

<b>Title:</b> <b>IA of GB Regulations enforcing EC Regulation 1005/2009 on substances that deplete the ozone layer</b>  <b>Lead department or agency:</b> Defra <b>Other departments or agencies:</b> BIS, DAs	<b>Impact Assessment (IA)</b>
	<b>IA No:</b> 1364
	<b>Date:</b> 15/03/2011
	<b>Stage:</b> Final
	<b>Source of intervention:</b> EU
	<b>Type of measure:</b> Secondary legislation
<b>Contact for enquiries:</b> Elizabeth Chrominska	

## Summary: Intervention and Options

### What is the problem under consideration? Why is government intervention necessary?

This policy seeks to transpose EU Regulation No. 1005/2009 on substances that deplete the ozone layer. This regulation has direct effect on the UK however it assigns responsibility to Member States on the necessary penalties applicable for breaches of the Regulation. The previous legislation, the Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2002 and the Environmental Protection (Controls on Ozone-Depleting Substances) (Amendment) Regulations 2008 is to be revoked. Northern Ireland makes separate national legislation. The negative health impact of ozone depletion is a negative externality that under the Montreal Protocol (1987) has been addressed by a regulated phase-out.

### What are the policy objectives and the intended effects?

The ozone layer protects life on earth from harmful UV radiation. Following the discovery of the hole in the ozone layer in the 1980's, swift global action was taken to phase out ozone depleting substances. The policy objectives are therefore the continued protection and recovery of the stratospheric ozone layer as well as the clarification and simplification of existing EC ozone legislation. The policy is intended to mitigate the negative health and environmental impacts of harmful UV-B radiation. HCFCs and Methyl Bromide are also both potent green house gases and so increased control in their emissions will also mitigate climate change.

### What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

The two options considered are: (1) do nothing; or (2) transpose the EU Regulation to comply with the UK's EU Treaty obligations.

Doing nothing would invite infraction proceedings and fines. Transposing the Regulations will clarify the regulation, simplify the reporting requirements, end exemptions for the export of certain controlled substances and end the use of Methyl Bromide. The regulations also set out the enforcement powers and penalties for breach of the regulation. The regulation would be transposed with the minimum requirements, making use of all derogations where possible. Transposing the regulation brings a net benefit to the UK and is the preferred option.

**Will the policy be reviewed?** It will be reviewed. **If applicable, set review date:** 1/2016

**What is the basis for this review?** Duty to review. **If applicable, set sunset clause date:** Month/Year

**Are there arrangements in place that will allow a systematic collection of monitoring information for future policy review?**

Yes

**SELECT SIGNATORY Sign-off** For final proposal stage Impact Assessments:

*I have read the Impact Assessment and I am satisfied that (a) it represents a fair and reasonable view of the expected costs, benefits and impact of the policy, and (b) the benefits justify the costs.*

Signed by the responsible Minister:

Henley

Date: 20th/06/2011

# Summary: Analysis and Evidence

# Policy Option 1

Description: Transposition of EU Directive

Price Base Year 2010	PV Base Year 2010	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: N/A	High: N/A	Best Estimate: £0.314

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	N/A	N/A	N/A
High	N/A	N/A	N/A
Best Estimate	0	£0.003	£0.025

### Description and scale of key monetised costs by 'main affected groups'

The monetised cost is the forgone profit of fumigation companies using methyl bromide for quarantine and pre-shipment (QPS) and the administrative costs of reporting new ODS substances. These costs are set out in the table on page 6 with the QPS cost £19,000 (number 4) and £6,000 for new ODS substances (number 12).

### Other key non-monetised costs by 'main affected groups'

There may be minimal costs due to the removal of exemption regimes, the time to become familiar with the new provisions, and to UK Government in administration costs. Also UK businesses may face higher costs to dispose of waste ODS domestically, for purchase of reclaimed HCFCs or recycling equipment, for additional leakage checks, and for labelling ODS and products and equipment containing or relying on ODS. These are not costed due to lack of data however the costs are expected to be negligible.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	N/A	N/A	N/A
High	N/A	N/A	N/A
Best Estimate	0	£0.039	£0.339

### Description and scale of key monetised benefits by 'main affected groups'

UK industry (particularly SMEs) benefit from simplified regulation which is easier to follow and will therefore save them time. Regulatory bodies benefit because labelling, record keeping requirements and licensing facilitate enforcement and reduce enforcement costs. UK Government benefits from reduced administrative burden due to direct company reporting to the Commission.

### Other key non-monetised benefits by 'main affected groups'

Health benefits deriving from reduced ODS use include fewer cases of skin cancer/cataracts and lower rates of lung disease. There will be a reduction in illegal trade and harmful disposal of ODS due to the export ban on waste ODS. UK industry benefits from increased energy efficiency of refrigeration and air conditioning equipment due to the additional leakage checking required. As potent green house gases reductions in HCFCs and Methyl Bromide emissions will also mitigate climate change by 62 kt CO<sub>2</sub>e.

### Key assumptions/sensitivities/risks

Discount rate (%) 3.5

Lack of evidence from UK industries has meant that most impacts were calculated from the EC IA using GDP scalar, which is likely to overstate all figures(see methodology). Some comparable costs were taken from implementation of the F-gas regulations. Infracton for non-implementation of EU legislation. Health benefits of reduced UV-B radiation have not been quantified. The main data source is the European Commission's impact assessment on the new EU regulation which has been scaled to provide an indication of the UK impact and inflated to adjust for the 4% discount rate used in the EU to apply the UK 3.5% rate. A key gap here is the impact on climate change the available evidence does not allow a robust valuation but based on the existing information this could provide a benefit of around £1.2 million.

Direct impact on business (Equivalent Annual) £m):			In scope of OIOO?	Measure qualifies as
Costs: £0.003	Benefits: £0.033	Net: £0.030	Yes	OUT

## Enforcement, Implementation and Wider Impacts

What is the geographic coverage of the policy/option?	Great Britain				
From what date will the policy be implemented?	01/06/2011				
Which organisation(s) will enforce the policy?	SoS, Welsh and Scottish Ministers, EA, SEPA, local authorities - regulation 3.				
What is the annual change in enforcement cost (£m)?	zero extra				
Does enforcement comply with Hampton principles?	Yes				
Does implementation go beyond minimum EU requirements?	No				
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)	Traded: 0		Non-traded: 0		
Does the proposal have an impact on competition?	No				
What proportion (%) of Total PV costs/benefits is directly attributable to primary legislation, if applicable?	Costs: 0		Benefits: 0		
Distribution of annual cost (%) by organisation size (excl. Transition) (Constant Price)	Micro 2	< 20 5	Small 10	Medium 33	Large 50
Are any of these organisations exempt?	No	No	No	No	No

## Specific Impact Tests: Checklist

Set out in the table below where information on any SITs undertaken as part of the analysis of the policy options can be found in the evidence base. For guidance on how to complete each test, double-click on the link for the guidance provided by the relevant department.

Please note this checklist is not intended to list each and every statutory consideration that departments should take into account when deciding which policy option to follow. It is the responsibility of departments to make sure that their duties are complied with.

Does your policy option/proposal have an impact on...?	Impact	Page ref within IA
<b>Statutory equality duties</b> <sup>1</sup> <a href="#">Statutory Equality Duties Impact Test guidance</a>	No	14
<b>Economic impacts</b>		
Competition <a href="#">Competition Assessment Impact Test guidance</a>	No	14
Small firms <a href="#">Small Firms Impact Test guidance</a>	No	14
<b>Environmental impacts</b>		
Greenhouse gas assessment <a href="#">Greenhouse Gas Assessment Impact Test guidance</a>	No	14
Wider environmental issues <a href="#">Wider Environmental Issues Impact Test guidance</a>	No	14
<b>Social impacts</b>		
Health and well-being <a href="#">Health and Well-being Impact Test guidance</a>	No	14
Human rights <a href="#">Human Rights Impact Test guidance</a>	No	15
Justice system <a href="#">Justice Impact Test guidance</a>	No	15
Rural proofing <a href="#">Rural Proofing Impact Test guidance</a>	No	15
<b>Sustainable development</b> <a href="#">Sustainable Development Impact Test guidance</a>	No	15

<sup>1</sup> Public bodies including Whitehall departments are required to consider the impact of their policies and measures on race, disability and gender. It is intended to extend this consideration requirement under the Equality Act 2010 to cover age, sexual orientation, religion or belief and gender reassignment from April 2011 (to Great Britain only). The Toolkit provides advice on statutory equality duties for public authorities with a remit in Northern Ireland.

## Evidence Base (for summary sheets) – Notes

Use this space to set out the relevant references, evidence, analysis and detailed narrative from which you have generated your policy options or proposal. Please fill in **References** section.

### References

Include the links to relevant legislation and publications, such as public impact assessments of earlier stages (e.g. Consultation, Final, Enactment) and those of the matching IN or OUTs measures.

No.	Legislation or publication
1	The consultation on the GB enforcement legislation, and partial impact assessment can be found at:  <a href="http://webarchive.nationalarchives.gov.uk/20100505154859/http://www.defra.gov.uk/corporate/consult/ozone/index.htm">http://webarchive.nationalarchives.gov.uk/20100505154859/http://www.defra.gov.uk/corporate/consult/ozone/index.htm</a>
2	EU Regulation 1005/2009 on substances that deplete the ozone layer:  <a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:286:0001:0030:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:286:0001:0030:EN:PDF</a>
3	Review of the implementation of Regulation (EC) No 2037/2000 on substances that deplete the ozone layer - Assessment Report (the EU IA):  <a href="http://ec.europa.eu/dgs/environment/pdf/assessment_report.pdf">http://ec.europa.eu/dgs/environment/pdf/assessment_report.pdf</a>
4	Government response to the consultation – <a href="http://www.defra.gov.uk/environment/quality/air/ozone/">http://www.defra.gov.uk/environment/quality/air/ozone/</a>

+ Add another row

### Evidence Base

Ensure that the information in this section provides clear evidence of the information provided in the summary pages of this form (recommended maximum of 30 pages). Complete the **Annual profile of monetised costs and benefits** (transition and recurring) below over the life of the preferred policy (use the spreadsheet attached if the period is longer than 10 years).

The spreadsheet also contains an emission changes table that you will need to fill in if your measure has an impact on greenhouse gas emissions.

#### Annual profile of monetised costs and benefits\* - (£m) constant prices

	Y <sub>0</sub>	Y <sub>1</sub>	Y <sub>2</sub>	Y <sub>3</sub>	Y <sub>4</sub>	Y <sub>5</sub>	Y <sub>6</sub>	Y <sub>7</sub>	Y <sub>8</sub>	Y <sub>9</sub>
<b>Transition costs</b>	0	0	0	0	0	0	0	0	0	0
<b>Annual recurring cost</b>	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
<b>Total annual costs</b>	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
<b>Transition benefits</b>	0	0	0	0	0	0	0	0	0	0
<b>Annual recurring benefits</b>	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039
<b>Total annual benefits</b>	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039	0.039

\* For non-monetised benefits please see summary pages and main evidence base section

# Evidence Base

## Background

### **Ozone layer depletion**

The ozone layer is a layer of gas in the upper atmosphere which protects all living things from the sun's harmful ultraviolet rays. In the 1970s scientists discovered that certain synthetic chemicals have the potential to destroy ozone and as a consequence deplete the ozone layer. These chemicals became known as ozone-depleting substances (ODS). Depletion of the stratospheric ozone layer results in increased levels of UV-B radiation at ground level. This poses a large health risk, mainly through increasing the probability of people developing skin cancer and also through impacts to the eye (such as cataract formation). Overall incidences of the three key types of skin cancer have increased dramatically since widespread stratospheric ozone depletion began, with the largest increases being in areas where depletion is greatest (e.g. New Zealand).

### **Montreal Protocol**

Observation of a hole developing in the ozone layer above the Antarctic was followed by swift global action in the form of the Vienna Convention in 1985 and the Montreal Protocol in 1987. The objectives of the Montreal Protocol and related EC legislation are to phase out use of and trade in ODS, as well as to decrease emissions from their use.

The Montreal Protocol, and subsequent amendments, have significantly reduced the rates of increase in skin cancer. For example, in 1996 a study paper (Slaper *et al.*, 1996) estimated that by 2100 skin cancer rates in northwest Europe would increase by merely 2% following the Copenhagen Amendment but would increase by 95% if the Protocol had remained unamended, and by 315% in the absence of the Montreal Protocol.

According to UNEP, control measures introduced under the Montreal Protocol will enable the global community to avoid millions of fatal skin cancers and tens of millions of non-fatal skin cancers and cataracts. US authorities have estimated that 6.3 million skin cancers will have been avoided in the US alone in the period 1990-2165.

The UNEP Scientific Assessment Panel confirmed in 2006 that the ozone layer is recovering because of the control measures introduced by the Montreal Protocol, albeit 10 to 15 years slower than its 2002 report predicted. Assuming continued compliance with the Protocol, Arctic ozone levels are expected, on average, to return to pre-1980 levels (often used as a benchmark for ozone layer recovery) before 2050, while Antarctic ozone is expected to do so in 2060-2075.

The benefits of action taken to mitigate the adverse effects of ozone layer depletion are difficult to quantify, but it is estimated that without the Montreal Protocol the atmospheric concentration of ODS would be five times greater by the year 2050. As a result, ozone depletion would rise to at least 50% in the northern hemisphere's mid-latitudes and 70% in southern latitudes, about 10 times worse than current levels. This would result in a doubling of the UV-B radiation reaching the earth in the highly populated northern mid-latitudes. The implications of this would be horrendous and are estimated to include 19 million more cases of non-melanoma cancer, 1.5 million more cases of melanoma cancer and 130 million more cases of eye cataracts than with the current version of the Montreal Protocol.

### **EU legislation**

EC Regulation 2037/2000 on substances that deplete the ozone layer was the European Union's main instrument for implementing the provisions of the Montreal Protocol. It banned the production and placing on the market of the most damaging ozone-depleting substances (ODS) and also banned/set limits on certain uses of these substances. In 2009 the EC Regulation was recast, as part of the Commission's Communication for "Better Regulation for Growth and Jobs in the European Union" in the framework of the Lisbon Strategy. The proposed GB Regulations introduce offences and penalties for breaches of the EU Regulation, which also includes some new provisions to make it easier to prevent illegal use of ozone-depleting substances and disposal.

According to the Commission's Impact Assessment of the new EC Regulation, adverse health effects of increased exposure to UV-B radiation due to the depleted ozone layer, such as skin cancer or

cataracts, will significantly decrease. The Commission's Impact Assessment also states that the effects of UV-B radiation on plants include changes in plant growth and form which may lead to changes in competitive balance and consequent changes in species composition. Large reductions of root mass and other below-ground changes also occur as a result of UV-B radiation above ground.

### **Rationale for action**

The negative effects of ozone layer depletion mean that government intervention is necessary; ODS impose a cost on the public not included in the market price – a “negative externality”. This externality is the damage that ODS cause to the ozone layer and any associated health and environmental effects. As this cost is not accounted for in the price of ODS, and because their full effects are not considered by users or producers, these substances are over-used. The most certain way to mitigate the negative impact of ODS is to reduce use of these products, which is being achieved through a regulated phase-out of ODS. This has largely been achieved through previous EU legislation, however the recast of the previous EC Regulation simplifies reporting and introduces new provisions to make it easier to prevent illegal use and disposal.

### **Preferred Option**

The preferred option is to transpose the EC Regulation to comply with the UK's EU Treaty obligations. The new EC Regulation simplifies the previous legislation by updating the provisions to take out those which are obsolete and to introduce simplified reporting requirements. ODS have been almost entirely phased out in the EU without causing major difficulties for producers and consumers because they have had time to prepare for the date after which controlled substances could no longer be used by switching to alternatives. The new EC legislation will reduce unnecessary administrative costs for industry and UK Government. The additional reporting requirements are designed to provide an evidence base against which future regulatory challenges can be addressed. Decreased emissions of ODS will contribute to the recovery of the ozone layer, reducing damage to human health and the environment and bringing climate benefits. The reduction in illegal sources of ODS and disposal routes will have a small upward pressure on costs but these are outweighed by the administrative savings resulting from streamlined rules

The proposed GB Regulations introduce offences and penalties for breaches of the provisions in the new EC Regulation, which is directly applicable from 1 January 2010. Although this legislation has direct effect in all Member States, national legislation is required to enable enforcement of the EC provisions. This impact assessment considers only the additional impacts of the new EC Regulation compared to the current provisions of EC Regulation 2037/2000. Compliance with those provisions of the current regulation which have been carried over into the new EC Regulation is considered business as usual and will not figure in the impact assessment.

### **Do Nothing**

Not to transpose the EC Regulation would leave the UK open to infraction proceedings and fines; it is not possible to rely on the existing domestic regulations as the EC legislation they are based on and enforce (2037/2000) has been revoked. Laying down the rules on penalties applicable to infringements of the EU Regulation is a requirement under Article 29 of the EU Regulation which imposes a deadline of **30 June 2011** for notifying the Commission of the enforcement provisions which have been put in place. If the GB Regulations have not been made by then, not only will the UK will be in danger of infraction by the European Commission, but if there are any breaches of the EU Regulation the UK would have no powers to mount a prosecution.

### **Sectors affected**

The proposed GB Regulations will affect all undertakings as defined in Article 3(26) of the new EC Regulation. Within the UK, the sector comprises 84 operators of ODS controlled substances which includes importers, exporters and users of ozone-depleting substances for laboratory and analytical uses; until 19 March 2010 users of ozone-depleting substances (methyl bromide) included fumigators. There are no longer any producers of ozone-depleting substances in the UK. This snapshot of the industry does not include users of HCFCs in refrigeration or air conditioning systems as it is not possible to estimate the size of this sector given their widespread distribution across the economy.

The Regulations will also be of interest to enforcement authorities, Government Departments and non-Governmental organisations. Enforcement of the ODS Regulations and the legislation on fluorinated gases (F Gas), is carried out by local authorities and the Environment Agency in England and Wales and the Scottish Environment Protection Agency (SEPA) in Scotland. Enforcement of the new legislation is not expected to add to the cost of enforcing the current ozone and F gas legislation.

## **Methodology**

The main data source is the final 2008 version of the European Commission's impact assessment on the new EC Regulation (attached at Annex 3). Costs and benefits evaluated in the EC IA have been stated at 2010 Net Present Value (NPV); annual costs and benefits data, or more up-to-date data, is not been available. However, estimates for the UK have been calculated by first disaggregating the discount rate from the costs and benefits stated by the Commission (over an estimated policy lifetime of 10 years) and then calculating a simple mean. Transition costs have not been calculated as they are considered negligible (for example the potential need to buy a printing plate) and instead an even distribution of annual costs and benefits over 10 years has been used. A full explanation is given in Annex 2.

A currency conversion (Source: Bank of England), GDP scalar (Source: Eurostat) and discount rate adjustment have been used to transform the figures from EU values to UK values. Therefore, we have considered that 13.4% of the EU figures were in the UK. This may mean that the costs and benefits are overestimated, as the UK share in the ODS market is likely to be smaller than its share in EU GDP. As the Commission's impact assessment uses a 4% discount rate for its calculations while HM Treasury recommends a 3.5% rate a discount differential scalar has been used on the monetary impact to correct this gap. This factor transforms the estimated net present value using 4% to the value if 3.5% is used.<sup>1</sup> These figures also exclude the impact on Commission costs as these fall outside the UK. Additionally this also means that all the figures relate to the impacts in UK, whereas this IA only covers GB; this is not considered to make a material difference to the impacts.

A year-average spot rate has been used for currency conversion, and a sensitivity analysis of the net benefits to different exchange rates is included in Annex 2. The use of a different exchange rate could marginally increase/decrease the size of the net impact, but would not affect the sign of the net impacts.

The administrative burden spreadsheet is based on the standard cost model, as recommended by the Better Regulation Executive. Data was obtained by pre-consultation with industry as well as from F-Gas Support, a Defra sponsored business support unit. Further explanation of the estimated burden can be found in Annex 2. Some burdens are ongoing annual costs, so no decrease is expected. However, a few of the costs in the spreadsheet are listed as one-off, set-up costs – for example the cost of buying a printing plate for labels. As these impacts are only a small proportion of the total impact we have assumed the administrative burden remains constant over time.

The new EC Regulation will bring about reductions in emissions of ODS amounting to an estimated maximum of 961 ODP tonnes (ozone-depleting potential (ODP)). It has not been possible to monetise this effect, so there is systemic bias in the cost-benefit analysis of under-valued benefits. A sensitivity for the climate change impact of these emissions is presented in the sensitivities section of this IA.

We have not been able to gather numerical data directly from UK industries, and no further information was put forward by industry as part of the consultation in 2009. However a number of affected companies were informally consulted on both the provisions and estimated impacts before the formal consultation, and where possible estimates were made using data from the implementation of the F-Gas Regulations 2009. Therefore it seems likely that the estimates used are reasonable.

It is estimated that micro businesses represent about 2% of the UK industries affected by the new Regulation. Microbusinesses will rarely own equipment with more than 3kg of refrigerant, hence none of the leak checking or record keeping provisions apply. Additionally, most of their equipment will be replaced on failure which has a zero cost impact. This legislation is out of scope of the draft guidelines on exemptions from regulation for microbusinesses, as it is EU legislation.

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<sup>1</sup> As the impacts are even over time moving to the Treasury discount rate is roughly equivalent to a 2% increase in all monetary values. The estimation of this adjustment is set out in Annex 2

To assess the value of this simplification for the purposes of One-in, One-out (OIOO) the impacts of this change on business have been assessed. These impacts relate to the administrative saving from the changes and the additional cost of ending quarantine and pre shipment use. These impacts are set out in more detail in the following table.

More information on the following table can be found in **Annex 2**.

## Summary of impacts (based on the European Commission's impact assessment)

		UK					Other costs/ benefits
		NPV 2010 (£ m)*				(ODP tonnes)	
Policy <i>(x) refers to subsequent paragraph</i>		Direct economic impact	UK Total admin impact***	Admin impact on UK industry	Admin impact on UK Gov	Ozone-depletion savings 2010-20	
Simplification of the Regulation	Clarifying and simplifying the Regulation (1)	None	0.282	0.280	0.002	0-6.7	Improved compliance and enforcement, reduced admin burden on SMEs and UK
	Simplified reporting (2)	-	0.057	0.009	0.048	+	Improved compliance and enforcement, reduced admin burden
	Updating exemption regimes (3)	- (****)	+	+	+	0-880	Improved compliance and enforcement, reduced admin burden, possible small job loss
Methyl bromide	Ending Quarantine and Pre-Shipments use** (4)	-0.019	+	None	+	0-4.9	Health and safety benefits
	Emergency use (10)	None	None	None	None	None	None
Export ban on waste ODS (11)		-	None	None	None	+	Reduced illegal trade/harmful disposal of ODS, possible job increase
New substances	New ODS (12)	+	-0.006	-0.006	-	+	Easier monitoring for future regulation/phase-out
Labelling	Feedstock, Laboratory and Processing Agent use (5)	None	-	-	None	0-12.0	Reduced illegal trade of HCFCs
	Reclaimed and Recycled HCFC (6)	None	-	-	None	+	Reduced illegal trade of recycled/virgin HCFCs
Leakage checking (7)		None	-	-	None	+	Reduced leakages and ODS emissions, increased energy efficiency
Ban on purchase of recycled HCFCs (8)		+	-	-	None	0-39.9	Reduced illegal trade of virgin HCFCs
Licensing (9)		None	None	None	-	0-17.3	Reduced illegal trade/harmful disposal of ODS
<b>Total</b>		<b>-0.019</b>	<b>0.333</b>	<b>0.283</b>	<b>0.05</b>	0-961	

(\*) Factoring in GDP scalar and £ exchange rate

(\*\*) Impact given for January-March 2010 only, as all QPS use is banned under the Plant Protection Products Directive, effective 19 March 2010. **As this cost is estimated as an upper bound, a mid-point has been used in calculations of total costs and the net present value.**

(\*\*\*) "Total admin impacts" is the sum of admin impacts on industry, the UK government as set out in Annex 2. The separation of these measures in neighbouring columns has been undertaken to show the spread of the impacts where data is available, but are all included in the total. *Given the UK focus only impacts on UK industry and government have been included in the total impact column. This column may therefore differ from the values reported in Annex 2.*

Figures may not sum to those in the summary sheet due to rounding.

(\*\*\*\*) This value was removed based on industry responses to the consultation figure. More information on this is presented below.

Note that a negative symbol or figure indicates a **cost**.

"+" indicates a small unquantifiable benefit; "-" indicates a small unquantifiable cost

## **Analysis of preferred option**

The further information on the Evidence Base is attached at Annex 2 and the European Commission's impact assessment is attached at Annex 3.

A monetised analysis has not been possible on all impacts of the policy as data is not available (further information is in the sensitivities and uncertainties section). The areas where a monetised impact has been possible to calculate relate to the simplification of the regulation, which will save time for industry and Government, as well as improving compliance and facilitating enforcement, in the foregone profit due to the ban on the use of Methyl Bromide in quarantine and pre-shipment and the cost to industry for reporting requirements.

## **Provisions with noteworthy impacts**

### **(1) Simplifying regulation**

The new EC Regulation simplifies the legal text to make it easier to understand, links with other legislation (for example EEC and EC directives relating to labelling requirements or methyl bromide use), clarifies uncertainties and removes obsolete provisions. This simplification will affect all businesses with ODS products or equipment, including HCFC refrigeration or air conditioning systems – which are economy wide. The simplification will save businesses time in understanding the requirements of the legislation and will reduce compliance costs and administrative burden for industry, in particular small and medium enterprises (SMEs), for which interpreting complex legal text has proved a disproportionate cost. Micro and very small businesses are unlikely to be impacted by the regulation given their systems are usually below the 3kg threshold for leak checks and record keeping and equipment is usually replaced on failure.

**Costs:** Including the costs of becoming familiar with the new provisions, simplification is expected to lead to administrative cost savings of £282,000; of which £280,000 would accrue to industry. The UK government is also assumed to make minor savings because simplifying the legislation will facilitate compliance and thus lower enforcement costs.

**Benefits:** Improved compliance should lead to an environmental benefit through reduced illegal ODS use, estimated to save up to 6.7 tonnes of emissions from the UK.

### **(2) Simplifying reporting**

Under the new EC Regulation, the Commission will create a centralised reporting database for relevant industries, obviating the need for individual Member States to gather this data and report it to the Commission, as was previous practice.

**Benefits:** Removing this layer of reporting will save the UK Government approximately £48,000. UK industry will also save £9,000 per annum in reduced compliance costs for as long as they continue to use ozone-depleting substances. As it is not known how long they will continue to use ODS, it is not possible to say over how many years the simplified reporting obligations will benefit industry.

### **(3) Updating exemption regimes**

Under EC Regulation 2037/2000, it was possible to seek a temporary authorisation to export certain controlled substances for prescribed uses (for example chlorofluorocarbons for metered-dose inhalers). In the partial impact assessment an indicative value was calculated for the cost of the removal of this exemption to industry, however information provided by the industry has indicated this cost is negligible and not significant for consideration in the full IA.

**Benefits:** These exemptions have been costly and time-consuming to apply for and process. According to the Commission's Impact Assessment, removing them will lead to savings over 10 years of approximately £121,000 to the Commission and a reduction of up to 880 ODP tonnes. This monetary saving as it occurs outside the GB is not included in this assessment.

**Costs:** Removing these exemptions is expected to lead to a minimal cost to the industry in terms of foregone profit from these activities, based on information provided by industry.

#### **(4) Ending Methyl bromide used for quarantine and pre-shipment (QPS)**

Under Article 12, from 1 January 2010 until 18 March 2010 methyl bromide could only be placed on the market and used for quarantine and pre-shipment (QPS) applications on sites approved by the competent authorities of the Member State concerned and, if economically and technically feasible, subject to recapture of at least 80% of methyl bromide used. The impact on any undertaking intending to continue to use methyl bromide for this purpose during 2010 would arise from the use of recapture equipment which is costly and not widely used in the UK. Although the ban on Methyl Bromide use for QPS came into force in 2010, the impact of this Regulation is based on the EC IA (from 2008) which costed the preferred option of allowing the use of methyl bromide for QPS until 2015, provided that recapture equipment was used.

**Costs:** The direct economic cost to the fumigation industry of deciding to shut down QPS operations from 1 January to 18 March 2010 was estimated to be at most £19,000 across the UK (using European Commission impact assessment estimate). We do not have any information on actual economic costs on the ban of use of Methyl Bromide in QPS, but some companies continued to make use of this derogation until the cut-off date of March 2010.

**Benefits:** It is estimated by the European Commission that the use of methyl bromide for QPS in the EU gives rise to up to 220 ODP tonnes annually. Using the same UK scalar, no QPS fumigation with methyl bromide would result in an estimated saving in the UK of up to 5 ODP tonnes over this period.

#### **(5) Labelling requirements for feedstock, process agent or laboratory uses**

Under Articles 7.2, 8.3 and 10.3, controlled substances placed on the market for feedstock, process agent or laboratory uses must be labelled in accordance with other EC legislation. A group of stakeholders was approached for information on impacts. These were said to be limited to the cost of additional print runs of labels. Furthermore Article 7.2 requires containers of ODS placed on the market as feedstock to be labelled as such. Feedstock is generally shipped in bulk and standard labelling procedures are already applied by industry, and imports of feedstock are subject to import licensing requirements in which the intended use of the import features on the licence.

**Benefits:** The labelling provisions will facilitate the monitoring of, and enforcement against, illegal trade and use of HCFCs, which will reduce avoidable ODS emissions from these sources. It is estimated that this action could reduce emissions of HCFCs of up to 12 tonnes.

**Costs:** Additional print runs; in practice the administrative costs of setting up and maintaining the necessary labelling systems have already been incurred by industry.

#### **(6) Labelling of reclaimed HCFCs and equipment containing reclaimed HCFCs**

Article 11.3 requires containers of reclaimed HCFCs to be labelled with the batch number, the name and address of the reclamation facility, and an indication that the substance has been reclaimed. There are standard requirements for labels, and existing labels must remain on the cylinder. The batch number has to be included but this could be on an additional, separate label. A precedent is provided by the requirement under EC Regulation 842/2006 on certain fluorinated greenhouse gases to indicate that a cylinder contains fluorinated greenhouse gases covered by the Kyoto Protocol, which gives the option to use either the existing label or a separate label. In any case every cylinder is numbered, so its batch number can easily be traced if a label is lost.

Article 11.6 requires equipment which has been topped up or filled with recovered or reclaimed HCFCs to be labelled with an indication of the type and quantity of substance contained in the equipment and with the label elements as set out in Annex I of EC Regulation 1272/2008. This is similar to the F-gas labelling requirements. (Article 2.3 of Regulation 1494/2007 states: "Where fluorinated greenhouse gases may be added outside the manufacturing site and the resulting total quantity is not defined by the manufacturer, the label shall contain the quantity charged in the manufacturing plant and shall provide space on the label for the quantity to be added outside the manufacturing plant as well as for the resulting total quantity of fluorinated greenhouse gases.")

**Costs:** The cost of labelling cylinders will fall on reclaimers and they may pass it on to their customers. However, it is understood that the cost implications will be minimal. It has been suggested that this provision may create an additional cost for undertakings dealing with reclaimed, rather than recycled HCFCs but insufficient information is available to quantify this possible cost. For those companies which do not already label as required by the new regulation, the extra costs after set-up will be negligible.

It is expected that the labels required under Article 11.6 would have to be high-quality labels with space to indicate the quantity contained in the equipment, therefore there may be some additional costs to industry, but these will be limited to the costs of designing and printing a new label and any additional labour cost of placing a label on each container.

**Benefits:** The provisions will benefit industry by providing a means of verifying the source of reclaimed HCFCs, and thus reducing the risk of illegal trade and use of virgin HCFCs. Indeed reclaimers welcome the requirement for users to keep records of the source of reclaimed material, which can be audited, as it signals the intention to keep illicit material out of the market. This provision will have the added benefit of reducing emissions from these sources.

### **(7) Leakage checking and record keeping**

Article 23.2 requires undertakings operating refrigeration, air-conditioning or heat pump equipment or fire protection systems, including their circuits, which contain controlled substances to ensure that equipment with a fluid charge of 30kg or more of controlled substances is checked once every six months and equipment with a fluid charge of 300kg or more of controlled substances is checked once every three months. Detected leakage must be repaired as soon as possible or within 14 days, and the equipment or system has to be checked again after the leak has been repaired to ensure that the repair has been effective. These new, more specific and exacting requirements have been harmonised with those in the F-gas Regulation. They may impose additional burdens on operators but they are similar to those for F-gases and could be seen as good practice. A leaking system is inefficient and wasteful of resources, using more energy and costing more to operate.

**Costs:** There is a new requirement to maintain detailed records of the quantity and type of controlled substances added or recovered during the servicing, maintenance or final disposal of refrigeration, air-conditioning or heat pump equipment or fire protection systems, including their circuits (Article 23.3). This could be an extra burden, but detailed records are already kept as they are required for equipment containing F-gases. Industry was asked to consider the impacts of these requirements in the consultation, however no comments were received.

**Benefits:** The impact assessment for SI 2009 No.261, which relates to the European F-gas Regulation, stated that additional leakage checks provided a net benefit. Finding and fixing leaks could save a company the cost of topping up HCFC lost from an undetected leak, improve energy efficiency and reduce ODS emissions. In 2003 the Chemical Legislation European Enforcement Network (CLEEN) reported that all installations leak to some extent, and 20% of those studied leaked more than the acceptable threshold of 10%. Unfortunately it is not possible to monetise this benefit with the available information, and despite efforts to obtain further information from industry in the partial IA, no further data was received.

### **(8) Ban on purchase of recycled HCFCs**

“Recycling” is defined in the recast as the reuse of a recovered controlled substance following a basic cleaning process, which may be done on-site; “reclamation” involves reprocessing a substance to meet the equivalent performance of a virgin substance. Under Article 11.3, only reclaimed HCFCs may be placed on the market, and HCFCs must be reclaimed in a reclamation facility. This may have additional cost implications compared to using recycled HCFCs.

From 1 January 2010 the use of virgin HCFCs will be banned and reclaimed HCFCs may be in short supply. This is likely to impact on the market price. The market for reclamation is likely to expand, and there may be costs of additional facilities and/or human resources. Although using reclaimed rather than recycled HCFCs could be considered to constitute an additional cost, using reclaimed HCFCs may be cheaper than using virgin HCFCs. Furthermore, any costs to industry in using recycled HCFCs may be partially off-set by the benefit this would bring to HCFC reclaimers.

Article 11.4 provides additional restrictions on the use of recycled HCFCs - they can only be used by the undertaking which carried out recovery or for which the recovery was carried out. The recovery must have been part of the maintenance and servicing of the equipment.

**Costs:** There are very few reclamation facilities in the UK and although this creates an opportunity for new undertakings to enter the market and offer lower prices, this outcome is unlikely because HCFCs cannot be used after 31 December 2014. Therefore, companies not able to reclaim their own HCFCs may have to pay more for purchasing reclaimed HCFC. Larger companies, which are the majority affected by this regulation, are likely to have the scale of operations to justify the purchase of reclamation equipment, so SMEs may see an operational cost rise relative to their larger competitors. However, reclamation companies may expand their operations and thus stabilise prices. It is also worth noting that as all HCFCs were already banned from 1 January 2015, under EC Regulation 2037/2000, undertakings should have started to look for alternatives before the coming into force of the new EU legislation.

**Benefits:** Environmental benefits in the form of emissions savings of up to 40 ODP tonnes resulting from the ban on the purchase of recycled HCFCs.

In summary, any impact arising from the provisions in Article 11.4 is very difficult to quantify but likely to be small.

### **(9) Licensing of imports and exports**

Article 18 establishes that licences will be required for each shipment of ODS and sets out what information should be provided; this is similar to Articles 6 and 12 of EC Regulation 2037/2000, but more detail is required.

**Costs:** Companies already report this information under EC Regulation 2037/2000 and in the UK it is expected that this provision will impose marginal additional cost.

**Benefits:** The additional licensing requirements are expected to improve control over exports of ODS, which should reduce illegal shipment, use and disposal of these substances. Environmental benefits resulting from emissions reductions estimated at up to 17.3 tonnes should arise as a result of avoiding these unregulated activities.

## **Provisions with minimal impacts**

### **(10) Emergency use of methyl bromide**

The emergency use provisions would only apply in an emergency where there is an unexpected outbreak of particular pests or diseases. It is extremely unlikely that they will be invoked, and therefore any impact arising from these new provisions is also extremely unlikely. There has been no authorised emergency use of methyl bromide in the UK in the last three years. However, the new EC Regulation allows the Commission to specify measures to be taken to reduce emissions during emergency use, provided that placing on the market and use of methyl bromide are allowed under other EC legislation (Directive 91/414/EEC and Directive 98/8/EC). The UK does not hold equipment to reduce emissions, so in this unlikely event it would need to obtain such equipment from another Member State.

### **(11) Export bans on waste ODS**

The provisions on exports are being tightened (Article 17) to prohibit exports of virgin or reclaimed HCFCs for destruction. It is not known how much HCFC is exported for destruction, so the likely impacts of the export ban provision are difficult to estimate.

**Costs:** There may be increased costs to domestic HCFC users as there is only one facility in the UK dealing with this type of hazardous waste disposal, and they could raise their prices. However, as disposal of ODS is covered by the Basel Directive and by stringent UK waste directives, it is already subject to costly constraints and so any additional premium charged is likely to be minimal.

**Benefits:** Banning the export of waste ODS may have benefits in reducing illegal trade and harmful disposal of these goods outside the EU. It was hoped that the consultation would provide detailed information about the price differential arising as a result of these new provisions but none came forward.

Exports of equipment relying on controlled substances will also be prohibited unless the equipment is subject to one of the exemptions in Article 17.2(d) or it can be demonstrated that, in view of its economic value and expected remaining lifetime, such a prohibition would impose a disproportionate economic burden on the would-be exporter (Article 17.3). Although it is understood that most UK second-hand commercial refrigeration and air conditioning equipment relying on HCFCs would be too old to be worth exporting, if a piece of equipment were worth exporting then the derogation would apply. Ensuring that the Commission gives prior notification to the importing country might be perceived as an unwelcome additional layer of bureaucracy, but as HCFCs are subject to a cap on consumption from 2013 the importing country might reasonably want to review whether import is appropriate. On the other hand it would be hard to argue that this provision would deter the exporter from exporting equipment which still has a value. Thus it is a provision which is beneficial.

Exports of CFCs for use as a propellant in metered dose inhalers will no longer be allowed. It is understood, from a reliable industry source, that the impacts of this prohibition will be minimal.

## **(12) New substances**

Article 27 imposes reporting requirements for substances in Annex II Part B. Article 27.1 requires that undertakings report to the Commission each year their production, trade and use of new substances.

**Costs:** This could impose some additional costs (estimated as £6,000 total admin impact based on the EC IA) but, producers, traders and users of chemical substances are already required under REACH to monitor their levels of activity to ensure compliance, the impact is expected to be negligible. Therefore it is not expected that current users of any of these new substances will be adversely affected by the new reporting obligations. Industry representatives have suggested that the listing of these substances in this Regulation will damage their market potential. However, there is already a requirement under Directive 67/548/EEC to label them as dangerous substances, so a significant direct economic cost is unlikely.

**Benefits:** The main benefit of listing these substances under Annex II Part B is that it creates an evidence base for their future regulation.

## **Excluded Provisions**

The new legislation gives the European Commission the power to amend the phase-out schedule for halons and to define recovery and destruction obligations for ODS stored in products and equipment. These have not yet been decided by the Commission and so cannot be quantified. The new requirements, when proposed by the Commission, will be subject to separate impact assessments and are not included in the UK transposition.

### **(a) Critical uses of halons**

Article 13 determines that the new obligations governing trade and use of halons are to be set out in Annex VI. This Annex was the subject of a separate European Commission, so its impacts are not considered here.

### **(b) ODS recovery and destruction obligations**

Article 22.4 determines new mandatory ODS recovery and destruction obligations for a list of products and equipment (without prior recovery of ODS) provided such recovery and destruction is technically and economically feasible. This would form a new Annex to the recast. The establishment of such an Annex will be accompanied and supported by a full economic assessment of costs and benefits, taking

into account the individual circumstances of each Member State. This Annex is the subject of a separate European Commission review, so its impacts are not considered here.

### **Additional information on specific impacts**

The impacts are likely to be small so it has been deemed unnecessary to conduct specific impact tests.

#### **Statutory Equality Duties**

There are no limitations on meeting the requirements of the proposed Regulations on the grounds of race, disability or gender. The proposed Regulations do not impose any restriction or involve any requirement which a person of a particular racial background, disability or gender would find more or less difficult to comply with. Conditions apply equally to all individuals and businesses involved in the activities covered by the proposed Regulations.

#### **Competition**

This standard competition assessment test concludes that the proposed Regulations probably will not have significant impacts on competition. The proposed changes may have two small impacts on competition through increased relative costs of compliance on recycled HCFCs and for new substances. However, the scale of these costs make it unlikely that these changes will have a significant impact on competition.

The test is designed to consider internal competition rather than the effects of the policy on the competitiveness of UK businesses versus non-UK businesses. Given that all Member States in the EU are required to transpose at least the minimum requirements of the Commission Regulations, then the minimum transposition would not be expected to put GB businesses at a competitive disadvantage in relation to other EU businesses and should ensure a level playing field for competition between EU undertakings. However, this general assumption does not take account of the differences in the structure of the economy between different Member States.

The proposed Regulations replace existing GB Regulations (the Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2002 (SI 2002 No.528) and the Environmental Protection (Controls on Ozone-Depleting Substances) (Amendment) Regulations 2008 (SI 2008 No.91)) that are being revoked and replaced in order to create offences and penalties applicable to breaches of the new EC Regulation. Since this change does not affect the types of firms that come under the scope of the proposed legislation or the general nature of the provisions that apply, impacts on existing market structures as a result of these required changes are likely to be minimal. The costs associated with this legislation will not affect some firms more substantially than others or change the number or size of firms. Costs to both existing and new businesses will also be the same.

#### **Small Firms**

The proposal affects businesses in a variety of industry sectors, some of which contain small businesses. It is anticipated that the impact of the proposed Regulations will be minor. The EU Impact Assessment concluded that the proposal treated small businesses in the same way as other businesses in the same sector. The Commission also concluded that the measures in the EC Regulation will not have a disproportionate effect on SMEs.

Trade associations and small firms in the sectors likely to be affected by the proposals have been contacted and no specific disproportionate impact on small firms has been identified. The Partial Impact Assessment and consultation sought information on unidentified impacts or unintended consequences of the new EC Regulation on small firms, however none was forthcoming.

Furthermore our analysis suggests that micro and very small businesses are unlikely to be impacted by the regulation given their systems are usually below the 3kg threshold for leak checks and record keeping. There is no scope for any exemptions for micro businesses given this is EU based legislation although, as pointed out earlier (under "Sectors affected"), the impacts on micro businesses are considered to be minimal.

#### **Greenhouse Gas Assessment**

HCFCs and Methyl Bromide are both potent green house gases and so the reduced emissions set out in the Summary table, on page 8. To enable comparisons between different pollutants all non CO<sub>2</sub>

greenhouse gases have a global warming potential (GWP) ascribed to them. This factor sets out the relative potential to carbon dioxide. The World Meteorological Organisation (WMO) sets that GWP of HCFCs at between 77 – 2310 and Methyl Bromide at 5. Therefore one tonne of HCFCs is equivalent to between 77 and 2310 tonnes of carbon dioxide.

Based on the GWP the savings set out from this proposal would be equivalent to between 4,020 and 119,913 tonnes of CO<sub>2</sub>. Taking the mid-point of the range the central estimate is therefore equal to 61,967 tonnes of CO<sub>2</sub>.

As this is not a Kyoto green house gas there is not a robust manner to place a monetary value on this impact.

### **Wider Environmental Issues**

The principal objective of the new EC Regulation is to minimise and eliminate the production and use of ODS. The proposed Regulations will therefore have positive implications for the protection of the ozone layer. They will have no direct implications for landscapes, water and floods, habitat and wildlife or noise pollution.

### **Health and well being**

The proposed Regulations will directly beneficially impact on health and well being due to reduced ODS use. The Regulations will not result in any health inequalities.

### **Human Rights**

The proposed Regulations are consistent with the Human Rights Act 1998 and do not introduce any questions of equity or fairness.

### **Justice System**

The draft GB Regulations set out the offences and new civil penalties for those who breach any of the requirements of the EC Regulations. The penalties are monetary. A person who refused to pay a penalty would risk prosecution. A person who faced prosecution in this circumstance would not be eligible for legal aid. The penalties applicable to infringements of the proposed GB Regulations are set out in regulation 5.

We have sought to agree the consequences with the Ministry of Justice (MOJ) and have completed stage 1 of the Impact Assessment test – establishing the nature and extent of impact. MOJ officials have assessed the likely impact and determined that no impacts can be identified to any area of MOJ business.

### **Rural Proofing**

The proposed Regulations will not disproportionately impact on those who are based in rural areas.

### **Sustainable Development**

The Regulations are in accordance with the shared UK principles of sustainable development.

## **Sensitivities and uncertainties**

Due to the lack of evidence surrounding ODS markets, figures used to estimate costs and benefits have either been extrapolated from the EC impact assessment of the recast and scaled down according to UK GDP, or extrapolated from the impact assessment to the F-gas regulations (SI 2009 No.261), which includes some similar provisions. It is likely that, where figures have been extrapolated from the European Commission impact assessment, both the costs and benefits have been overstated: industries using ODS are mainly concentrated outside the UK, meaning that the GDP scalar is disproportionately large relative to the UK's share in the market. However, without data on the relative sizes of the markets the GDP scalar is the best available proxy. This also means that all the figures relate to the impacts in UK, whereas this IA only covers GB. We do not believe that this discrepancy will have any material bearing on the impact of the policy.

A year-average spot rate for 2009 has been used for currency conversion, and a sensitivity analysis of the net benefits to different exchange rates is included in Annex 2. The use of a different exchange rate could marginally increase/decrease the size of the net impact, but would not affect the sign of the net impact.

The Commission's impact assessment is based on information gathered through a literature review, three questionnaires focussing on specific stakeholder groups (Member States, Industry and NGOs), follow-up interviews (face to face and phone), personal communications by email, as well as a number of meetings on the review of the existing ozone legislation. During this information gathering and discussion, efforts were made to identify economic, administrative cost and other implementation information, and a concerted effort was made to bring together as much quantified information as possible. However the level of information made available was in some areas rather limited as the information gathering produced little quantitative data relevant for an advanced analysis of impacts. This was at least in part due to the sensitive and confidential nature of much industry information in this sector. Nonetheless impacts for all key proposed options were quantified. In some cases this has involved reliance on assumptions to approximate UK effects from the EU data. However, given the scarcity of data in this area this is seen to be a proportionate approach given the scale of the impacts.

Further to the EC IA, data and information from the industry was sought during the consultation on the GB regulations and partial impact assessment in 2009/10. There were no comments from industry on the partial IA which suggests that the impacts are realistic. Additional information was received from industry regarding the removal of the export ban of controlled substances and as a result the costs of this impact have been reassessed and are now considered negligible. The only data available is that in the EU IA and, as explained above, this is limited and subject to commercial confidentiality. There is no sensitivity analysis because the EU IA did not provide such an analysis.

HCFCs and Methyl Bromide are both potent green house gases, the emission savings identified in this IA are equivalent to between 4,020 and 119,913 tonnes of CO<sub>2</sub>.with a central estimate of 61,967. As both these pollutants are not covered by the Kyoto Protocol there is no established methodology to value the climate change benefits of this reduction. To illustrate the importance of this saving a sensitivity has been undertaken using the traded price of carbon as a pragmatic approximation of the social cost of these emissions.<sup>1</sup> On this basis the climate change benefit has been estimated at between £45,138 - £2,960,337 with a central estimate of £1,238,382. The omission of these benefits therefore means the reported monetary benefits are likely to significantly understate the true social benefits of Option 1.

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## **Summary**

The recast aims to:

- continue the work of the Montreal Protocol in reducing the use and trade of ODS and the products and equipment that rely on ODS;
- simplify regulation and reporting requirements in order to reduce the administrative burden on industry, the European Commission and Member States;
- facilitate future regulation of remaining ODS by updating the reporting requirements for ODS; and
- facilitate monitoring of and enforcement against illegal trade and use of ODS by updating labelling and licensing requirements.

Given the relatively small costs required to implement these provisions, combined with even larger cost savings and unvalued benefits in reduced ODS emissions, implementation of the Regulation in GB will be net beneficial in its impacts. As HCFCs and Methyl Bromide are also both potent green house gases and so increased control in their emissions will also mitigate the equivalent of 62 kilo tonnes of CO<sub>2</sub>.<sup>2</sup>

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<sup>2</sup> As both these pollutants are not included in the Kyoto protocol it is not possible to place monetary values on these savings.

## Annexes

Annex 1 should be used to set out the Post Implementation Review Plan as detailed below. Further annexes may be added where the Specific Impact Tests yield information relevant to an overall understanding of policy options.

### Annex 1: Post Implementation Review (PIR) Plan

A PIR should be undertaken, usually three to five years after implementation of the policy, but exceptionally a longer period may be more appropriate. If the policy is subject to a sunset clause, the review should be carried out sufficiently early that any renewal or amendment to legislation can be enacted before the expiry date. A PIR should examine the extent to which the implemented regulations have achieved their objectives, assess their costs and benefits and identify whether they are having any unintended consequences. Please set out the PIR Plan as detailed below. If there is no plan to do a PIR please provide reasons below.

**Basis of the review:** [The basis of the review could be statutory (forming part of the legislation), i.e. a sunset clause or a duty to review, or there could be a political commitment to review (PIR)];

Regulation 13 of the proposed Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011.

**Review objective:** [Is it intended as a proportionate check that regulation is operating as expected to tackle the problem of concern?; or as a wider exploration of the policy approach taken?; or as a link from policy objective to outcome?]

Enforcement legislation needs to be in place to meet the requirements of Article 29 of EU Regulation 1005/2009 on substances that deplete the ozone layer. The review will check on the effectiveness, as a control measure, of this GB enforcement instrument.

Preambular paragraph 24 to EU Regulation 1005/2009 requires that "in view of the continuing innovation in the sectors covered by this Regulation, the Commission should regularly review" the Regulation and make proposals, particularly when technically and economically feasible alternatives to the use of controlled substances become available. The Regulation itself provides for changes to be made to various provisions, for example to add new substances which only needs to be reported on to the list of controlled substances.

**Review approach and rationale:** [e.g. describe here the review approach (in-depth evaluation, scope review of monitoring data, scan of stakeholder views, etc.) and the rationale that made choosing such an approach]

The review will take the form of an informal sounding of enforcement bodies (SEPA, EA, local authorities) and a sample of users of ozone-depleting substances. The review would be limited to the effectiveness of the enforcement arrangements given the aspects of the Regulation on use and production of ODS are the EU's implementation of the Montreal Protocol and therefore review of these provisions will be taken forward at EU and international level, with the UK participating fully in this process. We would consider whether the enforcement authorities are effective, whether they have the appropriate powers in effectively enforcing the EU Regulation, whether the sanctions remain appropriate for both ensuring compliance and ensuring that they are not excessive, whether the notices provided for are used and if not whether they remain necessary.

The review provision in the EU Regulation, mentioned above, ensures that the Regulation keeps up to date with technological developments.

**Baseline:** [The current (baseline) position against which the change introduced by the legislation can be measured]

At a GB level the Government sponsors a business support unit known as "F-Gas Support", to provide guidance and advice to organisations and individuals affected by the ODS and Fluorinated Gas regulatory frameworks. There is a steady stream of enquiries on OSD (approximately 9% of enquiries received) and this has helped to ensure compliance. No prosecutions have been taken under the previous, 2002, GB Regulations.

A key feature of the success of the Montreal Protocol is its focus on phasing out production and consumption of ozone-depleting substances (ODS), rather than targeting emissions. By the end of 2005 all 191 Parties to the Montreal Protocol had achieved an overall 95% reduction in the consumption of ODS compared to established baselines. Reductions were highest in industrialised countries (99.2%) and lower (80%) in developing countries. From 2010, production and consumption of the most harmful (known) ODS was banned in industrialised countries, except for a small number of exempted/non-controlled uses. The ozone layer is slowly recovering albeit with a 10-15 year delay compared to earlier projections and although future measures will not achieve similarly dramatic reductions, global challenges remain and failure to comply with EU legislation would contribute to delaying recovery of the ozone layer. The EU Regulation

provides for the Commissions to establish an Annex with a list of products where recovery is considered technically and economically feasible and this Annex may change, through review, in light of continuing innovation in the sector. The EU legislation takes into account the role of short-lived ozone-depleting substances, which is believed by Montreal Protocol technical experts to be of greater importance than previously assessed, by extending reporting requirements to new substances and, if appropriate, to bring them under control by including them in the list of restricted substances.

**Success criteria:** [Criteria showing achievement of the policy objectives as set out in the final impact assessment; criteria for modifying or replacing the policy if it does not achieve its objectives]

It is expected that enquiries to F-Gas Support will increase following the transposition of the regulation as organisations aim to become familiar with the provisions, and then would return to BAU levels. we would anticipate that no additional prosecutions would take place under the new Regulations.

UK plays its full part in any reviews of the EU Regulation and there is industry consultation as appropriate.

**Monitoring information arrangements:** [Provide further details of the planned/existing arrangements in place that will allow a systematic collection systematic collection of monitoring information for future policy review]

In relation to enforcement provisions, regular meetings are held with representatives of the enforcement authorities and effectiveness of the regulation will be discussed. Regular and ongoing discussions with industry through stakeholder meetings will also provide evidence on the enforcement provisions of the regulation.

The review provision in the EU Regulation, mentioned above, ensures that the Regulation keeps up to date with technological developments.

**Reasons for not planning a review:** [If there is no plan to do a PIR please provide reasons here]

## Annex 2: Evidence Base

### Annual costs and benefits

As we do not have the raw data streams to calculate the average annual costs and benefits, we have disaggregated the European Commission impact assessment's total costs and benefits (calculated as a 2010 net present value figure) and determined estimates for the mean annual costs and benefits.

The lifetime of the policy (n) is estimated at 10 years, as most ODS will have been phased out by 2020. The discount rate (r) is 3.5% (0.035).

$$\sum_{n=1}^1 [x * \frac{1}{(1+r)^n}] = NPV$$

where x is the constant average annual cost/benefit

$$\text{Therefore } x = \frac{NPV}{\sum_{n=1}^{10} (1/1.035)^n}$$

i.e. the average annual cost/benefit is the Net Present Value divided by the sum of the discount factors.

Year	n	Discount factor = $1/(1.035)^n$
2010	0	1
2011	1	0.966184
2012	2	0.933511
2013	3	0.901943
2014	4	0.871442
2015	5	0.841973
2016	6	0.813501
2017	7	0.785991
2018	8	0.759412
2019	9	0.733731
<b>Sum of discount factors</b>		<b>8.607687</b>

### Annual costs

Net present value (NPV) of costs = £0.025m

$$x = 0.025/8.607$$

**x = £0.003m** (3 d.p.)

### Annual benefits

Net present value of benefits (NPV) = £0.339m

$$x = 0.339/8.607$$

**x = £0.039** (3 d.p.)

## Conversion Factors

In order to convert from EU to UK values three adjustments have been undertaken:

- Estimation of UK proportion of EU costs, undertaken through a GDP scalar;
- Conversion from Euro to Sterling, using Bank of England spot rates; and
- Discount rate adjustment, altering from the EU 4% discount to the UK 3.5%.

Based on these adjustments the conversion from the EU and UK values is undertaken by undertaking all of these adjustments in turn. For example the stated EU admin benefit to industry of €2.3million from clarifying and simplifying the regulations is first refined to the likely UK proportion which is 13.4% of the total giving an impact of €0.31million. This is then converted to sterling using the exchange rate €1:£0.889 giving a value of £0.27million. Finally the discount adjustment is applied increasing the net present value by approx 2% to £0.28million.

This remainder of this section provides to detail on how each of these changes have been undertaken.

### GDP Scalar

As all costs and benefits in these impact assessments and the CLEEN report were calculated for the entire European Union, a scalar was needed to estimate these figures solely for the UK. As no data exists on the relative size of ODS industries across the EU, a GDP scalar has been used.

Forecast figures for 2010 GDP were used as all figures used in the IA are calculated as 2010 Net Present Value. The 2010 GDP scalar value is sufficiently similar to the 2008 value (the most recent year for which actual data is available) to support its use. It is worth noting that the GDP scalar is likely to over-estimate the UK impacts as the UK has successfully phased out more of its ODS industries than many other Member States, particularly those in Eastern Europe.

Gross Domestic Product, PPP (£m)	2008 (actual)	2010 (forecast)
UK	1,816,086	1,651,476
EU-27	12,512,070	12,352,139
<b>Scalar</b>	<b>13.1%</b>	<b>13.4%</b>

Source: Eurostat

### Euro-Sterling Convertor

As the figures in the referenced papers are stated in Euros, it was necessary to convert them to pounds sterling using a conversion factor of € 1 = £ 0.8892 (4 decimal places), which is the mean spot rate from 24<sup>th</sup> November 2008 to 23<sup>th</sup> November 2009.

A basic sensitivity analysis has been conducted to test the estimation of the net present value against fluctuations in the exchange rate. The costs and benefits have been adjusted against the 52-week high and low exchange rate in the year of the mean spot rate used. As shown below, adjusting the exchange rate has a minimal impact on the NPV, at most, decreasing the NPV figure by £0.003m.

Exchange rate	Costs (£m)	Benefits (£m)	NPV (£m)	Change in NPV based on different exchange rates (£m)	% change
Mean spot rate € 1 =£ 0.8892	-0.025	0.339	0.314	-	-
Year high € 1 = £ 0.9804	-0.027	0.374	0.346	0.032	+10%
Year low € 1 = £ 0.8268	-0.023	0.315	0.292	-0.022	-7.1%

Source: Bank of England

Note that figures may not sum due to rounding

### **Discount adjustment**

As the net present values of all the monetised values in these impact assessments were calculated for the entire European Union using a 4% discount rate. This rate is slightly higher than the UK standard discount rate of 3.5%. The impact of this higher discount rate means that the net present values are lower than they would have been using the UK rate.

As the impacts are assumed to remain constant over the period it is possible to use a linear adjustment to estimate the impact of moving from the EU to UK discount rate. To estimate the scale of the difference the table below estimates the value of a reoccurring £1 impact in each of the 10 years in consideration.

Year	4% discount	3.5% discount
1	£1.000	£1.000
2	£0.962	£0.966
3	£0.925	£0.934
4	£0.889	£0.902
5	£0.855	£0.871
6	£0.822	£0.842
7	£0.790	£0.814
8	£0.760	£0.786
9	£0.731	£0.759
10	£0.703	£0.734
	<b>£8.435</b>	<b>£8.608</b>

This table shows that using a 4% discount rate results in an NPV of £8.44 while a 3.5% discount rate provides a NPV of £8.61. Therefore the impact of the 4% discount rate over the period has resulted in a 2.043% underestimate relative to the use of 3.5%. As the percentage difference between these values remains constant irrespective of the amount under consideration this can be used to adjust for the different discount rates. In this case moving from 4% to 3.5% is equal to a 2.043% uplift in the reported estimates. Therefore over 10 years a reported £1m npv at 4% discounting would equate to a £1.02m npv at 3.5%.

## Impacts Analysis

These figures have been derived from the EC's impact assessment (left-hand columns) and scaled accordingly to calculate the impacts for the UK (right-hand columns). Qualitative assessments have been made where data is not available.

		EU						UK						
		NPV 2010 (€ m)					ODP tonnes	NPV 2010 (£ m)*					(ODP tonnes)	Other costs/benefits
Policy		Direct economic impact	Total admin impact***	Admin impact on industry	Admin impact on Member State	Admin impact on Commission	Ozone-depletion saving 2010-20	Direct economic impact	Total admin impact***	Admin impact on industry	Admin impact on UK	Admin impact on Commission	Ozone-depletion saving 2010-20	
Simplification of the Regulation	Clarifying and simplifying the Regulation	None	2.35	2.3	0.02	0.03	0-50	None	0.286	0.280	0.002	0.004	0-6.7	Improved compliance and enforcement, reduced admin burden on SMEs and UK
	Simplified reporting	-	0.49	0.07	0.4	0.02	+	-	0.059	0.009	0.048	0.002	+	Improved compliance and enforcement, reduced admin burden
	Updating exemption regimes and related administrative processes	-3.3	+	+	+	+	+	0-6570	- (***)	+	+	+	+	0-880
Methyl bromide	Ending Quarantine and Pre-Shipments use**	-0.158	+	None	+	+	0-36.7	-0.019	+	None	+	+	0-4.9	Health and safety benefits
	Emergency use	None	None	None	None	None	None	None	None	None	None	None	None	None
Export ban on waste ODS		-	None	None	None	None	+	-	None	None	None	None	+	Reduced illegal trade/harmful disposal of ODS, possible job increase
New substances	New ODS	+	-0.12	-0.05	-	-0.03	+	+	-0.014	-0.006	-	-0.004	+	Easier monitoring for future regulation/phase-out. Environmental benefits – reduced risk of ozone depletion without significant economic impact on industry.

	Feedstock, Laboratory and Processing Agent use	None	-	-	None	None	0-90	None	-	-	None	None	0-12.0	Reduced illegal trade of HCFCs. Increased consumer choice.
Labelling	Reclaimed and Recycled HCFCs	None	-	-	None	None	+	None	-	-	None	None	+	Reduced illegal trade of recycled/virgin HCFCs
Leakage checking		None	-	-	None	None	+	None	-	-	None	None	+	Reduced leakages and ODS emissions, increased energy efficiency
Ban on purchase of recycled HCFCs		+	-	-	None	None	0-300	+	-	-	None	None	0-39.9	Reduced illegal trade of virgin HCFCs
Licensing		None	-0.17	None	-	-	0-130	None	-0.020	None	-	-	0-17.3	Reduced illegal trade/harmful disposal of ODS

(\*) Factoring in GDP scalar, £ exchange rate and discount scalar

(\*\*) Impact given for January-February 2010 only, as all QPS use is banned under the Plant Protection Products Directive, effective March 2010. **As this cost is estimated as an upper bound, a mid-point has been used in calculations of total costs and the net present value.**

(\*\*\*) "Total admin impacts" is the sum of admin impacts on industry, the UK and the EC as set out in this summary table. The separation of these measures in neighbouring columns has been undertaken to show the spread of the impacts where data is available, but are all included in the total.

(\*\*\*\*) This impact was removed based on additional information provided by industry as set out in the more detailed consideration of costs and benefits.

Note that a negative symbol or figure indicates a **cost**.

"+" indicates a small, unquantifiable benefit

"-" indicates a small, unquantifiable cost

Figures may not sum to those in the summary sheet due to rounding.

## Annex 3: EU Impact Assessment



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