



Department
for Environment
Food & Rural Affairs

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Consultation on implementing the new EU Fluorinated Greenhouse Gases Regulation

Summary of responses

February 2015



Llywodraeth Cymru
Welsh Government

www.wales.gov.uk



The Scottish
Government
Riaghaltas na h-Alba

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1 Background

1. The purpose of this consultation was to seek views on the Fluorinated Greenhouse Gases Regulations 2015 and the assessment of the impact the Regulations would have on businesses. The consultation period ran from 16 December 2014 to 20 January 2015.
2. Questions were structured to seek views on those aspects of the new Regulations that were significantly different from the Fluorinated Greenhouse Gases Regulations 2009, which they replace. Questions were also asked to test the assumptions in the impact assessment.

2 Summary of Responses

3. A total of 27 responses were received, comprising 22 online through Citizen Space and a further five by email. A list of respondents is at Annex A.
4. This document summarises the answers given to the questions raised in the consultation and outlines the Government response. For the questions requiring a yes/no answer, tables are included showing the respective numbers. The written responses are also included in these numbers where it was evident that the response was agreeing or disagreeing with the proposal; otherwise it is recorded as not answered. For questions inviting further comments, the text summarises both online and written responses.

2.1 Responses on the Regulations

Q1: Are you content with the proposals for limiting powers of entry?

Answer	Yes	No	Not answered
Number of responses	21	3	3

5. Most respondents agreed with the proposed limitations for powers of entry. One respondent noted that limiting powers of entry to the hours of 8am to 6pm might create some minor practical difficulties for inspecting activities which operated outside of those hours. In most cases, that would not be a problem as officers would be able to operate outside of those hours with the consent of the business involved or by using powers under other legislation if the incident were major. One respondent asked for clarity over the need for a warrant to access premises and another felt that this requirement added an unnecessary layer of bureaucracy which would weaken enforcement. A warrant is only needed when consent for access is not given, which will be in relatively few cases.

Q2: Do you think the proposed balance between direct criminal offences and enforcement notices is appropriate to ensure effective compliance with the EU Regulation? If not, please explain why.

Answer	Yes	No	Not answered
Number of responses	23	4	

6. Most respondents felt the balance between direct criminal offences and enforcement notices was appropriate. Some respondents expressed concerns about the enforcement mechanisms being weakened as the number of actions for which there is criminal liability is reduced. It was feared that enforcement notices would provide insufficient deterrent, particularly if the price of HFCs increased significantly and incentivised illegal trade.
7. The Government aims to avoid the proliferation of criminal offences and use other enforcement methods where they are effective. The overall aim is to ensure compliance rather than to criminalise people as far as possible. Issuing an enforcement notice gives the company or individual the chance to stop the activity that breaches the EU Regulation, which in many cases may have been done inadvertently. It also takes considerably less time for the enforcing authority to issue an enforcement notice than to prosecute, enabling them to be used more frequently, thus bringing more people into compliance. Nevertheless, failing to comply with an enforcement notice will still result in criminal liability. In addition, in a few cases where an action would seriously undermine the objectives of the EU Regulation or an enforcement notice would not act as sufficient deterrent, the Regulations retain the option of a direct criminal offence. On balance, therefore, and in line with the view of the majority of respondents, the Government has decided to retain the split between enforcement notices and criminal offences as set out in the consultation. Nevertheless, we will continue to take stock of the adequacy of the enforcement powers as the new EU Regulation beds down.

Q3: Do you have any other comments on the draft Regulations?

8. Some respondents pointed out that the names or roles of certification and evaluation bodies listed in the Regulations had changed. We have amended those accordingly.
9. Most of the other responses to this question related to how enforcement was carried out in practice, rather than being directly relevant to the powers provided in the Regulations. Those issues do not, therefore, require changes to the Regulations but the Government, nevertheless, takes such comments seriously. A summary of the main points raised and the Government's initial response is set out below.

Overall impact of the EU Regulation

10. A couple of respondents expressed support for the objectives of the EU Regulation on the grounds that alternative technologies were available to replace harmful F-gases.
11. One respondent felt the measures were being introduced too soon, that industry was not yet ready, costs would be too high and alternatives to F-gases were not available in all cases.
12. The Government believes that the EU Regulation strikes the right balance between the need to take action promptly while allowing industry sufficient time to adapt. Many cost-effective alternatives are already available and F-gases will be phased down gradually over 15 years with some provision remaining beyond that for essential uses. The European Commission is also monitoring the impact of the measures on prices and must undertake a review of the Regulation in 2017 with the opportunity to take action if impacts are more severe than expected.

Adequacy of current enforcement

13. Some respondents were concerned that insufficient resource was dedicated to enforcement and that enforcement activities were not sufficiently visible to act as a deterrent and address non-compliance.
14. Enforcement in England is undertaken by the Environment Agency with support as necessary from local authorities. The Scottish Environment Protection Agency, Natural Resources Wales and Northern Irish local authorities undertake enforcement in their respective parts of the UK. In addition, HMRC is responsible for enforcement in respect of imports and specialist enforcement officers undertake the work on offshore installations. Defra will continue working with the various enforcement bodies and the devolved governments to clarify their respective responsibilities in relation to the new EU requirements.
15. The Government's aim is to ensure that enforcement measures are sufficient to achieve the overall objective of the EU Regulation which is to reduce F-gases by 80% by 2035. We also aim to keep costs to businesses and the public no higher than is necessary to meet that objective. In order to achieve that balance, the enforcement bodies take a risk based approach, focusing in particular on those undertakings and activities where lack of compliance is likely to be highest. This produces a good level of compliance without excessive burdens on businesses or wasted resources. So far, this approach appears to have been working sufficiently well as analysis¹ shows the growth in emissions of F-gases has been stemmed in the past few years. Nevertheless, we take stock regularly of the appropriate level of enforcement and will continue to do so as the new requirements bed down.

¹ National Atmospheric Emissions Inventory: http://naei.defra.gov.uk/overview/pollutants?pollutant_id=HFCs

Certification database

16. Several respondents called for a mandatory database of certified undertakings and personnel in order to reduce the number of uncertified operators and make it easier for F-gas suppliers to comply with the requirement that they sell only to certified personnel.
17. The Government welcomes the voluntary databases which the industry and certification bodies have already established. In considering whether a centralised or mandatory system should be established, the benefits would need to be assessed and weighed against the costs to businesses and/or the public of establishing and maintaining a system, alongside alternative ways of ensuring compliance with the certification requirements. Defra is happy to consider this issue in more depth with the industry.
18. With regard to compliance with the requirement to sell F-gases only to certified undertakings, the Government recommends that suppliers obtain a letter of assurance from customers that the F-gases will be used by appropriately qualified personnel. More detailed guidance, including a sample letter of assurance, is available here: <https://www.gov.uk/f-gas-wholesalers-record-keeping-requirements>

Relationship with the Energy Performance of Buildings (EPB) Regulation

19. One respondent called for better co-ordination between the implementation of the F-gas Regulation and the Energy Performance of Buildings Regulation, which focuses on the energy efficiency of air conditioning systems, to ensure both were delivering as effectively as possible. Defra will explore this issue further with industry and the Department for Communities and Local Government.

Compliance questions

20. Several respondents asked questions about how to comply with the new EU Regulation, covering issues such as the new labelling requirements, the level of diligence required by suppliers in determining whether a customer is certified, the format for audits, site visits by certification bodies, the regulation of monobloc air-conditioning, the regulation of air-conditioning dismantling during building demolition and the approach to cross border offences.
21. Guidance is now available on how to comply with the regulations in summary form here: <https://www.gov.uk/government/collections/eu-f-gas-regulation-guidance-for-users-producers-and-traders> and in more detail here: <http://www.gluckmanconsulting.com/f-gas-information-sheets/>
22. However, we have also passed on the specific questions raised during the consultation to the F-gas support team to provide answers to those who raised the queries. For other queries which are not answered by the guidance above, the team can be contacted at f-gassupport@environment-agency.gov.uk. In some cases it may not be possible to offer definitive advice at this stage as the answer will be contained in detailed implementing regulations from the European Commission which have not yet been published.

2.2 Responses on Impact Assessment

Q4: The impact assessment makes assumptions about the time required to complete each enforcement activity (see Annex B). Based on your experience, do you agree with these assumptions?

Answer	Yes	No	Not answered
Number of responses	18	2	7

23. Most respondents agreed with the assumptions. One noted that the timescales required to prepare for inspections was often longer than assumed in our assessment, particularly for larger companies. We agree that in some cases more time could be required and have therefore adjusted our estimates accordingly in the revised assessment at Annex B.

Q5: The impact assessment makes an assumption that the employee that will action these activities is likely to be a Corporate Manager or a Director. Do you agree with this assumption?

Answer	Yes	No	Not answered
Number of responses	17	3	7

24. Most respondents agreed with the assumptions. Several noted these types of activities can be undertaken at more junior levels, especially in large companies. We agree that this is likely to be the case but we do not have enough information to assume in how many cases and in what capacity more junior staff would be involved. Therefore we have not adjusted the Impact Assessment, but acknowledge that the cost is likely to be over-estimated for some companies.

Q6: Do you anticipate there to be any additional financial or other burden associated with the proposed domestic Regulations that we have not considered or monetised in the Impact Assessment? Q7: Do you have any other comments on the Impact Assessment?

Answer	Yes	No	Not answered
Number of responses	7	13	7

25. Several respondents mentioned the additional cost for wholesalers to check their customers were compliant, for employers to ensure their staff were trained, the time required for reporting and record keeping and the cost of replacing equipment. While these are important cost impacts, they arise from the requirement of the EU Regulation itself and not from the domestic enforcement Regulations which were the subject of this

impact assessment. The costs imposed by the EU Regulation were assessed by the European Commission and considered during the course of the negotiations on the EU Regulation in 2013 and 2014. We have, therefore, only estimated now the additional cost impact of the enforcement and compliance measures in the domestic Regulations.

3 Next steps

26. Defra is grateful to all respondents who provided their views and ideas. We are pleased that a majority showed support for the new Regulations. The Regulations have now been laid in Parliament and, subject to Parliamentary approval, will come into force before the end of March 2015. We expect the European Commission to produce various implementing regulations over the course of this year covering issues such as labelling, training and certification. The Environment Agency will launch targeted communications to encourage compliance and ensure effective enforcement.
27. Defra will continue to liaise with stakeholders on implementation and enforcement, including the important points raised during this consultation.

Annex A – List of respondents

- Air Conditioning and Refrigeration Industry Board (ACRIB)
- Alstom Grid UK Limited
- Autoclimate Ltd
- Business Edge Ltd
- BOC Limited
- British Compressed Gases Association (BCGA)
- Chemviron Carbon
- CNR International (UK) Ltd
- Dearman Engine Company Ltd
- Energy Networks Association
- Environmental Investigation Agency (EIA)
- European Association of Refrigeration, Air-Conditioning and Heat Pump Contractors
- F-GasRegister.com
- Grey's Cooling Services Limited
- HRP
- Keep It Cool
- Mexichem UK Limited
- Natural Resources Wales
- QUIDOS
- REFCOM
- SELEX ES
- Scottish Environment Protection Agency (SEPA)
- WEMCO

There were four other responses which asked for their details to remain confidential.

Annex B – Impact Assessment

Rationale for intervention and intended effects

Fluorinated gases (F-gases) were largely introduced as replacements to chlorofluorocarbons (CFCs) which damage the ozone layer. F-gases include HFCs (hydrofluorocarbons), PFCs (perfluorocarbons) and SF₆ (sulphur hexafluoride). They are used in refrigeration, air-conditioning, insulation foams, electrical equipment, aerosol sprays, medical inhalers, solvents and fire extinguishers. Although they do not damage the ozone layer, F-gases are powerful greenhouse gases. Emissions occur through leakage during the manufacture, operation and disposal of products, contributing to climate change. The EU, therefore, introduced a Regulation in 2006 to limit the growth in emissions. That Regulation focused on leak repairs, F-gas recovery and technician training. Although it stabilised emissions it has not led to a significant reduction. That Regulation has, therefore, been revoked and replaced by a new one which applies from January 2015 and will lead to an 80% reduction in F-gases by 2035. It will achieve that by:

- a) Gradually phasing down the amount of F-gases that can be placed on the EU market. The phase down operates via a quota system that will specify the amounts of HFCs that individual companies can place on the market. Quotas will be cut in a series of steps, starting with a 7% reduction in 2016 and reaching a 79% cut by 2030.
- b) Bans on the use of F-Gases in a number of specific applications, relating to new equipment.
- c) A ban on those F-gases with very high global warming potentials used for the servicing of certain types of existing refrigeration equipment.
- d) Some strengthening of existing obligations on leak checking and repairs, F-Gas recovery and technician training.

The new EU Regulation is directly applicable in the UK. It requires Member States to “take all measures necessary” to ensure the Regulation is implemented and to apply “effective, proportionate and dissuasive” penalties. We propose to achieve that by means of domestic Regulations covering enforcement and offences, similar in nature to the one from 2009 which enforced the 2006 EU Regulation. The new domestic Regulation will repeal and replace the 2009 version. This assessment focuses only on this new domestic legislation.

Viable policy options (including alternatives to regulation)

The UK is legally bound by the EU Regulation, Article 25 of which requires Member States to lay down rules on penalties applicable to infringements which must be effective, proportionate and dissuasive.

The elements of the EU Regulation which require specific domestic implementation can be broadly categorised as:

Enforcement – where we propose that criminal offences and other breaches to which the enforcement provisions apply are defined by reference to what is set out in the EU Regulation.

Certification – where Member States are required to designate certification and evaluation bodies to make training available to people such as engineers and installers carrying out specific listed tasks such as equipment installation, leak checks, F-gas recovery, etc. Member States are required to ensure that the certification and evaluation bodies meet certain requirements which are described in the legislation by reference to the EU Regulation without any additional requirements.

In order to meet those requirements, we propose fully repealing the 2009 domestic Regulations used to implement the 2006 EU Regulation and replacing it with new Regulations with the same powers, but adjusted to reflect the wider scope of the new EU Regulation. As with the 2009 Regulations, we propose that it applies to England, Scotland, Wales, as well as Northern Ireland in relation to import and export controls and trade, and includes:

- a) A renewal of the existing power for customs officers to ask for proof that import is lawful under the EU Regulation, with a power to impound or dispose of the product if that proof is not provided.
- b) Re-appointment of enforcement bodies: the Environment Agency, Scottish Environment Protection Agency, Natural Resources Wales, the Department of the Environment (Northern Ireland), local authorities, port health authorities, the Secretary of State and Scottish and Welsh Ministers, with a power for them to appoint others to carry out enforcement duties.
- c) A power for the enforcement bodies to issue enforcement notices for failure to comply with requirements of the EU Regulation.
- d) Renewal of the power for authorised persons to enter premises (except residential premises) to carry out inspections, take samples, seize and/or dismantle equipment, question staff, examine records or serve a notice requiring specified information, in order to enforce the provisions of the Regulation.
- e) Re-appointment of the certification and attestations bodies who issue the qualifications for operators and engineers required by the EU Regulation, and renewal of the power for the Secretary of State to appoint others if necessary.
- f) Renewal of the requirement that those bodies provide details of certificates/attestations issued and other information requested by the Secretary of State in order for the UK to comply with the EU Regulation requirement to notify the Commission of certification and training programmes.

- g) Renewal of the obligation on employers to ensure employees are properly certified as required by the EU Regulation.
- h) Renewal of offences and penalties for breaching certain provisions of the EU Regulation or failing to comply with a compliance notice.
- i) A requirement that the Secretary of State review the Regulations at least every 5 years to ensure they are meeting objectives.

These measures are considered the minimum needed to comply. They do not add additional requirements or extend the substance of the EU Regulation in any way. For example, they do not extend its scope to additional organisations, activities or products which are not covered by the EU Regulation nor do they bring in measures sooner than would otherwise be the case. We do not consider that there are any other viable options to ensure adequate compliance and avoid the risk of infraction. In addition, a regulatory approach creates a level playing field for UK companies. Companies we have engaged with recognise the benefits of the regulatory approach as it gives them clarity. As is now customary, the new Regulations would make greater use of enforcement notices rather than directly criminalising all activities.

Initial assessment of business impact

This Impact Assessment only considers the costs and benefits associated with the new enforcement and certification Regulations. The costs are assessed relative to continuation of the existing 2009 Regulations and, therefore, quantify the “net” difference between the two. The costs of complying with the provisions in the EU Regulation itself are not assessed here as it was assessed by the European Commission, considered during the negotiation of the Regulation and is now directly applicable in the UK.

The relevant measures in the domestic Regulations which might impose a burden include:

- the power for customs officers to request proof that import is lawful;
- the requirement that employers ensure employees are properly certified (this is just the cost of any check by employers, not the cost of getting certified in the first place which is a direct requirement of the EU Regulation);
- site visits by enforcement officers and the powers of entry, which can include inspections, taking samples, seizing and/or dismantling equipment, questioning staff or examining records;
- requiring companies to provide specified information (by issuing notices);
- the requirement on certification and attestation bodies that they provide, upon request by the Secretary of State, details of the certificates or attestations which they have issued.

We have not assessed the costs on companies if they act unlawfully such as:

- the power of customs officers to impound or forfeit unlawfully imported products;
- the cost of disposing of products imported in contravention of the EU Regulation.

We have, however, considered the risk and impact of these powers being used inadvertently when no breach has occurred.

The new EU Regulation extends to more companies and activities than the one it replaces. The inclusion of refrigerated trucks and trailers in Article 4 adds a significant number of companies that could be checked for compliance. There are about 60,000 refrigerated

trucks and trailers operating in the UK. There are around 50 medium and large logistics providers that operate significant numbers of trucks plus a large number of much smaller companies owning a small fleet. Another additional sector is Organic Rankine Cycles² (ORCs). The number of UK installations is unknown but very small (estimated at fewer than 5).

Most companies subject to the EU Regulation will not be subject to any action under the domestic Regulations in any given year. It would only tend to be applied if they recruited new employees, imported F-gases themselves or were one of the companies receiving information requests or site visits by the regulator to check on compliance. Based on the estimates in the supporting evidence section, we expect around 200³ businesses to be subject to action under the domestic Regulations each year on an ongoing basis. However, this could be between 500 and 1,000 in the first year due, for example, to a surge in one off actions for newly affected businesses.

We have calculated an estimate of the additional cost incurred under each of the activities outlined above. We calculate a gross cost to all UK businesses of £10,785 per annum. We have also calculated a high cost scenario which assumes more time is required for each activity. This leads to a high estimate for the gross costs to business of £62,048 per annum. The costs are low, principally because we do not anticipate a step change in the rate of enforcement from that which currently takes place under the 2009 Regulations. For example, the Environment Agency is not planning to expand its enforcement team. Full details of the calculations and assumptions used are in the supporting evidence section.

For this assessment, we have not been able to find data with which to break down compliance and enforcement activity by the size of business. As the grade/role of an employee involved in the enforcement activity could differ based on the size of the business, we identified a range of possible wage rates from the Annual Survey of Hours and Earnings (2012). To avoid an underestimate, we have used the highest of these wage rates: £20.17 per hour for a Corporate Manager and Director. This has been inflated to 2013 prices and uplifted by 30% to account for non-wage costs in accordance with the Standard Cost Model. The resulting wage rate used is £26.63 per hour. We have also used the corresponding wage rates for other enforcement actions that we detail in the supporting evidence section below.

Under the provisions of the Regulatory Enforcement and Sanctions Act 2008, the domestic Regulations will automatically be within scope of the Primary Authority process⁴. That process is deemed to reduce costs and burdens on business, though we have not attempted to quantify that saving in this assessment.

² ORCs are used for heat recovery from certain forms of combustion such as biomass, industrial waste heat and geothermal heat.

³ This estimate is based on data on the instances of additional activity per annum in Table 1.

⁴ Primary Authority helps businesses get consistent regulatory treatment from different local authorities by forming a partnership with one authority (the 'primary authority') to get assured advice about how to comply, which must then be taken into account by other local authorities dealing with that business.

Risks and Uncertainties

The future projections for additional enforcement activity and the number of additional companies affected contains some uncertainty for the following reasons:

We have used estimates of future enforcement activity based on the nature and volume of current activity by the Environment Agency, which is the enforcement body just for England. We have, therefore, scaled the values for England to one applicable to England, Scotland and Wales based on 2011 census population statistics rather than gathering bespoke estimates from all of the enforcement bodies in the UK.

The time required for companies to fulfil obligations may vary depending on the actual circumstance of each business. We have based our estimates on the maximum time requirement recommended by the EA. We have also calculated a high cost scenario where we have increased the time assumed necessary for each action. Even under this high cost scenario the business impact is significantly under the £1m threshold for a full impact assessment, at £62,048 per annum. We invited comments on this assessment during consultation and have refined them upwards slightly as a result.

Another important uncertainty is the extent to which new enforcement activity will be additional to existing enforcement. It is possible that it may displace some existing activity. However, we have assumed all the new enforcement activity is additional in order to present a gross cost and avoid underestimating the impact. At present the EA's enforcement team is not expected to expand. Discussion with the EA suggests some additional activity is expected, although a step change in the rate of enforcement would not be possible.

It is uncertain how frequently imports of F-gases occur and thus what the impact of customs checks could be. There are currently about 15 companies that import F-gases and this could increase to 25. Again, we have tried to avoid underestimating by using a generous estimate based on the future number of F-Gas importers and the time needed for each check. The impact is not expected to be large.

The cost for employers to check employees are properly certified is uncertain. Until further information becomes available from the European Commission, there is uncertainty about the extent that the Regulation will be applicable to refrigerated trucks and trailers, which is the main additional sector covered in the Regulation. We have again tried to avoid underestimating in the figures we have used.

Supporting evidence

The policy issue and rationale for Government intervention

F-Gases are very powerful greenhouse gases that have a Global Warming Potential (GWP)⁵ thousands of times higher than carbon dioxide. Emissions of F-gases can therefore result in significant negative externalities as the environmental impacts are unlikely to be considered. The UK Greenhouse Gas Emissions Inventory shows 2012 UK F-Gas emissions amount to 11.2 MtCO₂ equivalent (about 2% of total UK greenhouse gas emissions), with the refrigeration, air conditioning and heat pump sector representing 69% of that total.

The new Regulation (EU) No. 517/2014 replaced the existing F-Gas Regulation (EC) No 842/2006 from January 2015. A Commission review of the previous Regulation showed that although it has been successful in preventing growth in emissions of F-Gases, it would not stimulate the cost effective emission reduction potential that now exists, because on-going emission reductions are being off-set by projected market growth, particularly in relation to heat pumps and growing use of air-conditioning. Numerous technology advances over the last 10 years provide alternatives to F-gases for many applications. The new Regulation will stimulate the further development and commercialisation of these alternatives.

Policy objectives and intended effects

The objective of the new EU Regulation is to deliver significant cuts in emissions of these gases in the period 2015 to 2035 to help meet the EU's wider commitments on tackling climate change. At the core is a phase down in the amount of F-gases that can be placed on the market in the EU, managed via a quota system for producers and importers. The process begins with a cap in 2015, followed by a series of cuts; there is a 7% cut in 2016, leading to a 79% cut in 2030 and beyond. There will also be smaller cuts in perfluorocarbons (PFC) and sulphur hexafluoride (SF₆) emissions stimulated by other aspects of the Regulation.

The new EU Regulation is expected to cut EU F-Gases by 80% by 2035. For the UK, modelling shows an emission reduction of 3 MtCO₂eq by 2020 rising to nearly 8 MtCO₂eq by 2035, representing a 72% reduction.

In addition to the phase-down, other important features of the new Regulation are:

- a service ban that affects the use of very high GWP refrigerants in large commercial and industrial refrigeration applications;
- 11 new bans on the use of F-Gases in certain specified applications;
- changes to existing leak checking requirements; and
- requirements for training, labelling, record keeping and reporting.

⁵ GWP is a relative measure that compares heat trapped in the atmosphere by a certain gas in relation to heat trapped by the same mass of carbon dioxide over the same period of time.

Policy options considered, including alternatives to regulation

The EU Regulation is directly applicable in the UK and requires Member States to “lay down the rules on penalties applicable to infringements of this Regulation and take all measures necessary to ensure that they are implemented.”

Our preferred option for ensuring we comply is to introduce new domestic compliance and enforcement Regulations and repeal the previous legislation which applied to the 2006 EU Regulation.

Another option would be to leave the existing compliance provisions in place, but the risk of infraction penalties would be high as the existing domestic Regulations do not cover several of the new provisions. We have not, therefore, explored this option further. Similarly we have not considered non-regulatory options, as legal advice suggests these would also not meet the UK’s compliance and enforcement obligations.

Expected level of business impact

The EU Regulation affects a number of sectors of the UK economy. The largest impacts relate to the use of F-Gases in refrigeration, air-conditioning and heat pumps. There are also impacts for F-Gases used in: (a) aerosols, (b) insulating foam (c) fire protection, (d) high-voltage switchgear, (e) magnesium casting, (f) solvent cleaning, (g) semi-conductor manufacture and (h) various minor uses. The Regulation also has a strong impact on the F-Gas fluid supply sector including chemical producers, importers, exporters and their supply chain. The new EU Regulation is expected to lead to an extra 350,000 small systems requiring mandatory leak checking, 15,000 large systems requiring automatic leak detection and 60,000 refrigerated trucks and trailers being included in the leak checking regime.

As the EU Regulation is directly applicable in the UK, this Impact Assessment focuses only on the additional measures which need to be introduced domestically to ensure compliance and enforcement. Those are listed in the summary section of this assessment. The following approach has been taken to calculate the cost incurred as a result of the domestic Regulations:

Total Cost = Additional activity as result of the UK Regulations x Time taken to complete activity x Wage Rate

Table 1 sets out the total cost estimates for the central scenario. Costs to the regulator and customs are included in the table for completeness, but are excluded from the estimates of business impact as these will not be incurred by business. Other costs to the public sector have not been assessed as the net effect is likely to be very small. These could include a small additional cost on the Court Service from the requirement to seek a warrant if a business refuses to give access to enforcement officers. There will be associated costs to criminal justice system agencies (Crown Prosecution Service, Her Majesty's Courts and Tribunals Service, Legal Aid Agency, National Offender Management Service) for prosecutions of these new offences. However, as volumes of prosecutions are expected to be fairly low, based on evidence from this assessment we do not anticipate any substantial downstream costs.

We have based the estimated costs of compliance and enforcement action largely on information provided by the Environment Agency (EA). As the regulators for England they have a detailed understanding of the nature and volume of current enforcement activity and how this is expected to change given the expanded scope of the new EU Regulation. For most input assumptions the EA provided us with a range based on their previous experience and we have used the average of this for our central cost scenario.

The EA employs 2 full time staff to carry out enforcement activity and is able to call upon local authority support as necessary. This approach has been successful in stemming the growth in F-gas emissions and so there are no current plans to change it. The majority of contact with companies is to check company certification and personnel qualifications. While the number of employees is not expected to change, discussion with the EA suggests they expect to spend more time on enforcement and compliance, following the widening of the scope of the EU Regulation. Consequently we have assumed the activity which the EA has identified to enforce the new elements of the EU Regulation is additional to avoid underestimating the impact. However it may be that it will displace some current activity. This would lead to a redistribution of costs from businesses covered by the current EU Regulation to those additionally covered by the new Regulation.

Table 1: Total gross cost per annum, central scenario

Activity	Description	Instances of additional activity per annum	Time required for activity, hrs	Wage rate, £	Total cost per annum, £
Information Request	An informal information request to demonstrate compliance.	90	0.5	£26.63	£1,198
Information Notice	A formal request for information	70	1	£26.63	£1,864
Enforcement Notice	Requires an action to be performed by the recipient in order to re-establish compliance. Follows an information notice response which has indicated non-compliance	10	5	£26.63	£1,332
Requirement that employers ensure employees are properly certified	This applies to employers of personnel responsible for leak checking, installation, servicing or recovery of equipment containing F-gases. This is the cost for employers to carry out certification checks for their employees.	400	0.25	£26.63	£2,663
	Costs to the business to respond to EA compliance checks for this activity to prove compliance.	60	0.25	£26.63	£399
Site visit	Enforcement body visits the sites if desk based enforcement is unsatisfactory.	10	5	£26.63	£1,332
Costs to the Regulator	Time costs borne by the regulator to enforce the EU Regulation. Including information requests, information notices, enforcement checks, site	Use assumptions from above; assume same time burden for business and regulator (with the exception of		£14.68	£2,973

	visits and the costs to businesses to provide data to the EA to demonstrate compliance with employee checks	site visits) ⁴			
Power to request proof that import is lawful	Cost to companies if they have to show documentation proving import is lawful	300	0.25	£26.63	£1,997
	Cost to customs for officials to check documentation	300	0.25	£53.10	£3,983
Certification bodies report to SoS	Certification bodies compile 4 reports a year detailing the certificates awarded	No additional activity beyond previous Regulations expected			
Cost to business					£10,785
Total cost					£17,740

Notes:

1. Following consultation the time requirement for site visits has been revised for businesses from 2.25 hours to 7 hours.

2. In case of employer checks on employee certificates, the high cost scenario has been altered to account for uncertainty in the number of businesses affected.

3. Figures may not add exactly due to rounding.

4. Following consultation the time requirement for site visits has increased from 2.25 hours to 7 hours for businesses. However for regulators we have assumed that the time requirement is still 5 hours and has not changed, as the original assumption comes from the Environment Agency and no further information was received during the consultation. Hence for site visits there is a difference between the time requirement for regulators and businesses.

The costs of proving that imports are lawful is approximated using the best available information, following consultation with the Home Office. There are currently approximately 15 companies that import F-gases. This could increase but is unlikely to exceed 25. To avoid underestimating, we use the assumption of 25 companies and that they import monthly. Based on estimates from other import checks we assume a time requirement of 15 minutes in the central scenario and 1 hour in the high scenario.

The costs for employers to check employees are properly certified has also been approximated using the best available evidence. This will only apply to those new sectors to which the EU Regulation applies, as such checks will already have taken place in sectors subject to the old EU Regulation. The main additional sector is refrigerated trucks and trailers. There are an estimated 60,000 in the UK. We assume that one employee can

service/leak check 100 trucks and trailers. This leads to an estimate of around 600 employees which could require their certification to be checked. Given the uncertainty a broad range has been used and we have assumed 400 employees in the central scenario and assumed 1,000 employees in the high scenario. We have assumed each check would take 15 minutes. The estimated cost of employers to check employee certification is based on the first year of the EU Regulation coming into force. After that, costs would only be incurred when there was staff turnover, which means the ongoing costs would be much lower than the first year. Despite the uncertainties with these estimates, we can be confident that the costs will be significantly under £1m in aggregate.

The requirement for certification and attestation bodies to provide details to the Secretary of State is not assumed to have a cost associated with it. We consulted some of those bodies who informed us that they are already required to provide statistical data four times a year as part of the existing EU Regulations. This requires them to compile data and print off a report which takes about an hour to complete - hence a total of four hours per annum. Even with the addition of sectors under the new EU Regulation, the bodies do not think that the time required to compile the data will increase.

We have assumed that the type of employee involved in compliance and enforcement activity will vary depending on the size of the business as follows:

- Sole trader: Engineer owner
- SME: Manager or Director
- Large companies: Environmental consultant

It has not been possible to provide a breakdown of enforcement activity based on the size of business and hence we have taken a maximalist approach by using the highest wage rate of £26.63 gross per hour. This is the adjusted wage rate applicable to SMEs. The employee is assumed to be in the band 'Corporate Managers and Directors' (11) from ASHE 2012. We have adjusted that figure for inflation to 2013 prices and uplifted by 30% to account for non-wage costs in accordance with the Standard Cost Model. SMEs are usually contacted by telephone or email, considered to present a lower burden than sending letters.

Although the estimates in Table 1 are based on best available evidence, there is uncertainty surrounding them. They should, therefore, be seen as a best estimate of the likely impact and provide an indication of the likely scale of impacts. Table 2 shows an estimated cost under a high cost scenario where, following consultation, we have assumed a longer time requirement is necessary to fulfil each activity. Under this scenario the annual enforcement and compliance costs are estimated to be £62,048 for businesses and £92,805 in total. We have rounded where possible to avoid spurious accuracy.

Table 2: High gross cost scenario per annum

Activity	Description	Instances of additional activity per annum	Time required for activity, hrs	Wage rate, £	Total cost per annum, £
Information Request	An informal information request to demonstrate compliance.	90	5	£26.63	£11,984
Information Notice	An official request for information	70	5	£26.63	£9,321
Enforcement Notice	Requires an action to be performed by the recipient in order to re-establish compliance. Follows an information notice response which has indicated non-compliance	10	10	£26.63	£2,663
Requirement that employers ensure employees are properly certified	This applies to employers of personnel responsible for leak checking, installation, servicing or recovery of equipment containing F-gases. This is the cost for employers to carry out the checks for their employees.	1000	1	£26.63	£26,630
	Costs to the business to respond to EA compliance checks for this activity.	60	1	£26.63	£1,598
Site visit	Enforcement body visits the sites if desk based enforcement is unsatisfactory	10	7	£26.63	£1,864
Costs to regulators	Time costs borne by the regulator to enforce the EU Regulation. Including information requests, information notices, enforcement checks, site visits and the costs to businesses to	Use assumptions from above; assume same time burden for business and regulator (with the exception of site visits) ⁴		£14.68	£14,827

	provide data to the EA to demonstrate compliance with employee checks				
Power to request proof that import is lawful	Cost to companies if they have to show documents proving lawful import.	300	1	£26.63	£7,989
Power to request proof that import is lawful	Cost to customs for officials to check documentation	300	1	£53.10	£15,930
Certification bodies report to SoS	Certification bodies compile 4 reports a year detailing the certificates awarded	No additional activity beyond previous Regulations expected			
Cost to business					£62,048
Total Cost					£92,805

Notes:

1. Time estimates for the high scenario are based on the expert opinion of a consultant with extensive experience and knowledge of the F-Gas industry. Following consultation the time requirement for site visits has been revised for businesses from 5 hours to 7 hours.
2. In case of employer checks on employee certificates, the high cost scenario has been altered to account for uncertainty in the number of businesses affected.
3. Figures may not add exactly due to rounding.
4. Following consultation the time requirement for site visits has increased from 5 hours to 7 hours for businesses. However for regulators we have assumed that the time requirement is still 5 hours and has not changed, as the original assumption comes from the Environment Agency and no further information was received during the consultation. Hence for site visits there is a difference between the time requirement for regulators and businesses.

This sensitivity analysis has been carried out using extreme assumptions for the time requirement. Consultation with the EA revealed that the time requirements in Table 2 are the maximum possible time businesses could take to respond to EA contact. Some businesses could take this long, for instance, if they are risk averse or do not have the information available. The high cost scenario assumes all businesses require the greater amount of time shown in Table 2. However in reality this is unlikely to be the case as it is not expected that all businesses would require this much. Although there will be some variation in the time spent, the average is expected to be closer to the values in Table 1 rather than in Table 2, hence Table 2 provides an upper bound estimate. Even using these extreme assumptions, costs in the high scenario are significantly below the £1m threshold.

We have considered the risk of companies being subject to enforcement action unjustifiably and consider the cost to be very low. There have been no instances of erroneous use of powers by the Environment Agency under the existing EU Regulations. To date there have been no cases of F-gases having been confiscated and destroyed by customs officers. Any material temporarily held by customs is released once proper paperwork is provided. There have also been no prosecutions for breach of the existing EU F-gas Regulations. Were a prosecution to be pursued, it would only be after sufficient evidence had been gathered that the Regulation had been breached. If material is suspected of being unlawful it would be tested, which would normally entail taking a very small quantity. There is a theoretical risk that an enforcement body may confiscate a larger quantity of material it suspects to be unlawful, pending such tests. If those reveal it to be legitimate, the business may have lost money as a result of the temporary confiscation. That cost would vary depending on the use or the nature of any supply contract, but is unlikely to be more than a few hundred pounds. Given this situation has never arisen to date, we would not expect the frequency to increase to more than once every few years under the new domestic Regulations.

Summary of impacts on business:

Central estimate of gross costs to business: £10,785

High estimate of gross costs to business: £62,048

We have also estimated the EANCB using these cost estimates, assuming costs are constant over a ten-year period. For the central scenario the EANCB is £9,731 (2009 prices, 2010 PV base year). For the high scenario the EANCB is £55,984.

Table 3: Assumptions

Assumption	Value	Source
Wage rate used for costs to business	£26.63	ONS Annual Survey of Hours and Earnings (2012) inflated to 2013 prices and uplifted by 30% to account for non-wage costs (Standard Cost Model, 2005). Employee assumed to be 'Corporate Managers and Directors' (11)
Wage rate used for costs to the regulator	£14.68	As above; assumed category is 'Conservation and environmental associate professionals' (355)
Wage rates used for costs to customs (power to request proof that import is lawful)	£53.10	Charge out rate for Border Force officers, provided by Home Office. Assumed to cover wage and non-wage costs.
Additional activity for information request, information notice, enforcement notice, requirement that employers check employees are properly certified and site visits	As in table	EA estimate for England scaled by 2011 census population data to represent England, Scotland and Wales
Time Required for information request, information notice, enforcement notice, requirement that employers check employees are properly certified and site visits	As in table	EA estimate for England scaled by 2011 census population data to represent England, Scotland and Wales For site visits the original estimates provided by the EA for time requirements have been revised upwards to account for consultation feedback which indicated site visits may take longer than has been assumed.

Changes made as a result of consultation

In order to test the assumptions used for this assessment we asked the following questions at consultation:

1. Based on your experience do you agree with the assumptions made for the time required to complete each activity. If not can you provide any additional evidence to inform our assumptions of the time requirements required to complete each activity?
2. Do you agree with the assumption that the employee that will action these activities is likely to be a corporate manager or director. If not can you provide an indication of the job title of the employee that is likely to be involved?

3. Do you anticipate there to be any additional compliance or enforcement activity associated with the Statutory Instrument that we have not considered or monetised in this RTA? Can you provide an estimate of the cost impact of this?

Feedback was received on question 1 that indicated that the time required to complete site visits may be longer than the 2.25 hours and 5 hours that we had originally assumed for our central and high scenario. As a result of this feedback we have updated the assumptions on time requirements for site visits to be 5 hours in the central scenario and 7 hours in the high scenario. This does not change the results significantly and we still expect total costs to be significantly below £1m per annum.

Table 4: Changes due to consultation

	Central Scenario		High Scenario	
	Pre-consultation assessment	Post-Consultation assessment	Pre-consultation assessment	Post-Consultation assessment
Costs of site visits	£599	£1332	£1332	£1864
Costs to business	£10,053	£10,785	£61,515	£62,048
Total Cost	£17,008	£17,740	£92,272	£92,805

Four comments were received for question 2. Respondents said that a corporate manager or director may not necessarily be the employee actioning these activities. They answered that it was likely to be more junior staff with the oversight of more senior members. As there were differences in consultation responses on who the exact members of staff would be and their percentage contributions, it has not been possible to update the analysis to take account of this. However, to avoid an under-estimate of the costs, the analysis in this assessment takes a maximalist approach by assuming more senior employees will be involved.

Six comments were received for question 3. These highlighted additional costs which were all related to the EU Regulation itself and not the UK domestic Regulations. As this assessment only considers the impact of the domestic Regulations these costs have not been included in this final assessment.