.ceecap.org/img\_assets/File/Cold%20II.pdf

<sup>29</sup> Schiellerup (2002) An examination of the effectiveness of the EU minimum standards on cold appliances: the British case

<sup>&</sup>lt;sup>30</sup> Page 74 Attali et al (2009) Factors influencing the penetration of energy efficient electrical appliances into national markets in Europe,



Domestic Refrigerated Appliances

United Kingdom

European Commission MEPS (Ecodesign)								
`	,							
ErP (Ecodesign of Energy related Products Directive) from 2009								
Minimum Energy Performance Standards								
The Ecodesign Directive is intended to help deliver European Union (EU) objectives <sup>31</sup> :								
	•							
<ul> <li>to reduce the adverse</li> </ul>	e environmental impacts of proc	lucts,						
and to ensure free-trade in energy using and energy related products.								
The UK, as a member of the EU, is required to comply with this regulation <sup>32</sup> .								
Announcement:	Implementation:	Termination:						
2009	2010	NA - ongoing						
	EuP (Ecodesign of Energy ErP (Ecodesign of Energy Minimum Energy Perform The Ecodesign Directive to reduce greenhouse and to ensure free-trathe UK, as a member of Announcement:	EuP (Ecodesign of Energy using Products Directive) ErP (Ecodesign of Energy related Products Directive) from Minimum Energy Performance Standards  The Ecodesign Directive is intended to help deliver Europe to reduce greenhouse gas emissions, to reduce the adverse environmental impacts of product and to ensure free-trade in energy using and energy The UK, as a member of the EU, is required to comply we Announcement:    Implementation: 2010   Implementation						

#### **Additional Timelines**

The regulation contains three mandatory minimum performance levels which increase in efficiency requirements over time. The 2010 implementation date above is for the first 'tier'. A second tier took effect in July 2012, the final one takes effect in July 2015<sup>33</sup>.

#### Other Key information

#### Context (market and cultural aspects that influenced the policy design and efficacy)

Implementing measures (regulations or voluntary agreements) for specific product groups are adopted under a framework directive. The original Ecodesign Framework Directive, 2005/32/EC, was transposed in the UK on 11 August 2007 through the Ecodesign for Energy-Using Products Regulations 2007<sup>34</sup>. The scope was widened to include energy related products in 2009 (2009/125/EC).

<sup>&</sup>lt;sup>34</sup> (2010) BNXS03: Framework Directive for the Eco-design of Energy related Products (ErP Directive), http://efficient-products.defra.gov.uk/cms/product-strategies/subsector/cross-sector



<sup>&</sup>lt;sup>31</sup> (2010) BNXS03: Framework Directive for the Eco-design of Energy related Products (ErP Directive), http://efficient-products.defra.gov.uk/cms/product-strategies/subsector/cross-sector

COMMISSION REGULATION (EC) No 643/2009 of 22 July 2009,

http://www.eceee.org/Eco design/products/domestic fridges and freezers/refrigerating applicances regulation 090723. UK guidance is in UK Government (2011) Guidance Notes, http://efficient-products.defra.gov.uk/cms/assets/Guidance-Notes-3rd-tranche-March2011.pdf

<sup>&</sup>lt;sup>33</sup> See http://www.eceee.org/Eco\_design/products/domestic\_fridges\_and\_freezers





Policy Name European Commission MEPS (Ecodesign)

#### Scale/coverage of Policy

In its original form the Ecodesign Directive covered energy using products (except transport and energy related products) This has since been extended to cover energy related products as well. However, for a product to be considered for an implementing measure it should:

- Have a significant volume of sales and trade, indicatively more than 200,000 units a year within the [European] Community.
- Have a significant environmental impact within the EU.
- Present significant potential for improvement in terms of its environmental impact without entailing
  excessive costs, taking into account the absence of other Community legislation or failure of market
  forces to address the issue properly;
- A wide disparity in the environmental performance of the energy using products available on the market with equivalent functionality<sup>35</sup>.

It covers all energy related products manufactured or imported into the UK.

#### Implementing organisations (and their roles)

There is a process in setting individual measures<sup>36</sup>:

- The European Commission's (EC) preparatory study to provide the Commission and Consultation
  Forum with the evidence available to allow them to assess whether a product should be considered for
  an implementing measure.
- The Commission produces an initial proposal for discussion by the Consultation Forum (which consist of representative of the Member States, trade associations and environmental and consumer NGOs).
- Following discussion by the Consultation Forum the Commission will proceed, if appropriate, to
  produce a formal proposal for an implementing measure. This process includes the preparation of an
  Impact Assessment. Implementing measures can take the form of directives, voluntary agreements,
  decisions, or regulations. All implementing measures are subject to the approval of the Regulatory
  Committee, which consists of the Commission and the 27 Member States.

Manufacturers (or the authorised representative) have to assess the product's conformity with all the relevant requirements of the applicable Implementing Measure. As a general rule conformity assessment in the context of the Ecodesign Directive is based on self-assessment.<sup>37</sup>

'Market surveillance', (defined in the Directive as 'the activities carried out and measures taken by public authorities to ensure that products comply with the requirements set out in the relevant Community harmonisation legislation and do not endanger health, safety or any other aspect of public interest protection') is the responsibility of Member States. In the UK Government's Defra (the Department for Environment, Food and Rural Affairs) have appointed the National Measurement Office<sup>38</sup> as the surveillance authority for the Ecodesign Directive (and energy labelling).<sup>39</sup>

http://ec.europa.eu/enterprise/dg/files/evaluation/cses\_ecodesign\_finalreport\_en.pdf



<sup>&</sup>lt;sup>35</sup> (2010) BNXS03: Framework Directive for the Eco-design of Energy related Products (ErP Directive), http://efficient-products.defra.gov.uk/cms/product-strategies/subsector/cross-sector

<sup>&</sup>lt;sup>36</sup> (2010) BNXS03: Framework Directive for the Eco-design of Energy related Products (ErP Directive), http://efficient-products.defra.gov.uk/cms/product-strategies/subsector/cross-sector

http://efficient-products.defra.gov.uk/cms/product-strategies/subsector/cross-sector <sup>37</sup> CSSE (2012) Evaluation of the Ecodesign Directive (2009/125/EC), Final Report, http://ec.europa.eu/enterprise/dg/files/evaluation/cses ecodesign finalreport en.pdf

http://ec.europa.eu/enterprise/dg/files/evaluation/cses\_ecodesign\_finalreport\_en.pdf

The National Measurement Office (NMO) is an Executive Agency of the Department for Business, Innovation and Skills. It supplies 'legal metrology services to the UK Government. See http://www.bis.gov.uk/nmo/

See See (2012) Evaluation of the Ecodesign Directive (2009/125/EC), Final Report,





Policy Name **European Commission MEPS (Ecodesign)** 

#### **Quantitative Outcomes (Energy)**

No information provided

#### **Quantitative Outcomes (other)**

No information provided

#### **Qualitative Outcomes**

A report by Ecofys<sup>40</sup> for the Coolproducts campaign<sup>41</sup> found that the Ecodesign directive was not fulfilling its potential for two reasons:

- 1. Persistent delays in putting regulation in place
- 2. Insufficient ambition in setting standards

An evaluation of the Directive undertaken for the Commission<sup>42</sup> found that while there were many aspects which could be improved:

- The policy is highly cost effective
- The development of Implementing Measures in the form of EU-wide Regulations has helped to avoid fragmentation of the Internal Market.

It is the view of the great majority of stakeholders that an EU-wide measure in the form of regulations under the Ecodesign framework is the most appropriate approach.

http://ec.europa.eu/enterprise/dg/files/evaluation/cses\_ecodesign\_finalreport\_en.pdf



<sup>&</sup>lt;sup>40</sup> ECOFYS (2012) Economic benefits of the EU Ecodesign Directive - Improving European economies, http://www.coolproducts.eu/resources/documents/Economic-benefits-Ecodesign-final.pdf

<sup>&</sup>lt;sup>41</sup> Coolproducts is a campaign to set ambitious minimum requirements for energy efficiency and other environmental aspects of products sold in the European Union <sup>42</sup> CSSE (2012) Evaluation of the Ecodesign Directive (2009/125/EC), Final Report,





Policy Name	European Commission Energy Label (original)								
Previously known as	None								
Policy Type	Mandatory categorical energy label								
Objectives	information on the consur information concerning consumers to choose mo	arly by means of labelling and omption of energy and other essentain types of household appliare energy efficient appliances."  the EU, was required to transpondance.	ential resources, and additional nces, thereby allowing						
Key Dates	Announcement:	F							
A 1 P/ = 1 = 2 P	1994	1995 Revised in 2004 (ongoing)							

#### **Additional Timelines**

In 1992 the EU introduced a framework directive for a harmonised Community-wide mandatory energy labelling scheme for domestic appliances (92/75.EEC). Domestic cold appliances were the first product to have labels, with an implementing directive (94/2/EC) being issued in 1994 and taking effect in 1995<sup>44</sup>. The UK law took effect in 1995<sup>45</sup>.

#### Other Key information

#### Context (market and cultural aspects that influenced the policy design and efficacy)

The labels were introduced over a period when manufacturers were required to phase out the use of CFC as refrigerants in the EU.46

Member States were responsible for ensuring that the introduction of the system of labels was accompanied by educational and promotional information campaigns aimed at encouraging more responsible use of energy by private consumers. The UK were reported as having provided a mass media information campaign, point of sale brochures and a retailer education programme. 47

There was also some support, in some regions, in the form of rebates for buying a more efficient than 'standard' model. This was from the Energy Efficiency Standards of Performance programme (the precursor to the Energy Efficiency Commitment Scheme, refer to the separate policy brief). 48

<sup>&</sup>lt;sup>48</sup> Boardman et al. (1997) DECADE: domestic equipment and carbon dioxide emissions, http://www.eci.ox.ac.uk/research/energy/downloads/decade-transforming.pdf



<sup>&</sup>lt;sup>43</sup> The Energy Information (Refrigerators and Freezers) Regulations 1994, The Energy Information (Refrigerators and Freezers) Regulations 1994

<sup>&</sup>lt;sup>4</sup> Lebot et al (2001) The European Appliance Labelling Programme, Paper presented at 2001 Regional Symposium on Energy Efficiency S&L, Thailand,

http://www.un.org/esa/sustdev/sdissues/energy/op/clasp\_lebot.pdf

www.legislation.hmso.gov.uk/si/si1994/Uksi\_19943076\_en\_1.htm

<sup>&</sup>lt;sup>46</sup> Boardman et al. (1997) DECADE: domestic equipment and carbon dioxide emissions,

http://www.eci.ox.ac.uk/research/energy/downloads/decade-transforming.pdf

Winward et al (1998) Cool labels: the first three years of the European Energy Label, http://www.eci.ox.ac.uk/research/energy/downloads/coollabels.pdf





Policy Name **European Commission Energy Label (original)** 

#### Scale/coverage of Policy

The Energy Label had to be displayed at the point of sale, whether that was in a shop or a catalogue. Each appliance is ranked from A - G according to its efficiency (consumption per unit volume) under standard, test conditions. Efficiency is calculated using an Energy Efficiency Index (EEI) which was derived as part of the label development process.

#### Implementing organisations (and their roles)

Originally Energy Labelling Committee (members from Member States and chaired by the European Commission) gave its opinion on draft of measures submitted by the European Commission to the Committee<sup>49</sup>. By 2002 the committee was known as a Regulatory Committee and was attended by observers such as EU trade associations and NGOs as well as Member States. However only member States could vote on measures.

The Department for the Environment was the policy lead within Government (and represented the UK on the Committee). Technical support on policy assessment and stakeholder consultation was provided by the Market Transformation Programme. Enforcement (both of label display and of the accuracy of the label) was provided by Local Authority Trading Standards Officers<sup>50</sup>.

Manufacturers are responsible for carrying out energy consumption tests (self certification) and supplying correct labels to retailers; retailers are responsible for ensuring that the label is on the machine correctly at the point of sale.51

#### **Quantitative Outcomes (Energy)**

Most overall evaluation has been based on commercially produced sales data as described by Waide<sup>52</sup>. Using the energy label categories has made it possible to track improvements in energy efficiency

As the introduction of MEPS followed shortly after the introduction of labelling, it has been difficult to separate out their effects.

A recent analysis (2007)<sup>53</sup> focused on the UK tried to separate out the effects of labels and MEPS using a technique that had been developed for an Australian analysis. It found that effect of labels and MEPS should mean savings of 3.5TWh per annum in 2010 of which around 2TWh per annum in is due to MEPS leaving 1.5TWh due to energy labels.

<sup>&</sup>lt;sup>53</sup> Lane et al (2007) Evaluating the impact of energy labelling and MEPS - a retrospective look at the case of refrigerators in the UK and Australia, Presented at 2007 eceee Summer Study, France, http://www.eceee.org/conference\_proceedings/eceee/2007/Panel\_4/4.292/paper



<sup>&</sup>lt;sup>49</sup> ANEC (2007) A review of the range of activity throughout Member States related to compliance with the EU Energy Label regulations in those countries, Final Report, http://www.anec.org/attachments/ANEC-R&T-2006-

ENV-008%20(final).pdf

50 Schlomann (2010) SELINA: WP5 - Policies for market transformation, http://www.selina-

project.eu/files/SELINA\_WP5\_D5.1\_final.pdf
<sup>51</sup> Lebot et al (2001) The European Appliance Labelling Programme, Paper presented at 2001 Regional Symposium on Energy Efficiency S&L, Thailand,

http://www.un.org/esa/sustdev/sdissues/energy/op/clasp\_lebot.pdf <sup>52</sup> Waide (2001) European evaluation experience, Paper presented at 2001 Regional Symposium on Energy Efficiency S&L, Thailand, http://www.un.org/esa/sustdev/sdissues/energy/op/clasp\_waide.pdf





**Policy Name** 

**European Commission Energy Label (original)** 

#### **Quantitative Outcomes (other)**

A report in the UK market published in 1997<sup>54</sup> found:

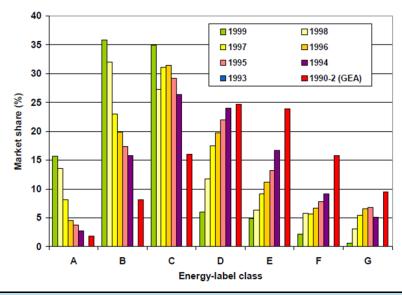
- An increase in sales of higher rated products over the two year period (eg from product labelled as a D
  to product labelled as a C) and an associated notable reduction in the average electricity consumption
  of new appliances
- A survey of 100 consumers in Oxfordshire who had recently bought a cold appliance found that 35% had noticed and acted positively upon information contained in the Energy Label.

An EU wide report in 1998<sup>55</sup> found that:

- Two surveys of dealer compliance have been undertaken in different parts of the UK one had found 57% of shops and 86% of appliances complied, the other that 81% of appliances complied.
- In a specific survey of all Member States for the project the UK had the second highest level of compliance at 83%.

A further EU wide analysis<sup>56</sup> found that the labels (and the prospect of a MEPS) had:

- Improved the EU sales weighted average EEI from 93.9 in 1995 to 79.3 in 1999 (an improvement of approximately 16% in efficiency)
- Changed the distribution of sales as shown in the figure below:



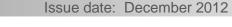
#### **Qualitative Outcomes**

The EU wide report<sup>57</sup> found that manufacturers are supportive of the Energy Label as a policy tool and as a source of consumer information. They admitted that their attitudes have become more positive over time.

http://www.eci.ox.ac.uk/research/energy/downloads/coollabels.pdf

56 European Commission/ DG TREN (2000): COLD II, The revision of energy labelling and minimum energy efficiency standards for domestic refrigeration appliances, http://www.ceecap.org/img\_assets/File/Cold%20II.pdf

57 Winward et al (1998) Cool labels: the first three years of the European Energy Label, http://www.eci.ox.ac.uk/research/energy/downloads/coollabels.pdf





<sup>&</sup>lt;sup>54</sup> Boardman et al. (1997) DECADE: domestic equipment and carbon dioxide emissions, http://www.eci.ox.ac.uk/research/energy/downloads/decade-transforming.pdf

http://www.eci.ox.ac.uk/research/energy/downloads/decade-transforming.pdf

55 Winward et al (1998) Cool labels: the first three years of the European Energy Label, http://www.eci.ox.ac.uk/research/energy/downloads/coollabels.pdf





Policy Name	European Commiss	European Commission Energy Label (revised)								
Previously known as	None	one								
Policy Type	Mandatory categorical label									
Objectives	information on the consur- information concerning co- consumers to choose mo The UK, as a member of national legislation. Unde Regulation 1060/2010 <sup>58</sup> )	rly by means of labelling and of mption of energy and other essentain types of household appliance energy efficient appliances."  the EU, was required to transport the new framework directive rewhich enter force in 2010, regulations and the second into Member State law	ential resources, and additional ential resources, and additional enters, thereby allowing esse an EU directive into egulations (Delegated eations are made directly and							
Key Dates	Announcement: 2003	Implementation: 2004	Termination: Ongoing							

#### **Additional Timelines**

The implementing directive for the labelling on cold appliances was revised in 2003 (2010/30/EC). Two efficiency categories were added at the top of the scale: A+ and A++<sup>59</sup>.

The EU Framework Directive 92/75/EEC on energy labelling of household appliances, was revised in 2010 (2010/30/EC). The new Directive extends the scope to energy-related products and to products in the commercial and industrial sectors. It also extended the scope from energy-using to energy-related products (including construction products) meaning that the Directive covers any goods having an impact on energy consumption during use. These products do not consume energy but "have a significant direct or indirect impact" on energy savings. Examples are window glazing and outer doors.

Changes to the layout of the label allowed for an extra category (A+++), although only seven categories are shown on any one label (eg from D to A+++). New labels for cold appliances (Delegated Regulation 1060/2010<sup>60</sup>) entered into force in 2010<sup>61</sup>. Under the new framework directive, regulations are made directly for the whole of the EU and are not required to be transposed into Member State law.

#### Other Key information

Context (market and cultural aspects that influenced the policy design and efficacy)

No information provided.

<sup>61</sup> From http://www.eceee.org/Eco\_design/Energy\_labelling\_directive/



<sup>&</sup>lt;sup>58</sup> http://env-ngo.eup-network.de/fileadmin/user\_upload/Produktgruppen/Lots/IM/Adopted\_IM/Refrig/1060-2010. Energy, label, refrigeration.pdf

<sup>2010</sup>\_Energy\_label\_refrigeration.pdf

59 ISIS (2007) Lot 13: Domestic Refrigerators & Freezers, Final Report, Draft Version, Tasks 1-2, http://www.ebng.bam.de/de/ebng.medien/013\_studyf\_08-12\_part1-2.pdf

http://www.ebpg.bam.de/de/ebpg\_medien/013\_studyf\_08-12\_part1-2.pdf 60 http://env-ngo.eup-network.de/fileadmin/user\_upload/Produktgruppen/Lots/IM/Adopted\_IM/Refrig/1060-2010\_Energy\_label\_refrigeration.pdf





Policy Name European Commission Energy Label (revised)

#### Scale/coverage of Policy

The Energy Label has to be displayed at the point of sale, whether that is in a shop or a catalogue <sup>62</sup>. Each appliance is ranked from A+++ to C according to its efficiency (consumption per unit volume) under standard, test conditions. Efficiency is calculated using an Energy Efficiency Index (EEI) which was derived as part of the label development process.

#### Implementing organisations (and their roles)

The Department for the Environment (now the Department of Environment Food and Rural Affairs) is the policy lead within Government and represents the UK in discussion with the EU.

Technical support on policy assessment and stakeholder consultation is provided by the Market Transformation Programme. Enforcement (both of label display and of the accuracy of the label) was originally provided by Local Authority Trading Standards Officers<sup>63</sup>. Now this is undertaken by the National Measurement Office<sup>64</sup>

Manufacturers are responsible for carrying out energy consumption tests (self certification) and supplying correct labels to retailers; retailers are responsible for ensuring that the label is on the machine correctly at the point of sale. <sup>65</sup>

#### **Quantitative Outcomes (Energy)**

No information provided.

The National Measurement Office (NMO) is an Executive Agency of the Department for Business, Innovation and Skills. It supplies 'legal metrology services to the UK Government. See http://www.bis.gov.uk/nmo/
 CSSE (2012) Evaluation of the Ecodesign Directive (2009/125/EC), Final Report, http://ec.europa.eu/enterprise/dg/files/evaluation/cses\_ecodesign\_finalreport\_en.pdf



Rules for online labelling are currently under discussion. See
 http://www.eceee.org/Eco\_design/Energy\_labelling\_directive
 Schlomann (2010) SELINA: WP5 - Policies for market transformation, http://www.selina-

Schlomann (2010) SELINA: WP5 - Policies for market transformation, http://www.selina-project.eu/files/SELINA\_WP5\_D5.1\_final.pdf
 The National Measurement Office (NMO) is an Executive Agency of the Department for Business, Innovation

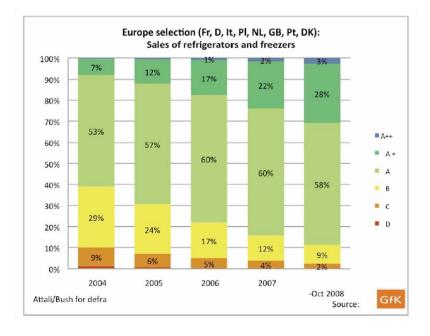


#### **European Commission Energy Label (revised)** Policy Name

#### **Quantitative Outcomes (other)**

In May 2012 TopTen<sup>66</sup> published a note<sup>67</sup> on cold appliances which included the following data:

- The distribution of sales by energy efficiency class for several countries in the EU had changed significantly between 2004-2008 (see figure 2 below)
- In May 2012 there were already 62 A+++ refrigerator (40) and freezer models (22) on the European market, from 9 different manufacturers
- The number of A++ cold appliance models available in different European countries differs vastly. In May 2009 there were 100 different models in Germany but only 10 or so in the UK.



<sup>&</sup>lt;sup>66</sup> See <a href="http://www.topten.eu/">http://www.topten.eu/</a>.

<sup>67</sup> TOPTEN.EU (2012) Cold appliances: recommendations for policy design, http://www.topten.eu/uploads/File/Recommendations\_Cold\_May%202012.pdf







Policy Name

**European Commission Energy Label (revised)** 

#### **Qualitative Outcomes**

A survey of UK retailers in 2006<sup>68</sup> found that cold appliances had the best compliance of all product groups in terms of displaying correct labels at 81-89%.

In 2009 a survey for the EC<sup>69</sup> looked at consumer attitudes to the energy label in seven countries including the UK. They found that:

"The mandatory EU energy label has been a success, in spite of some problems and shortcomings. It has managed to constitute a legitimate platform for technical innovation in the household appliance industry and the label is used in the market communication between producers and sellers on the one hand and consumers and households on the other. Furthermore, there is a common agreement among all stakeholders that it has been a success, but that the label needs a revision, in order to continue the success story.

Energy labels help consumers to make rational shopping decisions; they are a crucial factor in the routinised everyday life consumption; and they have relevance for the symbolic aspects of consumption. In the long run you both save money and contribute to save the world. This is probably one of the reasons behind the success".

A report on compliance activity in all EU member States in 2009<sup>70</sup> found that in the UK

"the UK Market Transformation Programme has carried out a number of spot checks over the last seven years on products selected at random and tested in independent labs. The number of products tested each year varies from year to year between 20 and 100. All product groups are tested. Typically, only 10% are classified correctly when no tolerance is applied. However, tolerances are too large, so that 80% of products are classified correctly if the 15 % tolerance limit is applied. As a result, the "permitted" tolerances are often used by default. The application of generous tolerance ranges results in most products being classified one grade higher on the label."

A recent EC funded ATLETE<sup>71</sup> undertook compliance testing of cold products (80 randomly selected appliances from 40 manufacturers) using several different test labs. The products were tested against 5 five technical parameters including Energy consumption and Storage volume (used to calculate the Energy Efficiency Index). The final test results show that 80% of appliances subjected to testing and for which testing had been concluded complied with the energy efficiency class declaration. But when all five parameters are taken into consideration 57% of them do not comply with at least one of the tested parameters.

http://www.atlete.eu/doc/Publishable%20Result%20Oriented%20Report.pdf



<sup>&</sup>lt;sup>68</sup> MTP (2006) Survey of Retailer Compliance with Energy Labelling Requirements 2006: Summary,

http://efficient-products.defra.gov.uk/spm/download/document/id/968 
<sup>69</sup> Berg et al (2009) BARENERGY WP 5: Consumers and the EU Energy Label, Report from a European

media/docs/e/de/aktuelles/Energy-Labelling\_Final-Report.pdf
<sup>71</sup> Faberi (2011) ATLETE: appliance testing for energy label evaluation, Publishable result-oriented report,



United Kingdom

Policy Name	Energy Saving Trust Recommended		
Previously known as	Energy Saving Recommended (up to March 2010) <sup>72</sup>		
Policy Type	Voluntary Endorsement label		
Objectives	Help reduce CO2 emissions from the household sector, and thereby help tackle the damaging effects of climate change. The Energy Saving Trust seeks to achieve this through the setting of robust product performance standards to help transform the market for energy saving products, and by using the Energy Saving Trust Recommended certification mark to signpost consumers to the best performing energy saving products available on the market. In addition, the scheme also aims to increase volume sales of Energy Saving Trust Recommended certified products, compared with non-certified products <sup>73</sup>		
Key Dates	Announcement: 2000	Implementation: 2000	Termination: Ongoing
Additional Timelines			

## Additional Time<u>lines</u>

There have been several revisions to the standards for domestic cold products - the aim is to review the standards annually<sup>74</sup>. As at April 2012 the requirement for cold appliances was EU Energy Label A+ rating.

The scheme rules were last updated in April 2012<sup>75</sup>

# Other Key information

#### Context (market and cultural aspects that influenced the policy design and efficacy)

The Energy Saving Recommended Scheme was established at the request of the UK Department for the Environment and launched in July 2000 and was originally Government funded. 76

http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf



<sup>72</sup> Schlomann (2010) SELINA: WP5 - Policies for market transformation, http://www.selinaproject.eu/files/SELINA\_WP5\_D5.1\_final.pdf
<sup>73</sup> EST (2011) ESTR Certification scheme rules,

http://www.energysavingtrust.org.uk/Publications2/Business/Energy-Saving-Trust-Recommendedinformation/Energy-Saving-Trust-Recommended-Scheme-rules <sup>74</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,

http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf <sup>75</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,

http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf <sup>76</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,







#### Scale/coverage of Policy

The Energy Saving Trust Recommended label is a Certification Mark registered with the UK Intellectual Property Office.

For a product to achieve certification under the Energy Saving Trust Recommended scheme it must first be demonstrated that it conforms to the relevant product performance requirements (by testing report).

In addition to meeting the relevant product performance requirements, applicants and members of the scheme must also demonstrate that they meet a series of 'company requirements' (e.g. covering quality management systems).

Manufacturers, suppliers and retailers of qualifying energy saving products are eligible to join the scheme; they pay a fee per company and a fee per product<sup>77</sup>.

### Implementing organisations (and their roles)

The Energy Saving Trust<sup>78</sup>. Operates the scheme directly. They maintain an online register of Energy Saving Trust Recommended certified products that are licensed to use the certification mark. Members are self-certifying.<sup>79</sup>

In the past criteria were set with the support of the Market Transformation Programme<sup>80</sup> and white goods sector working group of the Energy Efficiency Partnership for Homes<sup>81</sup>. Independent peer review was provided by the Endorsement Panel (a body of independent experts from a variety of fields including regulatory, policy, consumer support, certification and environment). The Panel met on a quarterly basis to advise the Energy Saving Trust on the management of the Scheme and in particular considered and issued recommendations on the endorsement criteria proposals presented to them and on the general management of the Scheme<sup>82</sup>.

## **Quantitative Outcomes (Energy)**

Consumer awareness of Energy Saving Recommended amongst the general public between in monthly surveys August 2005 and January 2006 as between 16 and 21%. In a customer evaluation survey over 2004 and 2005 of nearly 5,000 consumers, about half of whom had had contact with EST in some way and other, half were members of the general public, half of whom had bought a kitchen appliance in the last 12 months. Awareness was much higher in this sample – between 46 and 77%.

Of all the consumers surveyed 58 had bought an Energy Saving Recommended labelled appliance. Based on the survey data and other assumptions the Energy Saving Trust estimated that the lifetime<sup>83</sup> Carbon savings from the Energy Saving Recommended Label's Impact on Appliance Sales in 2004-5 was 230,746 tonnes<sup>84</sup>.

 $http://www.clasponline.org/\sim/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf$ 



<sup>&</sup>lt;sup>77</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,

http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf <sup>78</sup> A social enterprise with charitable status see http://www.energysavingtrust.org.uk/About-us

<sup>&</sup>lt;sup>79</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,

http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf 
80 See http://efficient-products.defra.gov.uk/

<sup>81</sup> The Partnership was dissolved at the end of March 2012

<sup>82</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,

<sup>&</sup>lt;sup>84</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme,



United Kingdom

## **Quantitative Outcomes (other)**

The Energy Saving Trust undertakes compliance testing on Energy Saving Recommended products in order to ensure that they meet the criteria to which they are certified. This testing occurs on two levels. Firstly, a contracted test house assesses compliance with the product performance criteria and secondly, products are assessed for correct usage of the Energy Saving Recommended label.

The Scheme has an objective to compliance test 5% of certified products every year. By 2006, testing of 19 Energy Saving Recommended white goods resulted in 3 failures. Out of five cold appliances, four passed; the appliance that failed was de-registered.<sup>85</sup>

#### **Qualitative Outcomes**

No information provided

<sup>&</sup>lt;sup>85</sup> Lock (2006) ESR: Key principles for a successful product labelling scheme, http://www.clasponline.org/~/media/Files/SLDocuments/2006-2011/2006-07\_EnergySavingRecommended.pdf







Policy Name	Code for Sustainable Homes			
Previously known as	None (although derived from EcoHomes)			
Policy Type	Building code for new homes			
Objectives	The Code is the national standard for the sustainable design and construction of new homes. The Code aims to reduce our carbon emissions and create homes that are more sustainable. <sup>86</sup>			
Key Dates	Announcement: Implementation: Termination:			
	2006 2007 Ongoing			

#### **Additional Timelines**

The technical guide to the code 87 was last issued in November 2010

## Other Key information

### Context (market and cultural aspects that influenced the policy design and efficacy)

The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code uses a 1 to 6 star rating system to communicate the overall sustainability performance of a new home<sup>88</sup>.

The Code for Sustainable Homes was launched as part of a package of measures towards zero carbon development. It aims to form the basis for future developments of the Building Regulations in relation to carbon emissions from and, energy use in, homes, therefore offering greater regulatory certainty to developers. The Code complements the system of Energy Performance Certificates which was introduced in June 2007 under the EU Energy Performance of Buildings Directive (EPBD) <sup>89</sup>.

The Code is voluntary, but is required for Homes and Communities Agency funding for the National Affordable Housing Programme, and on other government projects. It's also used by local authorities to set sustainability related planning conditions on housing developments. Over two-thirds of local authorities are in the process of, or considering, introducing a minimum requirement for private sector housing developments to meet Code level 3. 90.

# Scale/coverage of Policy

The Code for Sustainable Homes covers nine categories of sustainable design of which Energy and CO2 Emissions is one. This category takes into account the dwelling emissions rate which is the estimated CO2 emissions per m2 per year (kgCO<sub>2</sub>/m²/year) for the dwelling as designed. It accounts for energy used in heating, fixed cooling, hot water and lighting.<sup>91</sup>

<sup>91</sup> http://www.planningportal.gov.uk/buildingregulations/greenerbuildings/sustainablehomes



 $<sup>^{86}\</sup> http://www.planningportal.gov.uk/buildingregulations/greenerbuildings/sustainable homes$ 

Botal Government (2010) Code for sustainable homes: technical guide,
 November 2010, http://www.planningportal.gov.uk/uploads/code\_for\_sustainable\_homes\_techguide.pdf
 Department for Communities and Local Government (2010) Code for sustainable homes: technical guide,





**Code for Sustainable Homes** Policy Name

### Implementing organisations (and their roles)

The implementation of the Code is managed by the Building Research Establishment (BRE) Global under contract to the UK Department of Communities and Local Government. BRE Global issues licences to both assessors and other Code service providers.

### **Quantitative Outcomes (Energy)**

No information provided

## **Quantitative Outcomes (other)**

In England, Wales and Northern Ireland<sup>92</sup>:

- Between April 2007 and the end of December 2011, 77,130 dwellings have received a three star rating at the design stage and 331 dwellings have received a six star rating.
- Between April 2007 and the end of December 2011, 45,555 dwellings have received a three star rating at post-construction stage and 128 dwellings have received a six star rating.

A total of 78 per cent of the certificates at design stage and 87 per cent of those at post-construction stage have been awarded at Code level 3 since April 2007.

#### **Qualitative Outcomes**

No information provided

<sup>92 (2012)</sup> Code for Sustainable Homes and Energy Performance of Buildings: Cumulative and Quarterly Data up to end of December 2011, http://www.communities.gov.uk/documents/statistics/pdf/2092922.pdf





**United Kingdom** 

Policy Name	Energy Efficiency Commitment (EEC)		
Previously	Energy Efficient Standards of Performance (EESOP)		
known as	Note there was a previous differences	s version of scheme (1994-2002	2), although with significant
Policy Type	Energy Supplier Energy Efficiency Obligation (also known as a 'white certificate' scheme)		
Objectives	To help electricity and gas consumers in the household sector to use less energy, specifically:		
	<ul> <li>EEC1 required electricity and gas suppliers to achieve an energy savings target<sup>93</sup> of 62 TWh in domestic households in Great Britain between 1 April 2002 and 31 March 2005. At least 50% of the target had to be met in relation to a Priority Group of consumers, defined as those in receipt of certain income-related benefits and tax credits.<sup>94</sup></li> <li>EEC2 required electricity and gas suppliers<sup>95</sup> to achieve an energy savings target of 130 TWh in domestic households in Great Britain, between 1 April 2005 and 31 March 2008. At least 50 per cent of the target had to be met in relation to Priority Group consumers, defined as those in receipt of certain income-related benefits and tax credits.<sup>96</sup></li> </ul>		
Key Dates	Announcement:	Implementation:	Termination:
	2001	2002	2008 (replaced by CERT, see separate policy brief)

### **Additional Timelines**

The scheme had two implementation periods, each of three years:

- EEC1 2002-2005
- EEC2 2005-2008

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/Annual%20Report%202008%20Fina I.pdf



<sup>&</sup>lt;sup>93</sup> NB these savings were from a wide range of measures of which energy efficient cold appliances were only one. See **Error! Bookmark not defined.**<sup>94</sup> EEC 2002-2005 review Aug 2005,

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/11254-18105.pdf customer bases over 50.000

<sup>&</sup>lt;sup>96</sup> OFGEM (2008) A review of the EEC 2005-2008,





Other Key information

#### Context (market and cultural aspects that influenced the policy design and efficacy)

The *Utilities Act 2000* introduced new liberalised market and regulatory structures for the energy supply industry. The Act also made Government responsible for setting the level and form of future energy efficiency performance standards.<sup>97</sup>

The key position of energy efficiency in UK Government's energy and climate change policy was set out in the 2003 Energy White Paper<sup>98</sup>

A further part of the policy relevant to the EEC is the EU Directive on Energy End Use Efficiency and Energy Services which seeks to provide indicative targets, mechanisms, incentives and frameworks to remove existing market barriers that impede the efficient use of energy, as well as create the conditions for the development of a market for energy services to final consumers across all sectors. Member States had two years to implement the provisions of the Directive from its entry into force on 17 May 2006. The Directive covers the domestic, industrial and public sectors and Article 6 requires Member States to place obligations on energy distributors, distribution system operators and energy retail companies in one or more of the following areas:

- provide energy services
- provide energy audits or energy efficiency measures
- contribute to funds designed to achieve energy efficiency measures.

The primary objective of the EEC was to contribute to the reduction of carbon emissions in the household sector. While EEC does not have a specific fuel poverty objective, consideration is given to the share of energy savings that could be directed to the priority group. <sup>99</sup>

Energy tariffs of the obligated parties are not regulated due to a liberalised market existing in the United Kingdom. The cost of the scheme are passed on to customers.<sup>100</sup>

A secondary objective, or at least a desirable likely outcome of the regulation, is to increase the amount of energy efficient technologies in circulation (e.g. low energy light bulbs), and to enhance the industry that can deliver energy efficiency (e.g. house insulation). Such strengthening of the energy efficiency sector should lead to the long-run reduction in the cost of such technologies, through scale and learning effects, and to more installations of energy efficient technologies in non-priority group households.<sup>101</sup>

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/11254-18105.pdf



<sup>97 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF

<sup>98</sup> Our energy future – creating a low carbon economy. Cm 5761. February 2003

<sup>&</sup>lt;sup>99</sup> Defra (2006) The Energy Efficiency Commitment April 2008 to March 2011, Initial Consultation, http://www.bipsolutions.com/docstore/pdf/14038.pdf

http://www.bipsolutions.com/docstore/pdf/14038.pdf 
<sup>100</sup> Togeby et al (2007) Design of White Certificates: comparing UK, Italy, France and Denmark, http://www.ea-energianalyse.dk/reports/710\_White\_certificates\_report\_19\_Nov\_07.pdf 
<sup>101</sup> EEC 2002-2005 review Aug 2005,



**United Kingdom** 

Policy Name Energy Efficiency Commitment (EEC)

#### Scale/coverage of Policy

The system was designed with the intention of keeping the administrative and transmission costs of fulfilling the energy saving obligation to a minimum. The EEC provided obliged parties (the energy suppliers) a large amount of freedom in fulfilling their obligation. The only restrictions were that they must occur in households and half must be achieved in low income households. There were no restrictions on whom the obligated parties may cooperate with and on the type of measures implemented. This, along with free competition amongst obligated parties on the same market, the opportunity to pass on costs to consumers and the freedom for consumers to change supplier at short notice, provided the framework for encouraging cost effective solutions to energy efficiency.

Several types of trading was allowed in EEC but the only one was widely used: temporal trading which means where a target during one EEC phase is exceeded, the savings can be carried over and used for compliance during the subsequent target period. 102

EEC is a mandatory obligation subject to penalty in case of non-compliance (up to 10% of supplier's turnover). Complying with EEC commitment is a requirement of the Supply Licence. This means that if the requirement were not met, government had the ultimate sanction to revoke the Supply License. 103

#### Implementing organisations (and their roles)

The Department for Environment, Food, and Rural Affairs (Defra) set the overall target for each EEC period based on an illustrative mix of energy saving activities in British homes. The illustrative mix is developed using assumptions made by Defra on how the EEC target can be met at a cost to energy retailers that is acceptable for government. The illustrative mix for EEC2 included 880,000 energy efficient cold appliances.

Ofgem<sup>104</sup> administered the programme determining the energy saving target for each supplier before approval of proposed energy savings schemes carried out by obligated parties, monitoring implemented measures and monitoring compliance. (The obligation on suppliers and Ofgem to administer the scheme were set under the Energy Efficiency Obligations Order 2001<sup>105</sup>.)

No monitoring was required for the purchase of appliances 106

Suppliers encourage and assist household consumers to make energy savings - through the promotion of measures such as cavity wall and loft insulation, and energy efficient light bulbs, boilers and appliances. <sup>107</sup>

<sup>107 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF



<sup>&</sup>lt;sup>102</sup> (2006) Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF

<sup>103 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF

The UK electricity and gas market regulator - see

http://www.ofgem.gov.uk/About%20us/Pages/AboutUsPage.aspx

<sup>105 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF

<sup>106 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF





**Energy Efficiency Commitment (EEC)** Policy Name

### **Quantitative Outcomes (Energy)**

In EEC1 cold appliances were attributed an energy saving of 7,381.189 GWh, about 8% of the total. These figures account for lifetime savings of measures (discounted) not the savings which over the period of each obligation. The lifetime for cold appliances was taken to be 10 years. For A-rated cold goods in EEC1 an 'uplift factor' of 1.6 was applied to savings. Energy savings for cold appliances were taken to be 0.47MWh/unit/year.

Overall suppliers exceeded their EEC1 target and many chose to carry over the excess towards their EEC2 targets. For cold appliances all the savings from A rated appliances were attributed to EEC1; those from A+ appliances were carried over to EEC2. 108

The EEC2 review 109 gives data for cold and wet (refrigerated and laundry) appliances together only; they were attributed 3126GWh (excluding the carry over from EEC1). Again the suppliers exceeded their overall target (and were allowed to carry this over towards the subsequent scheme - CERT).

#### **Quantitative Outcomes (other)**

During EEC1 2,956,084 cold appliances were installed. This accounted for over one quarter of the total sales of cold appliances in Great Britain over the three years, equating to 60% of the total sales of A rated fridges and freezers during this period 111.

During EEC2 8,341,361 cold and wet appliances were installed.

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/11254-18105.pdf



<sup>&</sup>lt;sup>108</sup> EEC 2002-2005 review Aug 2005,

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/11254-18105.pdf OFGEM (2008) A review of the EEC 2005-2008,

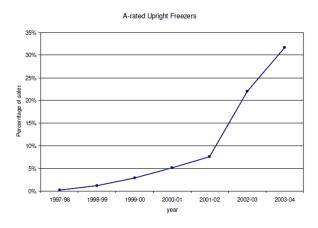
http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/Annual%20Report%202008%20Fina l.pdf 110 EEC 2002-2005 review Aug 2005,

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/11254-18105.pdf EEC 2002-2005 review Aug 2005,

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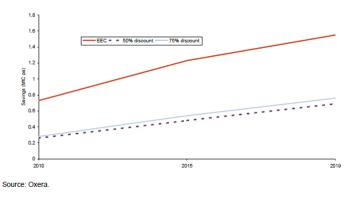
#### **Qualitative Outcomes**

A review of the policy<sup>112</sup> found that it had transformed the cold appliance market; from 1997 to 2001, the market share of A-rated upright freezers grew steadily at a rate of approximately 2% annually. With the onset of EEC in 2002, the rate changed substantially as shown below.



A 2006 report on energy and energy efficiency in the EU<sup>113</sup> also attributed the strong growth in A rated cold appliances in the UK over 2002 to 2005 to EEC.

A study by Oxera for Defra on Policies for energy efficiency in the UK household sector<sup>114</sup> found that the obligation on energy suppliers to persuade households to adopt energy efficiency measures is much more effective than the subsidy levels they offer would suggest alone (see Figure 3 below). They thought that the suppliers' success could probably be attributed to the level of access to, and skill with which they reach, customers, inform them, and trigger a decision to invest in energy efficiency. They found that empirical evidence suggested that the suppliers' role is crucial, and that the key value of the EEC's design is, in fact, its involvement of suppliers.



treasury.gov.uk/d/pbr05\_energy\_675.pdf

113 P14 of Bertoldi and Atanasiu (2006) Electricity consumption and efficiency trends in the enlarged EU, http://qualenergia.it/UserFiles/Files/Electricity%20Consumption%20in%20UE.pdf



<sup>&</sup>lt;sup>112</sup> (2005) Energy efficiency innovation review: summary report, http://www.hm-treasurv.gov.uk/d/pbr05\_energy\_675.pdf





Policy Name	Carbon Emissions Reduction Target (CERT)		
Previously known as	Energy Efficiency Commitment (previous scheme, refer to the associated policy brief)		
Policy Type	Energy Supplier Energy Efficiency Obligation (also known as a 'white certificate' scheme)		
Objectives	The primary aim of CERT is to reduce household carbon emissions by overcoming barriers to uptake of cost-effective energy efficiency measures such as insulation, heating and lighting, across all households (with 40% of savings achieved in 'Priority Group'115 households, 16.2 Mt CO2 must be met in the Super Priority Group <sup>116</sup> , and 73.4 Mt CO2 in Insulation).  The overall carbon emissions target (after extension) is 293 Mt CO2 <sup>117</sup>		
Key Dates	Announcement: 2008	Implementation: 2008	Termination: 2012

### **Additional Timelines**

While the legislation for the scheme was adopted in 2008<sup>118</sup> it was a revision of an existing scheme (EEC) and formal consultation on its form started in 2006<sup>119</sup>. The legislation was amended in 2009, 2010 and 2011. The scheme was originally due to run to April 2011 but has been extended to December 2012 with the target also extended 120.

See http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Pages/EnergyEff.aspx



<sup>&</sup>lt;sup>114</sup> Oxera (2006) Policies for energy efficiency in the UK household sector: report prepared for Defra, http://www.decc.gov.uk/assets/decc/what%20we%20do/supporting%20consumers/saving\_energy/analysis/oxera -report.pdf

115 Priority Group households are those on certain benefits and/or over 70 years old

Super Priority Group households those on certain qualifying benefits, for example low income households in receipt of child tax credits

117 DECC (2011) Research report - evaluation synthesis of energy supplier obligation policies,

http://www.decc.gov.uk/assets/decc/11/funding-support/3340-evaluation-synthesis-of-energy-supplierobligation.pdf

118 The Electricity and Gas (Carbon Emissions Reduction) Order 2008,

http://www.legislation.gov.uk/uksi/2008/188/contents/made

DEFRA (2006) The Energy Efficiency Commitment April 2008 to March 2011, Initial Consultation, http://www.bipsolutions.com/docstore/pdf/14038.pdf



United Kingdom

**Carbon Emissions Reduction Target (CERT)** Policy Name

Other Key information

### Context (market and cultural aspects that influenced the policy design and efficacy)

The UK Government's approach to avoiding dangerous climate change is underpinned by the Climate Change Act 2008, which requires a reduction of green house gas emissions of at least 34% below 1990 levels by 2020, and 80% by 2050. Since households account for 27% of all energy consumed in the UK (for example through electricity and gas consumption), the household sector is an extremely important route to delivering emission reductions. Energy efficiency improvements to homes offer significant opportunity to achieve this. CERT is the main legislative driver for improving the energy efficiency of existing households in Great Britain 121.

Energy tariffs of the obligated parties (the energy suppliers) are not regulated due to a liberalised market existing in the United Kingdom. The cost of the scheme are passed onto to customers. 122

#### Scale/coverage of Policy

CERT applies to the 6 main energy suppliers with over 50,000 domestic customers. Refrigerators, upright freezers and fridge freezers rated A+ and A++ and A rated chest freezers (up to March 2011) could be supported by:

- Incentive schemes (where the supplier incentivises more efficient appliances to a consumer who is already intending to purchase an appliance);
- Trade-in schemes (where consumers replace appliances with a more efficient equivalent); or
- Fridge saver schemes (similar to the trade-in scheme but limited to the Priority Group). 123

Both the trade-in and fridge saver schemes require existing appliances to be destroyed in a specified manner.

### Implementing organisations (and their roles)

The Department of Energy and Climate Change (DECC) sets the overall target for CERT. Ofgem 124 administer the programme determining the energy saving target for each supplier, prior approval of proposed energy savings schemes carried out by obligated parties, monitoring implemented measures and monitoring compliance.

### **Quantitative Outcomes (Energy)**

The most recent detailed report on progress in August 2011<sup>125</sup> gave the achieved reduction in carbon emissions for cold and wet (refrigerated and laundry) appliances <sup>126</sup> as 1,638,600 tonnes CO<sub>2</sub>



<sup>121 (2006)</sup> Evaluation of the British EEC, http://www.aid-ee.org/documents/004EEC-UnitedKingdom.PDF

Togeby et al (2007) Design of White Certificates: comparing UK, Italy, France and Denmark, http://www.eaenergianalyse.dk/reports/710\_White\_certificates\_report\_19\_Nov\_07.pdf (2011) A review of the third year of the Carbon Emissions Reduction Target (CERT),

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/CERT%202011%20annual%20repor t\_V1.pdf

124 The UK electricity and gas market regulator - see

http://www.ofgem.gov.uk/About%20us/Pages/AboutUsPage.aspx

<sup>(2011)</sup> A review of the third year of the Carbon Emissions Reduction Target (CERT),

http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/CERT%202011%20annual%20repor t\_V1.pdf
126 Separate data was not given



**United Kingdom** 

**Carbon Emissions Reduction Target (CERT)** Policy Name

# **Quantitative Outcomes (other)**

The August 2011 progress report 127 gives the number of refrigerated and laundry appliances installed as 2,862,104.

#### **Qualitative Outcomes**

No information provided (on cold appliances specifically)

<sup>&</sup>lt;sup>127</sup> (2011) A review of the third year of the Carbon Emissions Reduction Target (CERT), http://www.ofgem.gov.uk/Sustainability/Environment/EnergyEff/Documents1/CERT%202011%20annual%20repor t\_V1.pdf





United Kingdom

Policy Name	CECED Voluntary Industry Commitment <sup>128</sup>		
Previously known as	None		
Policy Type	Trade association voluntary commitment		
Objectives	<ul> <li>Reduce the total energy consumption of household refrigerating appliances, thus reducing CO2 emissions caused by power generation;</li> <li>Increase the penetration of appliances with high energy efficiency in the EU market;</li> <li>Drive the market towards the target of Least Life Cycle Cost (LLCC);</li> <li>Actively promote consumer awareness to save energy when using a household refrigerating appliances.</li> <li>The commitment was expected to result in energy savings across the EU of about 4.5 TWh in year 2006 and 11.6 TWh in year 2010. 129</li> </ul>		
Key Dates	Announcement: 2002	Implementation: 2003	Termination: 2007 <sup>130</sup>

<sup>128</sup> CECED Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010), Statement of commitment dated Oct 2002,

http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow

<sup>21%2520</sup>Industry%2520calls%2520for%2520legislative%2520measures%2520on%2520energy%2520efficiency %2520of%2520appliances&ei=zzcFUMf8CeyY0QWd2YT8Bw&usg=AFQjCNF0vzc



<sup>/</sup>UICCOLD2002.pdf

129 SCECED Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010), Statement of commitment dated Oct 2002,

http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow

<sup>/</sup>UICCOLD2002.pdf

130 CECED (2007) Top executives discontinue voluntary energy efficiency agreements for large appliances, http://www.google.co.uk/url?sa=t&rct=j&g=&esrc=s&frm=1&source=web&cd=1&ved=0CFQQFjAA&url=http%3A %2F%2Fwww.ceced.be%2FIFEDE%2F%2Feasnet.dll%2FGetDoc%3FAPPL%3D1%26DAT\_IM%3D2068F6%26 DWNLD%3D2007-03-





Policy Name

**CECED Voluntary Industry Commitment** 128

#### **Additional Timelines**

In the original commitment participants agreed to:

- Withdrawal of products (stop producing for and importing in the EU electric compressor based household refrigerating appliances having an Energy Efficiency Index 75 by the date of implementation of the revised energy labelling Directive in EU member States, tentatively by 31st March 2004.
- Fleet target of reducing its own production weighted average Energy Efficiency Index to a value of 52 (equivalent to Lifetime Lowest Cost Curve at the time) for production and importation into the EU market by the year 2006<sup>131</sup>.

In response to the revision of the Energy labelling directive being slightly different to that expected (delayed implementation date and different factors for chest freezers) CECED amended the commitment in February 2004<sup>132</sup> as follows:

- withdrawal of products date postponed to 31 Dec 2004 and chest freezer threshold changed to energy label energy label class D (from class C)
- fleet target changed to 55 unless EU and National Authorities fail to develop in this time frame effective market transformation tools, in which case it changes to 57.

#### Other Key information

# Context (market and cultural aspects that influenced the policy design and efficacy)

This followed a similar commitment by CECED members to increase the energy efficiency of washing machines (which was agreed in 1998 and met in 1999)<sup>133</sup>, as well as EU energy labelling and EU MEPS (see separate entries on these two policies).

European manufacturers feel that the EU and national governments aren't doing enough on market surveillance of existing legislation and that some manufacturers and importers are taking advantage of this to sell non-compliant products. In these circumstances they withdrew their commitments to voluntary agreements in 2007. 134

<sup>21%2520</sup>Industry%2520calls%2520for%2520legislative%2520measures%2520on%2520energy%2520efficiency %2520of%2520appliances&ei=zzcFUMf8CeyY0QWd2YT8Bw&usg=AFQjCNF0vzc



<sup>&</sup>lt;sup>131</sup> CECED Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010), Statement of commitment dated Oct 2002,

http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow /UICCOLD2002.pdf

<sup>&</sup>lt;sup>2</sup> CECED (2004) Update of cold appliances Unilateral Commitment target values according to the new Labelling Directive formulas, http://www.ceced.org/IFEDE/easnet.dll/GetDoc?APPL=1&DAT\_IM=20DA3F

CECED Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010), Statement of commitment dated Oct 2002,

http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow

<sup>/</sup>UICCOLD2002.pdf

134 CECED (2007) Top executives discontinue voluntary energy efficiency agreements for large appliances, http://www.google.co.uk/url?sa=t&rct=j&g=&esrc=s&frm=1&source=web&cd=1&ved=0CFQQFjAA&url=http%3A %2F%2Fwww.ceced.be%2FIFEDE%2F%2Feasnet.dll%2FGetDoc%3FAPPL%3D1%26DAT\_IM%3D2068F6%26 DWNLD%3D2007-03-







### Scale/coverage of Policy

At the time of the commitment CECED represented more than 95% of the production for and import into the EU market. 135

# Implementing organisations (and their roles)

The European Committee of Manufacturers of Domestic Equipment (CECED) represents the European manufacturers of household refrigerators, freezers and their combinations' (in this Commitment subsequently called household refrigerating appliances) in Europe. Its members include major household appliances manufacturers and a number of national trade associations.

Each participant provided an independent consultant appointed by CECED (Notary), with production weighted energy efficiency data in each refrigeration energy class and for each product category during the previous calendar year. CECED collated the data and provided an annual report to the EC.

### **Quantitative Outcomes (Energy)**

No information provided

### **Quantitative Outcomes (other)**

The most recent annual report made available – for 2003<sup>136</sup> - reports as follows:

- 13 manufacturers as participants
- Of which 2 had met the 2006 fleet target
- The weighted average efficiency index was 64.38 (down from 67.26 in 2002)

## **Qualitative Outcomes**

No information provided

http://www.ceced.org/ICECED/easnet.dll/GetDoc?APPL=1&DAT\_IM=032828



<sup>&</sup>lt;sup>135</sup> CECED Voluntary commitment on reducing energy consumption of household refrigerators, freezers and their combinations (2002-2010), Statement of commitment dated Oct 2002,

http://www.ceced.eu/ICECED/easnet.dll/ExecReq/Redirection?eas:oldfilename=/community/files/296/phpXLy1ow/UICCOLD2002.pdf

<sup>&</sup>lt;sup>136</sup> CECED (2004) First Annual Report, CECED Unilateral Commitment on reducing energy consumption of household refrigerators and freezers,



**United Kingdom** 

Policy Name	CECED vision		
Previously known as	None		
Policy Type	Accelerated replacement of older appliance		
Objectives	<ul> <li>Replacement of the 188 million 'outdated' domestic appliances with new higher efficiency models</li> <li>Market transformation support from EU and national governments to achieve this 138</li> </ul>		
Key Dates	Announcement: 2005	Implementation: Unclear	Termination: Unclear

#### **Additional Timelines**

'Implementation' and timelines are uncertain – the last information provided was dated in 2007.

# Other Key information

# Context (market and cultural aspects that influenced the policy design and efficacy)

European manufacturers feel that the EU and national governments aren't doing enough on market surveillance of existing legislation and that some manufacturers and importers are taking advantage of this to sell non-compliant products. In these circumstances they withdrew their commitments to voluntary agreements in 2007. They also note that their net profits have decreased by 25% to 2% to 2% to 2%.

http://www.ceced.eu/IFEDE//easnet.dll/ExecReq/WPShowItem?eas:dat\_im=20CE27



<sup>&</sup>lt;sup>137</sup> Over 10 years old

Energy-Efficient Europe, The Ceced Solution 2 page brochure, undated,

 $<sup>\</sup>label{lem:http://uk.wrs.yahoo.com/_ylt=A9mSvd3CQz5J0wQAXCh3Bwx.; _ylu=X3oDMTExbnU0NGppBHNIYwNzcgRwb3MDMgRjb2xvA2lyZAR2dGlkAwRsA1dTMQ--$ 

<sup>/</sup>SIG=13qucnes4/EXP=1228903746/\*\*http%3A//www.ceced.org/IFEDE/easnet.dll/GetDoc%3FAPPL=1%26DAT\_IM=20429E%26DWNLD=White%2Bpaper\_folder.pdf

<sup>&</sup>lt;sup>139</sup> Energy-Efficient Europe, The Ceced Solution 2 page brochure, undated,

 $<sup>\</sup>label{lem:http://uk.wrs.yahoo.com/_ylt=A9mSvd3CQz5J0wQAXCh3Bwx.;_ylu=X3oDMTExbnU0NGppBHNIYwNzcgRwb3MDMgRjb2xvA2lyZAR2dGlkAwRsA1dTMQ--$ 

<sup>/</sup>SIG=13qucnes4/EXP=1228903746/\*\*http%3A//www.ceced.org/IFEDE/easnet.dll/GetDoc%3FAPPL=1%26DAT\_IM=20429E%26DWNLD=White%2Bpaper\_folder.pdf

<sup>&</sup>lt;sup>140</sup> Yngen (2007) CECED key messages,







**CECED** vision Policy Name

### Scale/coverage of Policy

CECED members would like all national governments in the EU to provide some form of incentives - via 'white certificates' or some other means, to offset the additional upfront cost to consumers of replacing an old appliance with a new energy efficient one. 141 They list the following mechanisms and the countries that they have been used in to date:

- Tax credits for consumers (Italy)
- Tax credits for producers (US)
- Energy efficiency certificates (France, Britain, Italy)
- Rebate schemes (Spain and various states over the years)
- Buyback (Australia)

Awareness raising campaigns 142

## Implementing organisations (and their roles)

No information provided

#### **Quantitative Outcomes (Energy)**

No information provided

### **Quantitative Outcomes (other)**

No information provided

#### **Qualitative Outcomes**

No information provided

http://www.ceced.eu/IFEDE//easnet.dll/ExecReq/WPShowItem?eas:dat\_im=20CE27



<sup>&</sup>lt;sup>141</sup> CECED (2005) Energy-efficiency a shortcut to Kyoto targets - the vision of European home appliance manufacturers,

http://circa.europa.eu/Public/irc/env/eccp\_2/library?l=/eccp\_review\_energy\_1/position\_papers/ceced\_summarypd f/\_EN\_1.0\_&a=d

142 Yngen (2007) CECED key messages,





Policy Name	Government Buying	g Standards	
Previously known as	Current name from 2010. Originally 'Quick Wins', renamed 'Buy Sustainable Quick Wins' in 2008.		
Policy Type	Government Procurement.		
Objectives	<ul> <li>Reduce carbon emissions and show leadership to the wider public sector, businesses and citizens and</li> <li>Embed Government Buying Standards into contracts, by 2015</li> </ul>		
Key Dates	Announcement: 2003	Implementation: 2003	<b>Termination:</b> N/A ongoing

# Additional Timelines

Last change in specification in April 2011 – a further review was expected in Jan 2012 143

#### Other Key information

# Context (market and cultural aspects that influenced the policy design and efficacy)

Government Buying Standards (GBS) are designed to align with the EU level policy - Green Procurement Policy. This also fits within the UK's wider 'Sustainable Development Policy'.

# Scale/coverage of Policy

Two levels of buying standards are set: the first level (mandatory/core) shows what should be achieved now and the second level (best practice/comprehensive) shows what should be achieved in future/the future market direction. All government buyers must use the mandatory first level. Both the levels are designed to help buyers across the government sector (ie national and local government)<sup>144</sup>.

# Implementing organisations (and their roles)

Defra – (the Department for Environment, Food and Rural Affairs) is the policy lead and chair of The Sustainable Product Procurement Specifications (SPPS) Project Board<sup>145</sup>, which also includes four other Government Departments, the Centre of Expertise in Sustainable Procurement<sup>146</sup> and Waste and Resources Action Programme<sup>147</sup>.

"Standards are developed in close collaboration with Cross-Government steering groups who agree drafts, which are then published for stakeholder review. The published document is accompanied by a partial assessment of the impact of the proposed standards. At this point suppliers and procurers are able to comment on the data, logic and assumptions made in developing the proposed standard." 148

#### **Quantitative Outcomes (Energy)**

No information provided

<sup>148</sup> http://sd.defra.gov.uk/advice/public/buying/about/standards-set



<sup>143</sup> http://sd.defra.gov.uk/documents/spec-fridge-freezers.pdf

http://sd.defra.gov.uk/advice/public/buying/

http://sd.defra.gov.uk/advice/public/buying/about/steering-group/

Part of the Office of Government Commerce part of the Cabinet Office which helps Government deliver best value from its spending see http://www.cabinetoffice.gov.uk/content/office-government-commerce-ogc.

value from its spending see http://www.cabinetoffice.gov.uk/content/office-government-commerce-ogc.

147 Funded by Government to help businesses, local authorities, communities and individuals reap the benefits of reducing waste, developing sustainable products and using resources in an efficient way. See http://www.wrap.org.uk/content/who-we-are



United Kingdom

Policy Name Government Buying Standards

## **Quantitative Outcomes (other)**

No information provided.

#### **Qualitative Outcomes**

An assessment in 2007<sup>149</sup> found little evidence of adherence to these standards - 15 of 21 organisations questioned stated that they were complying but six of these had not system for checking this. A 2009 assessment<sup>150</sup> commented that there was little verification in place – only one organisation (in five Government Departments) had actually audited performance; the others did not have systems to measure their compliance.

149 SDiG (2007) Sustainable Deverlopment in Government Report, http://www.sd-commission.org.uk/publications/downloads/sdig\_report\_2007.pdf
150 National Audit Office (2009) Addressing the environmental impacts of Government procurement, http://www.nao.org.uk/publications/0809/addressing\_sustainable\_procure.aspx









Policy Name	Act on CO <sub>2</sub> Campaign		
Previously known as	None		
Policy Type	Consumer campaign/carbon calculator <sup>151</sup>		
Objectives	Government's Act on CO2 behaviour change campaign aims to help people save money, save energy and reduce their CO2 emissions. The campaign highlights how individuals can act to make a difference <sup>152</sup> .		
Key Dates	Announcement: 2007	Implementation: 2007	Termination: No information provided

#### **Additional Timelines**

The campaign is no longer active but the carbon calculator is still available online. 153

## Other Key information

### Context (market and cultural aspects that influenced the policy design and efficacy)

Printed media, radio and online advertising, explaining the link between CO2 emissions and global warming. In addition, a website included dozens of tips – from using energy saving light bulbs to driving five miles less a week – to help people reduce their carbon footprint<sup>154</sup>.

#### Scale/coverage of Policy

TV advertisements highlighted the core domestic behaviours to be encouraged:

- Switching appliances off properly
- Installing low-energy light bulbs, and
- Fitting correct amounts of insulation.

The online carbon calculator allows consumers to work out their carbon footprint. Households' entries in the calculator over time were used to monitor how effective the campaign has been at generating behavioural change. The website has three main sections:

- In the home (covering energy use, water use, reuse & recycling and grow your own fruit & vegetables)
- On the move (buying your car, driving styles speed, tyre pressure, less over-revving etc, sharing your car and new car comparison) and
- Out shopping (covering appliances, clothes, food & drink and home improvements)<sup>155</sup>

ETC/SCP (2010) Examples of show cases of national policies to promote sustainable household consumption: the case of the UK, http://scp.eionet.europa.eu/facts/factsheets\_waste/fs\_scp/pdf/showcase\_uk



<sup>&</sup>lt;sup>151</sup> See http://carboncalculator.direct.gov.uk/index.html

http://webarchive.nationalarchives.gov.uk/20101007164856/http://actonco2.direct.gov.uk/home/about-us.html

See http://carboncalculator.direct.gov.uk/index.html

<sup>154</sup> See http://carboncalculator.direct.gov.uk/index.html







Policy Name Act on CO<sub>2</sub> Campaign

## Implementing organisations (and their roles)

ACT ON CO<sub>2</sub> was a cross-Government initiative involving the Department of Energy and Climate Change (DECC), the Department for Transport (DfT) and Department for Environment Food and Rural Affairs (Defra).

### **Quantitative Outcomes (Energy)**

No information provided

## **Quantitative Outcomes (other)**

As reported by Defra in March 2009<sup>156</sup> the response was:

- Awareness of the home energy strand of the ACT ON CO2 campaign has been strong, with 75% prompted awareness, mainly driven by television, but also by press and radio.
- Overall awareness of the ACT ON CO2 brand is 62%, an increase of 25 percentage points since September 2008.
- 610,000 visitors to the campaign website since Sept 08.
- 65%<sup>157</sup> claim to have taken action or are planning to take action as a result of the campaign, an increase of 15% compared to summer 2008.
- 505,688 calls to the ACT ON CO2 advice line approximately 70% more calls than the equivalent time period last year.

#### **Qualitative Outcomes**

No information provided

Defra (2009) Final Report on Defra's Sustainable Development Action Plan November 2007-March 2009, http://archive.defra.gov.uk/sustainable/defra/pdf/sd-action-plan-07-09-final.pdf
 It is not stated of whom in the report

