Department
for Environment
Food & Rural Affairs

Smarter Environmental Regulation Review

Phase 1 report: guidance and information obligations

16 May 2013

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Executive Summary

Over recent decades, successive governments have built a framework of environmental regulation that has transformed the way we treat and value our environment in England. However, this framework has evolved in a piecemeal way and it now consists of hundreds of laws, guidance documents and procedures. Evidence from the Red Tape Challenge (RTC) exercise[1] showed that the framework can appear fragmented, overlapping, inconsistent and complex. For some businesses this may act as a barrier both to effective compliance with their environmental obligations and to growth.

The purpose of this review, launched in July 2012, is to investigate opportunities to reduce regulatory burdens whilst increasing the effectiveness of delivering environmental benefits. A thorough approach has been taken to understanding the problems from a user perspective and to considering how to address them, including how to build on improvements already under way. This includes, for the first time, systematically mapping the stock of environmental legislation, together with the associated guidance, information obligations (IOs) and inspections, as well as carrying out detailed sector case studies.

This report covers the evidence and measures to reform environmental guidance and IOs. The process of gathering evidence and developing proposals has been done in collaboration with regulators, business leaders, trade associations, Civil Society and others with a shared interest in improving both the regulatory framework and outcomes. A group of leading experts on environmental regulation has acted throughout as critical friends, guiding and challenging the development of proposals. Stakeholder engagement culminated in a 200 plus stakeholder event hosted by the Aldersgate Group and Microsoft on 19 September 2012.

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[1] Defra (2012) Red Tape Challenge – Environment Theme Proposals:
http://www.defra.gov.uk/publications/files/pb13728-red-tape-environment.pdf

Guidance

Background

There is a large amount of guidance on environmental regulation, with our mapping exercise finding around 6,000 documents covering more than 100,000 pages. The information relevant to any single business is often contained in several dozen overlapping documents issued by different organisations, in different formats and styles, making it very difficult and time consuming to find out what they need to do to comply. It is particularly hard for smaller businesses and those starting new businesses. The solution businesses consistently favoured through the case studies was to make it much simpler, quicker and clearer to find the information they need to be able to comply with environmental regulations.

Reforms

Defra and its regulators will work with the Government Digital Service (GDS) as it migrates government websites onto the www.gov.uk platform to:

- provide user-friendly guidance on each environmental topic that helps to give businesses and others confidence about what they need to do to comply with the law;

- retain more detailed and technical guidance or materials where there is a clear user need that the Government is best placed to meet;

- provide tailored access to information and answers for less specialist readers;

- archive or find alternative organisations to host other documents.

Our ambition is to do as much of the work as possible by the time Defra agencies' websites migrate to www.gov.uk at the end of March 2014. We are aiming to complete the first component above and to have made significant progress towards the second and third. The work has been informed by a pilot phase, carried out last year on biodiversity guidance, and is being done in partnership with industry and other users of the guidance.

Information obligations

Background

Requirements in environmental regulations to provide information have developed incrementally with around 250 separate obligations in total. This includes both the information required as part of registration or permitting processes as well as information required as part of ongoing monitoring. The review highlighted instances where information is reported at multiple times of year in different formats to different locations. There is a high degree of duplication in reporting basic identification information with more limited duplication in the required environmental information. It is not always clear to businesses why information is reported and how it is used.

Behind the scenes, there are many databases across different regulators with limited interoperability. This makes it harder for regulators to share information and target regulatory resources as effectively as possible. It also makes it harder to make information transparent to the public and others. Our aim is to simplify information obligations and reduce transaction costs for businesses and regulators as far as we can. It is also to manage information more coherently to help release the highest value from the information we collect.

Reforms

Defra and its regulators will:

- do a root and branch review of each obligation to make sure it is needed and used and prepare a plan to implement the changes identified. Unnecessary requirements will be removed as soon as practical;

- work with the GDS to simplify the way information is collected and managed for one obligation;

- establish how far this can be simplified for other obligations and over what timescales.

Our ambition is to do this by March 2014.

Introduction

Our society and economy have benefited from major improvements to our environment over recent decades, driven largely by Government environmental policy and regulation. Air quality is better, rivers are cleaner and we recycle more waste and send less to landfill.

However, substantial environmental challenges remain, and it is essential that the environmental regulatory framework is as efficient and cost-effective as possible to support sustainable economic growth.

The Red Tape Challenge (RTC) is examining the existing stock of legislation on an item by item basis to reduce the burden imposed on business across all Government regulation.

The RTC Environment Theme review raised issues that cut across multiple areas of environmental legislation, concerned with the overall architecture of environmental regulation and how it has been implemented on the ground. Some respondents commented on the complexity of environmental regulation and the need for rationalisation.

The Smarter Environmental Regulation Review (SERR) was initiated to take a cross-cutting 'user perspective' to reforming environmental regulation.

In particular, this review sets out to examine four issues:

Environmental legislation has been introduced in a piece-meal way over the last 15 years due partly to the need to take account of EU regulation, leaving a system that is now complex to understand and in places duplicative, leading to higher costs than necessary.[2] The challenge is increased as Devolved Administrations across the UK take divergent approaches.

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[2] UK Environmental Law Association (2012) The State of UK Law in 2011-2012: Is there a case for legislative reform?:
http://www.ukela.org/content/page/3006/Final%20report%20UK%20Environmental%20Law%20in%202011-2012.pdf

There is extensive **guidance** generated in response to environmental legislation but no consistent principles, architecture or governance to ensure that collectively it is designed from a user perspective.

Some regulatory regimes have significant demands for **information obligations** (hereafter: IOs) from businesses to Government, leading to unnecessary costs as some businesses report information in different formats to multiple Government bodies as well as to industry-led assurance schemes.

Compliance assurance activities have in places become fragmented, with multiple Government agencies monitoring and inspecting the same businesses for different purposes but with limited sharing of intelligence.

This is a collaborative review working across Government, delivering in phases

The Terms of Reference[3] for this review are to make the overall environmental regulatory framework clearer and easier to operate, working alongside and building on current initiatives by Defra, the Department of Energy and Climate Change (DECC), Environment Agency, Natural England and others.

The review includes an initial phase of evidence gathering to understand the current situation, followed by the identification, assessment and selection of options for improvement, and their implementation. Phase 1 is focused on improvements to guidance and information obligations. Phase 2 will examine legislation and compliance assurance.

Options are only being considered if they:

1. Deliver environmental policy outcomes more effectively;

2. Reduce unnecessary burdens, costs and process and free up capacity for businesses and others to innovate, diversify and grow;

3. Are practical, feasible and affordable in either the short or longer term; and

4. Do not result in unacceptable levels of risk e.g. of unintended

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[3] Defra (2012) Terms of reference for the Smarter Environmental Regulation Review: http://archive.defra.gov.uk/corporate/about/how/documents/serr-tor-120704.pdf

consequences.

The review reported to Ministers on options for rationalising guidance and IOs in October 2012. Ministers decided in view of the ambition set for reforming guidance and IOs that work on phase 2 should be postponed. This timing will be revisited during 2013.

The review has built on existing evidence with new mapping and research, and consulted widely

The environmental regulatory framework is broad and complex, with varying impacts on different types of business. Evidence has been gathered to provide a detailed picture of the whole regulatory landscape, so that recommendations are built on a robust understanding of how the framework works in practice.

Background research: This review builds on available research for example on business perceptions of environmental regulation.

Mapping: For the first time the stock of environmental regulation has been systematically mapped, together with the associated guidance, IOs and inspections. A wide range of information was collected on all these arrangements to help analyse and shape potential reforms. The mapping results for the guidance and IOs are summarised below.

Case studies: This top-down mapping has been supplemented with research examining business and trade association perspectives on environmental regulation in 11 business sectors as case studies, the results of which are available in the relevant annex.

Wider consultation: The review has also consulted directly with the RTC Environment Theme Sounding Board, with a dedicated group of leaders in environmental regulation as 'Critical Friends' and with stakeholders who previously expressed interest in the RTC. Proposals have also been developed through a round-table discussion with leading businesses, and a large stakeholder workshop.

It builds on and establishes clearer direction for existing reforms

The issues tackled by this review are not new, and, as noted above, many steps have already been taken within Defra's agencies and across Whitehall to address them for specific policy areas or legislative regimes. However, more can be done to provide a framework to guide collective action with a clearer focus on making it easier for users. This starts with ensuring that overall our approach to reforming environmental guidance and information

reporting adds up to making it as simple as it can be for users.

We have looked beyond immediate constraints

Discussions on potential options started with the question 'What would smart really look like?'. This was to help us understand what is really achievable and what can be done over different timescales as many of the shorter term constraints fall away. This has informed the proposals we have developed so far but has also identified what we should collectively be aiming to achieve over longer timescales. This is set out as an initial destination statement in the next section.

Environmental, **economic and social changes underline the case for action**

Current challenging economic conditions demand that Government achieves environmental objectives as efficiently and cost-effectively as possible to enable sustainable economic growth, minimising costs to business in administering and complying with regulations and to Government in monitoring and enforcing them. For example, a significant proportion of the £1.2bn[4] spent annually on environmental consultants (and the additional sums on environmental lawyers) is likely to be spent on explaining the regulatory framework to businesses, rather than on innovating to deliver better environmental performance.

Pressures are increasing on the environment as the climate changes and the global population increases from around 7 billion today to the projected 9.3 billion by the middle of the century[5]. While UK ecosystems are delivering some services well, about 30% have been assessed as currently declining, and many others are reduced or degraded, including marine fisheries, wild species diversity and some of the services provided by soils[6]. The environmental regulatory framework must be designed to cope with these emerging pressures.

Businesses are increasingly aware of the need to manage environmental risks and some have taken advantage of green opportunities[7], and leading businesses have adopted industry-led performance targets and assurance schemes. Around 97% of

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[4] Environmental Analyst: 2011 Market Assessment of the UK Environmental Consulting Sector
[5] United Nations Population Fund (2013) Linking Population, Poverty and Development: http://www.unfpa.org/pds/trends.htm
[6] UK National Ecosystem Assessment (2011) Synthesis of key findings: http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx
[7] TEEB (2013) TEEB for Business and Enterprise: http://www.teebweb.org/publications/teeb-study-reports/business-and-enterprise/

permits assessed under the Environment Agency's Operational Risk Appraisal (OPRA) system are now assessed as Bands A,B,C (best performers) whereas only 3% are assessed as Bands D,E,F. This suggests that regulations should perhaps focus more on designing for success but with proportionate and effective sanctions for those flouting the law.

Indeed, in some areas compliance rates are low. Several research reports have found that awareness and understanding of environmental regulations can be low, particularly amongst SMEs, and that this can result in lower levels of compliance.[8,9]

Experience from other countries to make regulations easier for users provides insights into what might be possible. For example, the Swedish Environmental Code was adopted in 1998, which amalgamated rules from 15 acts, reducing the number of provisions through consolidating rules[10]. The Resource Management Act in New Zealand established a single legal framework to replace many previous regimes. In the Netherlands the government is rolling out the *Ondernemingsdossier[11]* (business file) which provides a single on-line route for businesses to report regulatory information to the whole of government[12]. There are also areas where the UK provides the model for others to follow, for example in its integrated environmental permitting platform.

Increasingly commonplace information technology provides great opportunities to improve the cost-effectiveness of the regulatory framework, and the imminent move to the single Government domain www.gov.uk provides an opportunity to rethink guidance design and delivery across Defra and its agencies and more widely across Government.

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[8] GHK Consulting (2011) Microbusinesses and Environmental Regulation - Final Report: http://randd.defra.gov.uk/Document.aspx?Document=Deframicrobusiness_FINALREPORT.pdf

[9] GHK Consulting (2012) BR0102 Project Extension to Microbusinesses and Environmental Regulation. Final Report. Issue Paper 1 on Microbusiness: http://randd.defra.gov.uk/Document.aspx?Document=10215_BR0102FINALREPORTISSUEPAPER1MICROBUSINESSES070212withportraits.pdf

10 Swedish Ministry of the Environment (2000): The Swedish Environmental Code: http://www.sweden.gov.se/sb/d/2023/a/22847?setEnableCookies=true

[11] Netherlands Government (2013) Answers for business- Business file: http://www.answersforbusiness.nl/regulation/business-file

[12] Netherlands Government (2013) Ondernemingsdossier: http://www.ondernemingsdossier.nl/

A Destination Statement for Smart Regulation

Why have a destination statement?

This destination statement will help guide action

Our approach to this review was to start by asking what really smart environmental regulations would look like. This was to make sure proposals were sufficient to achieve the changes needed. A number of common and interlinked themes emerged which are summarised in the destination statement diagram below. This provided a starting point for proposals for guidance and information obligations. It will also guide phase 2 of this review and provides a direction of travel for Defra's Better Regulation reforms.

Destination Statement
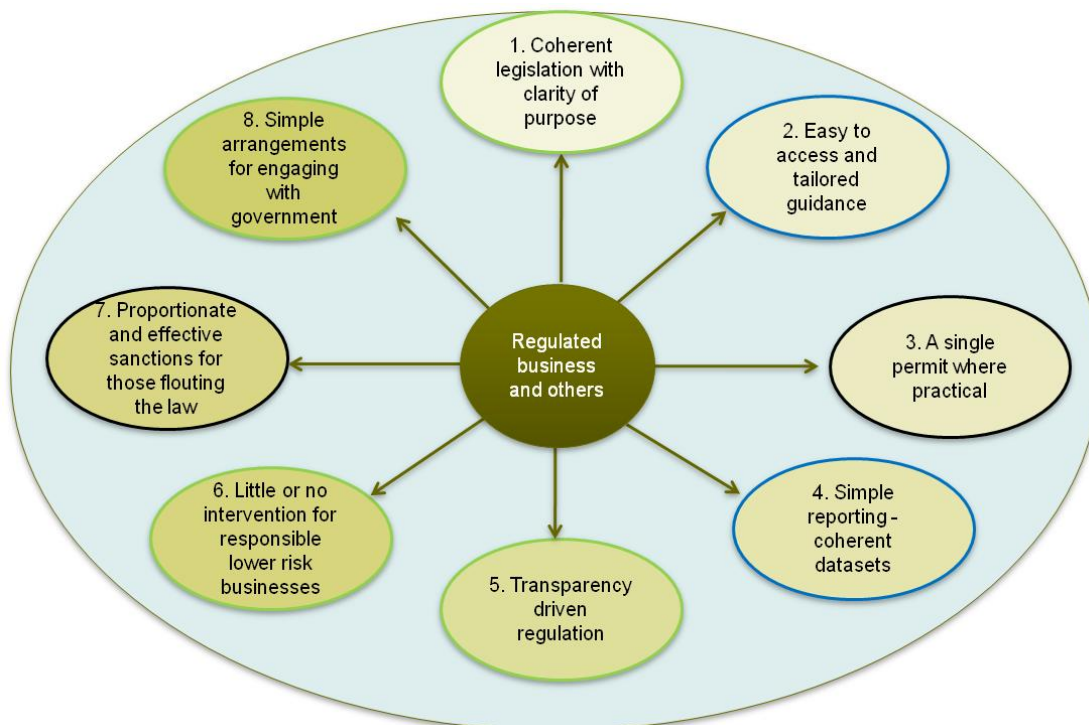
The proposed destination is to achieve:

Coherent legislation with clarity of purpose
Legislation has a clear purpose and provides a coherent set of requirements to achieve its objectives. Legislation is accessible and understandable to those who need to comply with it and less effort is consumed in interpretation and resolving inconsistencies.

Easy to access and tailored guidance
Information on obligations is delivered to its users through the easiest and most direct channels for them, tailored to business and other customer needs and at the appropriate level of detail to inform decision-making. Questions are answered clearly, and businesses spend minimal time searching for information or reading unnecessary material. All overlapping, inconsistent or obsolete guidance has been removed, thereby reducing the overall volume of guidance.

A single permit where practical
Government regulators communicate business-specific environmental requirements through a single permit where practical and cost-effective for the business.

Simple reporting – coherent datasets
All Government bodies collect only the environmental reporting information from businesses that they need through a single simple integrated system, without duplication. Businesses are clear about what they need to report when, and reporting requirements align with business information flows where possible.

Transparency driven regulation
Compliance performance of businesses is generally available to the public in consistent formats while ensuring confidentiality when necessary. Members of the public and other stakeholders are able to scrutinise business performance and apply pressure for improvement where it is needed.

Little or no intervention for responsible lower risk businesses	Audit and inspection activities are coordinated. Business administrative compliance costs are minimised. Regulatory resources are used to maximum impact for both businesses and the environment, being targeted according to environmental risk, with proportionate intervention for lower risk businesses that are environmentally responsible. Leading businesses are able to press ahead with environmental performance innovation, while regulatory enforcement resources are targeted at the most important risks.
Proportionate and effective sanctions for those flouting the law	Government and regulators apply proportionate and effective sanctions for businesses flouting the law, presenting a credible threat to deter non-compliance and ensuring a level playing field for all businesses. Businesses that invest in compliance are not undermined by non-compliant competitors.
Simple arrangements for engaging with Government	Government is easy to engage with, and participates in timely and consistent conversations with businesses, industry bodies and other stakeholders. Businesses are updated well in advance of regulatory changes, allowing them to plan and prepare in a stable and predictable environment.

The Current Situation

Guidance

In this review, **guidance** is defined as 'the content of a publication or website that is intended to help business and others comply with environmental legislation and/or to behave in an environmentally responsible way'. It can be distinguished from **advice** which is specifically adapted to the customer, tends to be verbal (face to face or over the telephone) and may be followed up in writing.

Five types of guidance document have been identified by research into the current stock of environmental guidance:

1. **Regulatory guidance**– setting out what legal obligations exist. This includes statutory guidance and statutory codes of practice;
2. **Good practice** – presenting possible activities and processes to comply with the law in the most effective way, as well as voluntary options (which may go beyond legal requirements) and other effective ways of behaving in an environmentally responsible manner;
3. **Informative guidance** – providing additional information such as cost-benefit studies, position papers, information on specific environmental issues;
4. **Supplementary guidance** – providing further evidence which supports and/or relates to other pieces of guidance, such as an annex or technical document; and
5. **Funding scheme requirements** – related to a particular funding scheme and detailing what a business must do to qualify/comply, etc.

The research study has mapped all environmental guidance produced by the following issuing authorities:

- Defra
- Environment Agency
- Natural England
- Centre for Environment, Fisheries & Aquaculture Science (Cefas)
- Rural Payments Agency (RPA)
- Marine Management Organisation (MMO)
- Food & Environment Research Agency (Fera)
- Forestry Commission (FC)
- The Water Services Regulation Authority (Ofwat)
- Drinking Water Inspectorate (DWI)
- Joint Nature Conservation Committee (JNCC)
- Health & Safety Executive (HSE)
- Local authorities (sample selection)
- Police (sample selection)

Local authorities are responsible for coverage of a number of environmental issues including: waste, noise and nuisance,

contaminated land, air pollution, hedgerows, tree preservation orders, biodiversity and perspectives on climate change (e.g. building resilience).   Most local authorities refer to specific Defra or agency guidance on their websites but some larger ones also provide additional guidance relating to these issues. Police forces also provide guidance on wildlife crime.

It is recognised that there is also a wealth of guidance produced by trade bodies, consultants, etc. for industry but this was outside the scope of the mapping exercise.

Summary of approach

This report focuses on environmental guidance, although the mapping exercise has also covered non-environmental guidance issued by Defra and its agencies.

The guidance documents identified by each of the issuing bodies were logged and screened to remove duplicates, those that could not be located or those that were considered out of scope (i.e. not considered 'guidance' or not relating to England). A protocol was developed to ensure consistent interpretation and analysis.

Each screened and logged document was then mapped as follows to provide an understanding of the nature, focus and content of each document:

- Document title
- Short description outlining its purpose
- URL
- Issuing authority
- Type of guidance document
- Policy theme covered by the guidance
- Act / Regulation / EU legislation to which the document relates
- Publication dates
- Number of issues and issuing frequency
- Whether part of a set or a standalone document
- Number of pages
- Format – i.e. pdf, word, web based
- Presence and length of any short/executive summary
- Geographical coverage
- Target audience (inferred or stated in the document)
- The type of activity being addressed by the guidance
- Sectoral coverage of guidance defined in terms of Standard Industrial Classification (SIC) codes.

We have mapped more than 5,000 environmental guidance documents with more than 100,000 pages

To date, a total of **5,383 environmental guidance documents** have been fully mapped across a set of defined criteria. The mapping exercise is still in progress and a further 700 Natural England documents have been identified and are currently in the process of being mapped. The total is therefore expected to increase to around 6,000 documents providing environmental guidance.

To-date, around **107,000 pages of environmental guidance** have been mapped. The additional Natural England documents are expected to increase the total to 111,000 pages.

The **average number of pages is 20** across all guidance mapped to-date, although the **median is only 6** due to the high incidence of web-pages and other small documents. 60% of documents contain less than 10 pages, while only 11% have more than 50 pages.

75% of the guidance was produced by Environment Agency, Natural England and Defra

Of the environmental guidance mapped, the Environment Agency has issued the most (39%), followed by Natural England (27%) and Defra (11%). Together they account for 75% of all environmental guidance mapped to-date.

Issuing authority	No. of documents[13]	%	No. of pages	%
Environment Agency	2,088	39%	35,898	34%
Natural England[14]	1,472	27%	33,409	31%
Defra	576	11%	18,572	17%
Forestry Commission	418	8%	6,104	6%
Fera	385	7%	3,481	3%
MMO	196	4%	3,414	3%
RPA	84	2%	1,716	2%
Others	198	4%	5,091	5%

The data in the above table suggest that guidance documents produced by Defra and Natural England are relatively long compared to the other agencies. The Environment Agency, Natural

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[13] A small number of documents have been jointly issued (by multiple authorities), which is why the data in the table do not sum to the totals described above.
[14] The Natural England data are incomplete and will change when the remaining documents have been mapped.

England and Defra account for approximately 82% of the total number of pages of guidance.

Environmental guidance is split fairly evenly between: good practice; regulatory guidance; and information and supplementary guidance

36% of documents provide good practice while 26% deal directly with regulations. 37% of documents provide information relating to environmental issues or other supplementary information and the remaining 1% set out the requirements of funding schemes.

Type of guidance
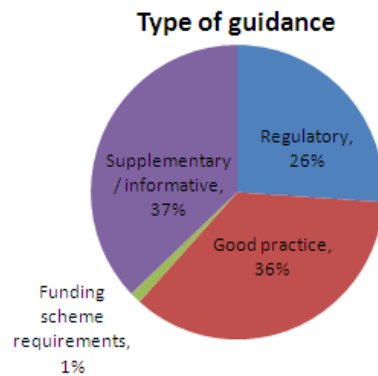
There were differences between the types of documents produced by the main issuing authorities:

- The Environment Agency guidance is split relatively evenly between good practice (30%), regulatory guidance (36%) and information and supplementary guidance (33%);

- Natural England is more focused on the provision of good practice (41%) and information and supplementary guidance (42%); and

- Defra produces more 'regulatory' guidance (45%).

While only 26% of guidance was considered to be regulatory in nature, the majority (58%) of documents made reference to either UK and/or EU legislation.

Waste is the most common environmental policy theme

Environmental guidance provides coverage of a wide range of different policy areas. The most common policy themes included 'waste' (13%) and 'landscape, countryside and recreation' (10%), although there were similar numbers of documents focusing on a range of different policy themes.

Policy theme	No. of documents	%
Waste	695	13%
Landscape, countryside & recreation	553	10%
Agricultural Management	424	8%
Protection & use of the marine environment	386	7%
Wildlife management	356	7%
Water	338	6%
Biodiversity	318	6%
Forestry Management	295	5%
Plant Health	290	5%
Environmental permits, information & damage	289	5%
Air quality	194	4%
Other[15]	1,245	23%

Of the guidance issued:

- The Environment Agency produces more than 90% of all guidance relating to 'environmental permits, information and damage', 'freshwater fisheries' and 'carbon reduction', more than 80% of all guidance relating to 'waste', 'industrial emissions', 'hazardous industries' and 'hazardous materials', and more than 70% of all guidance relating to 'water', 'flooding', 'resource efficiency' and 'sustainable development';

- Natural England produces more than 80% of guidance relating to 'wildlife management', 'landscape, countryside and recreation' and 'climate change' and 67% of guidance relating to 'biodiversity'; and

- Defra produces guidance on a broad range of policy areas, including more than 80% of guidance relating to 'air quality' and 'noise'.

Across the other issuing authorities, guidance issued by the MMO and Cefas particularly focuses on 'marine' issues, while Ofwat and DWI guidance focuses on 'water', Fera guidance is on plant health', Forestry Commission guidance is on 'forestry management', and

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[15] The 'Other' policy themes include: carbon reduction, chemicals, climate change, energy labelling and sustainable products, freshwater and migratory fisheries, sea fisheries, flooding and coastal erosion, hazardous industries, hazardous material and chemicals, industrial emissions, inland waterways, noise, nuisance, resource efficiency and sustainable development.

RPA guidance is on 'agricultural management'.

Target audience

The majority of the environmental guidance documents (59%) were targeted at businesses while 28% were focused on land owners or managers and 21% were directed at the general public. However a large proportion of documents were also targeted at regulatory and enforcement agencies (26%) and local authorities and other public sector bodies (19%), while 9% of mapped documents provided technical guidance to scientists, researchers and consultants. There were also a small number of cases (3%) where the target audience was unclear.

Target audiences of environmental guidance
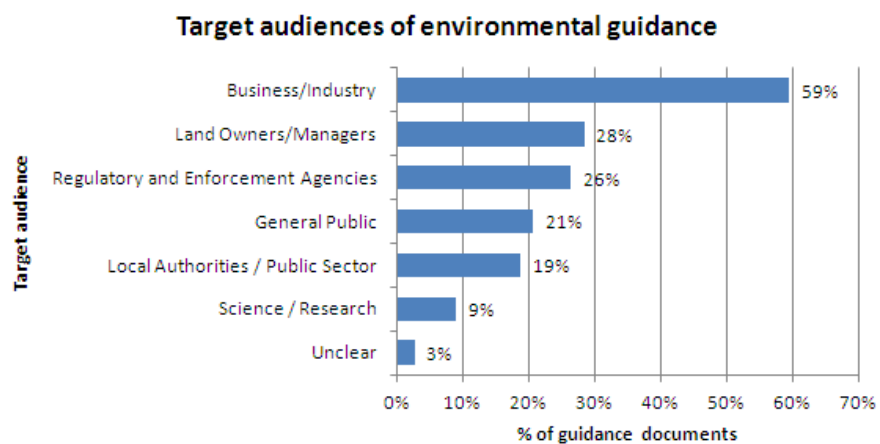
The mapping exercise has also recorded the sector targeted by documents aimed at businesses. The sectors with the largest numbers of associated guidance documents are:

- Agriculture, forestry and fishing, with 1,661 associated documents (31% of the total);

- Public administration and defence (which covers local authorities and government departments), with 1,117 associated documents (21%);

- Professional, scientific and technical activities (which covers environmental research and consultancy), with 542 associated documents (10%); and

- Waste collection, treatment and disposal activities, with 436 associated documents (8%).

Format

The large majority (82%) of environmental guidance was provided in pdf format, while 15% was provided as webpages. Other formats included Excel, Word, Powerpoint, Access and JPEG files, although

these accounted for less than 4% of all mapped guidance. The table below shows the format of guidance documents issued by Defra, the Environment Agency and Natural England.

Format of guidance documents
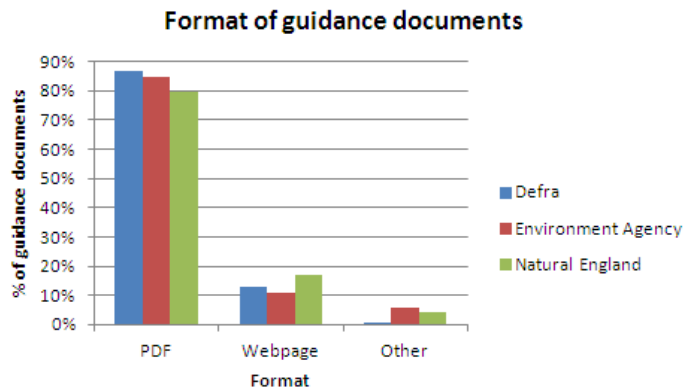
More broadly, Cefas and the MMO were most likely to publish guidance on webpages with each producing similar numbers of documents in pdf and webpage formats. The RPA was the most likely to produce guidance in other formats (19% of all RPA guidance).

Only 59% of environmental guidance documents provided a publication date. Of those, 45% had been published in the last two years; 69% in the last five years and 85% in the last decade. However, there are also large numbers of documents that do not appear to have been refreshed or replaced for many years, as shown in the chart below.

Most guidance has been published recently but some has not been updated for many years

Guidance published over time
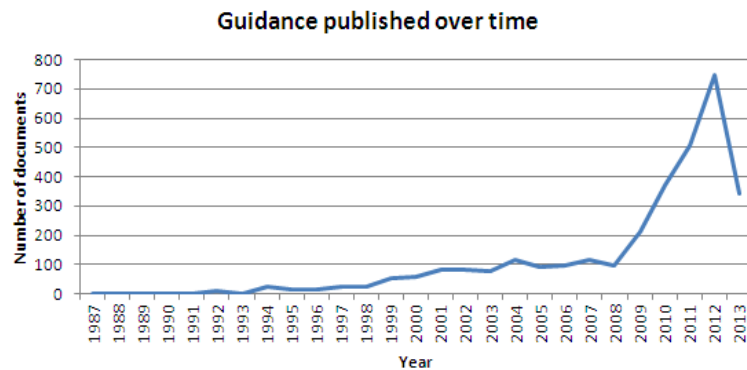
Of the three main issuing authorities, the Environment Agency has the highest proportion of documents published in the last two years (43% of EA documents that provide a publication date), followed by Natural England (31%) and Defra (21%). However, the large numbers of documents without publication dates may undermine these figures.

Businesses generally use a wide range of resources to find out about environmental obligations

Businesses generally use a wide range of resources, including Government websites and industry specific sources such as trade associations, trade press, newsletters and legislation services and, as noted above, informal networking.

Some businesses commented that they do not use Government websites but instead rely on trade bodies and other industry sources. Reasons for not using them were that the information is not specific enough for their business and/or sector and that they had had poor experiences in the past of trying to find the relevant information.

Several businesses had used the on-line tool 'Netregs'[16], which was designed to help SMEs. Some considered it very useful as it summarised information by sector and used it as a training tool for staff. However, others commented that while the 'front end' was good, this was linked to a large amount of unconsolidated detailed guidance which was difficult and time consuming to navigate. Overall, however, its level of usage by SMEs was rather low.[17]

Research also shows that micro-businesses[18,19,20] often rely on indirect sources such as trade associations or word of mouth from larger operators or other less formal sources.

Navigating to the right information can be difficult as it is spread over multiple sources

As noted above, the websites of UK Governments and statutory bodies can play an important role in explaining the legislation, making guidance available and communicating changes. However, currently it can be difficult to navigate easily to the information required.

Many of the businesses from our case studies and wider

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[16] This subsequently became part of the Business Link website, some of the content of which has been moved to www.gov.uk

[17] Netregs (2009) SME-nvironment Survey 2009 England: http://www.netregs.org.uk/pdf/NetRegs_SME_Environment_2009_England_summary.pdf

[18] GHK Consulting (2011) Microbusinesses and Environmental Regulation -Final Report: http://randd.defra.gov.uk/Document.aspx?Document=Deframicrobusiness_FINALREPORT.pdf

[19] GHK Consulting (2012) BR0102 Project Extension to Microbusinesses and Environmental Regulaition. Final Report. Issue Paper 1 on Microbusiness: http://randd.defra.gov.uk/Document.aspx?Document=10215_BR0102FINALREPORTISSUEPAPER1MICROBUSINESSES070212withportraits.pdf

[20] The Centre for Business Relationships, Accountability, Sustainability and Society (BRASS) (2012) Business Perceptions of Environmental Legislation. Report by BRASS with joint contribution from UKELA and King's College, London: http://www.ukela.org/content/page/3005/BRASS%20final%20report.pdf

consultation commented not only on the large number of guidance documents issued by Government departments and agencies that are spread across a range of different websites, but the lack of a clear structure or signposting. As a result, some knowledge of where to look and what to look for is needed to find the right information or else a significant amount of time can be wasted searching for useful information among the large amount of irrelevant material.

The status of guidance is not always clear

As noted from the mapping exercise, some guidance documents from Government departments and regulators can contain a mix of regulatory requirements and voluntary 'good practice' options that go beyond what is required to comply with the law, making it difficult for businesses to work out what is required for compliance. As noted by one consultee, it is also not always clear to businesses where guidance sits, i.e. if it is an interpretation of the law or if it is a legally binding document. Providing this information at the beginning of the document would provide greater clarity.

While there is sector-specific guidance in some areas (e.g. on Environmental Permitting, PPG 6 for the construction sector, etc.), as shown by the mapping exercise a significant amount of guidance is generic and it is left to businesses, trade associations and consultants to assess its relevance and, if required, produce their own guidance. Consequently, there is an uneven pattern of private sector guidance, with some trade associations such as the UK Constructors' Group (UKCG) and the British Veterinary Association (BVA) producing their own tailored guidance notes for their sector.

In some areas there are multiple documents covering each subject

As shown by the mapping exercise, there are numerous documents issued by a number of departments and agencies covering each subject. For example, there are 695 documents on 'waste', 597 of which have been issued by the Environment Agency, 93 by Defra and 5 by others. There are also 553 documents on 'landscape, countryside and recreation', with 467 being issued by Natural England, 46 by Defra, 24 by the Environment Agency, 22 by the Forestry Commission and 3 by other bodies. For air quality, there are 194 different documents including 163 issued by Defra, 23 issued by the Environment Agency and 8 issued by others. On implementation of the Habitats and Birds Directives alone there are over 110 separate guidance documents and nearly 140 web pages.

Some regulators have attempted to put all the relevant guidance on a particular subject in one place and to provide various levels of

information. For example, Defra guidance on the Local Authority Pollution Control (LAPC) regime consists of:

- a short, simple 3-page guide to LAPC

- a statutory General Guidance Manual which sets out the procedures and policy

- statutory process guidance (PG) notes which set out the Secretary of State's view on what constitutes Best Available Techniques for each of the main sectors regulated to control their air emissions (so-called "Part B" activities)

- statutory sector guidance (SG) notes which do the same for the sectors regulated under integrated pollution prevention and control (so-called "A(2)" activities)

- a set of additional guidance (AQ) notes covering various other issues

- miscellaneous other guidance.

Overall, however, there is still significant duplication of information, making it much harder for users to understand what is required.

Guidance documents are of variable quality

There is a significant challenge in drafting guidance that is accessible to small and micro businesses while at the same time provides useful information for larger businesses. Overall, based on the published research and our own findings, it appears that while some of the guidance is well written and presented and meets user needs, some does not follow the BIS Code of Practice on Guidance.[21]

For example, a number of interviewees felt that some of the guidance produced was too long and detailed and lacking in clarity. One interviewee was still struggling to understand the Environment Agency's OPRA guidance, while another felt that Natural England's Great Crested Newt Mitigation Guidelines were unclear and one commented that *"28 pages on the Oil Storage Regulations is too long for busy people to have to consult"*. Succinct guidance that clearly set out what was required for compliance was particularly important for SMEs and micro-businesses.

This is supported by a Defra study in which a sample of 176

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[21] BIS (2009) Code of Practice on Guidance on Regulation: http://webarchive.nationalarchives.gov.uk/+/http:/web.bis.gov.uk/policies/better-regulation/code-of-practice-on-guidance-on-regulation

guidance documents issued by Defra, the Environment Agency and the Rural Payments Agency were assessed for readability using the Flesch Reading Ease test, which rates text on a 100-point scale (the higher the score the easier it is to understand the document). The average readability score was 40, which is just within acceptable tolerances for more complex business documents and at the mid-point of the 'difficult' readability level. It corresponds to a reading age of between 18 and 21, which is significantly higher than the average reading age of the UK population of 9 years. However, it should be noted that a significant proportion of the guidance is targeted at technical experts.

Undated guidance, which comprises around 40% of published guidance, was also a frustration for businesses as was outdated guidance. One example given of the latter was the Defra guidance document on the Duty of Care waste obligations which no longer reflects current practice and is currently being reviewed.

A number of interviewees and consultees felt that guidance could be improved significantly if there was more consultation with business throughout the process to share industry knowledge and expertise. One commented:

"Wherever possible, guidance should be worked up with industry before formal consultation. The formal consultation process should then be less onerous to both operator and regulator."

Keeping up to date with environmental obligations is costly to businesses

Understanding their legal environmental obligations and keeping up to date with changes takes time for businesses and adds to their costs. From our case studies and wider consultation, it seems that environmental managers generally spend up to 2 days per month keeping up to speed with environmental requirements, but this can rise if there are changes which require an assessment of the impact on their business and/or sector.

Large businesses typically have resources devoted to environmental compliance, sometimes using external consultants where they do not have the specialist technical or legal expertise in house. Smaller businesses more often rely on consultancy advice to help them understand and comply with the basic requirements of environmental regulation. The BRASS report highlighted that there are particular problems with finding out about new requirements.

Awareness and

While the case studies and wider consultation showed that some companies have a good understanding of their environmental

understanding of environmental regulations is sometimes low particularly amongst SMEs.

obligations, it was clear that many others do not.

For example, a recent report by EEF[22] shows that only 50% of manufacturers believe they are regulated under REACH despite the fact that all users of chemical substances are covered.

Our interviews and other research suggested that awareness and understanding is a particular problem for SMEs and micro-businesses[23,24,25,26]. A report by The Centre for Business Relationships, Accountability, Sustainability and Society (BRASS)[27] indicated a low level of awareness among some SMEs which relied on large operators to pass on information about relevant legal requirements; and a significant minority of all SME respondents did not know which regulator was responsible for which kind of environmental enforcement. The evidence also shows that many are concerned that they are not aware of all relevant regulations and that they are not therefore legally compliant. Many are worried about potential consequences if they were inspected.

Better web-based content would be welcomed

There is widespread support for guidance to be restructured and web-enabled, to make it easier to find and use.

Action has already been

Action has already been taken or is underway to streamline guidance. For example:

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[22] EEF (2012) Managing Green and Growth. A survey of manufacturers: http://www.eef.org.uk/NR/rdonlyres/266C4018-1409-4B7D-9109-5B580175EF66/21368/ManagingGreenandGrowth1.pdf

[23] GHK Consulting (2011) Microbusinesses and Environmental Regulation -Final Report: http://randd.defra.gov.uk/Document.aspx?Document=Deframicrobusiness_FINALREPORT.pdf

[24] GHK Consulting (2012) BR0102 Project Extension to Microbusinesses and Environmental Regulation. Final Report. Issue Paper 1 on Microbusiness: http://randd.defra.gov.uk/Document.aspx?Document=10215_BR0102FINALREPORTISSUEPAPER1MICROBUSINESSES070212withportraits.pdf

[25] Williams et al. (2010) Compliance with Producer Responsibility Legislation: Experiences from UK Small and Medium-sized Enterprises. : http://eprints.soton.ac.uk/186323/

[26] Williams et al. (2012) An Evaluation of the Impact and Effectiveness of Environmental Legislation in Small and Medium-Sized Enterprises: Experiences from the UK: http://eprints.soton.ac.uk/210249/

[27] The Centre for Business Relationships, Accountability, Sustainability and Society (BRASS) (2012) Business Perceptions of Environmental Legislation. Report by BRASS with joint contribution from UKELA and King's College, London: http://www.ukela.org/content/page/3005/BRASS%20final%20report.pdf

taken or is underway to streamline guidance

- new guidance to assist with the determination and remediation of contaminated land, which was introduced by Defra in April 2012 with estimated savings of £140m per year.[28]

- The Environment Agency has introduced simplified and reduced guidance such as on recording hazardous waste disposal which was published in July 2012.[29]

- A number of improvements and simplifications were recommended by the Habitats Directive Implementation Review in March 2012.

Summary findings about guidance

- There is a large amount of environmental guidance. We have mapped more than 5,000 documents which run to more than 100,000 pages. Mapping is still in progress and the total is therefore expected to increase to around 6,000 documents providing environmental guidance.

- The guidance is fragmented being spread across Government and other websites with no clear structure or architecture.

- There are often multiple documents covering the same subject, sometimes with inconsistent and conflicting information.

- While some guidance is well written and presented and meets user needs, some does not follow the BIS Code of Practice on Guidance, being too long and detailed, lacking in clarity and being undated.

- Action has already been taken by those producing guidance to streamline and improve guidance in a number of areas.

- However, the process of finding out about environmental obligations is felt by business users to be more onerous and time consuming than necessary and there are particular problems for small businesses.

- Consequently, there is widespread support for guidance to be restructured and web-enabled, to make it easier to find and use.

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[28] http://www.defra.gov.uk/publications/files/pb13735cont-land-guidance.pdf.
[29] http://www.environment-agency.gov.uk/business/topics/waste/32196.aspx

Information obligations

The mapping covered all information business are required to supply to regulators to comply with environmental legislation.

The following principal information obligations IOs were identified and mapped:

- Permit applications, transfers, variations and surrenders;
- Exemptions and notifications;
- Registrations and certifications (i.e. scheme/activity);
- Operational monitoring returns;
- Supporting environmental reports and assessments; and
- Agri-environment scheme applications and claims.

We have not included information that businesses are required to hold on record but do not need to send in.

The IOs were analysed to establish whether or not they are statutory requirements. The definitions followed for this were:

Statutory: The legislative text specifies that a facility/site, organisation or individual must provide relevant information to a regulator (i.e. to notify, register, make an application, demonstrate compliance, etc).

Non-statutory: Examples include: obligations that are not specified in the legislation but derive from general clauses enabling a regulator to require businesses to provide information to support compliance (i.e. additional information or pre-application information); and mandatory information requirements in relation to a voluntary scheme (e.g. agri-environment schemes).

IOs were identified and mapped from the following regulators:

- Environment Agency
- Health & Safety Executive (HSE)
- Food and Environment Research Agency (Fera)
- Forestry Commission
- Natural England
- Rural Payments Agency (RPA)
- Animal Health and Veterinary Laboratories Agency (AHVLA)
- Local authorities

Some businesses also voluntarily report information to third parties such as the supply chain, trade associations, investors and insurers. While we have not specifically mapped this information, it is recognised that there may be opportunities to better share

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information across public and private sectors.

**Around 250
different types
of information
obligations were
identified.**

Number of IOs by policy area
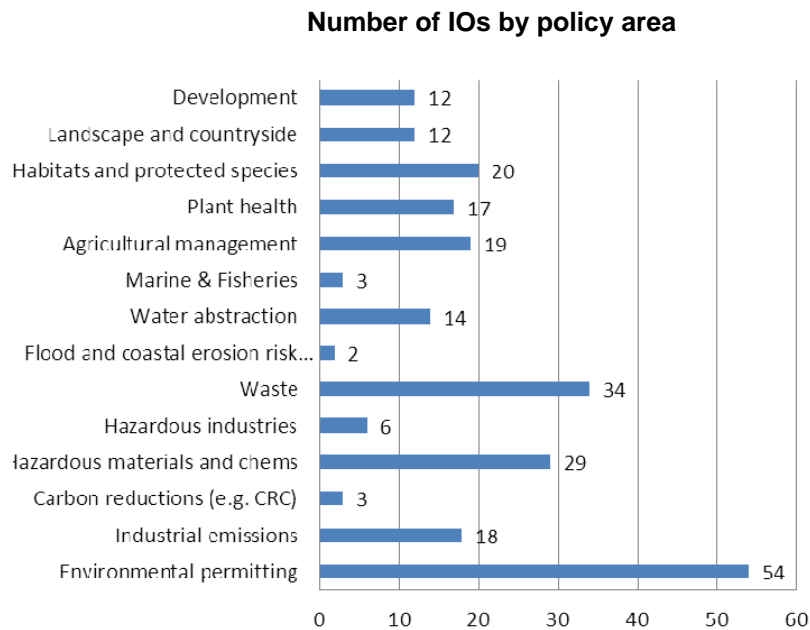
A total of 243 different IOs were identified. Environmental Permitting (54), waste (34) and hazardous materials and chemicals (29) are the areas with the greatest number of different IOs.

The Environment Agency is responsible for the largest number of different reporting obligations, with 134 (55%), followed by Natural England with 24 (10%) and local authorities with 20 (8%).

The large majority of the information provided has a statutory basis (201 reporting obligations; 83%).

**There are
around 600,000
individual
information
returns each
year**

There are an estimated 591k individual information returns submitted to regulators each year.[30] Of these, the majority are submitted to the Environment Agency (495k information returns; 84%) while Natural England and Fera receive 6% and 4% respectively. Initial estimates are that around 270k businesses are required to provide some form of information to regulators. This can be compared with the number of businesses registered in England in 2011 of 3.9m.[31]

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[30] Data returns were annualised, e.g. data returns provided quarterly were multipled by 4 to provide an annual figure.
[31] BIS (2011) Business population estimates for the UK and Regions 2011:
http://www.bis.gov.uk/assets/biscore/statistics/docs/b/bpe_2011_stats_release.pdf

Waste-related returns (233k) are the most common, comprising mainly hazardous waste producer registrations and registrations of carriers, dealers and brokers of controlled waste. Environmental permit variations, transfers and surrenders and monitoring data comprise the bulk of the returns under Environmental Permitting which in total amount to 221k.

Reporting varies greatly between sectors and regulatory regimes

Information is provided in five common formats:

- Email submission
- Postal/paper copy submission
- Online submission (through on-line forms)
- Indirectly, via compliance scheme
- Portal submissions

Twelve different electronic portals have been identified. Reporting frequencies range from one off to monthly, the most common being one off (45%), *ad hoc* or on-going (23%) and annual reporting (15%).

There is an even split between information reported by business at a national (or company) level (337k) (e.g. Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES)), and those reported at a local or site level (255k) (such as Environmental Permitting applications).

Businesses are required by regulators or third parties (e.g. compliance scheme operators) to pay a financial charge for 32% of information returns. In the case of payments to regulators, these are typically, if not solely, a recharge cost for administrative processing or technical assessment services. Examples of reporting types requiring a payment include:

- Environmental permit applications, variation, transfer and surrender
- Hazardous waste produce registration
- Notification for transboundary movements/shipments of waste
- Producer responsibility schemes (waste electrical and electronic equipment (WEEE), batteries, packaging)
- Application for authorised exporter or treatment facility approval (AATF) – WEEE, batteries and packaging

- Pesticide authorisations

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) licence applications.

Calculated payments are usually applied to the more complex data returns such as bespoke environmental permit applications.

Data returns vary substantially in terms of complexity from small 5-field applications to complex environmental reports or assessments. However, there was an approximately even split in complexity between the different reporting types, with 36% of returns requiring fewer than than 30 fields to be populated and 18% requiring over 100 fields to be completed.

Number of fields per data submission type

- Reports and assessments 26%
- Low (0-30 fields) 36%
- High (100+ fields) 18%
- Medium (31-99 fields) 20%
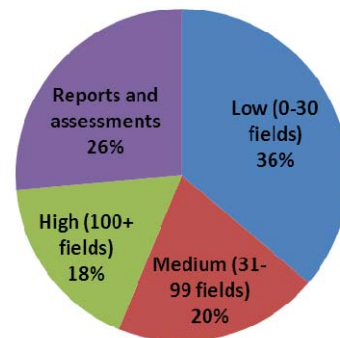
Information management is a challenge

Environmental reporting has evolved over time often in response to societal pressures and new legislation. Some EU instruments have shifted to a more outcome based approach with the introduction of Framework Directives that allow flexibility in the implementation from Member States with specific targets. The impact for both regulators and business has been to increase the reporting burden of data monitoring required to assess progress and report back to the EU.

A good example is the Water Framework Directive (WFD) that requires Member States to monitor the ecological status of water bodies in river basins and report on the actions being undertaken by business and public authorities to ensure no deterioration. WFD has a target for achieving "good status" for the majority of water bodies. In response to this EU legislation regulatory bodies have needed to improve the monitoring and attribution of pollution by different sectors that interact with the water environment so that the "polluter pays" principle is upheld.

Overall, the increase in environmental legislation has resulted in a gradual increase in the data required by different regulators resulting in a proliferation of different databases and management

systems.

Several people commented that reform of IOs is constrained by the underlying legislation which is often unnecessarily prescriptive about what data are collected, when and how. Indeed, as noted above, 83% of IOs have a statutory basis. Some of these constraints are likely to be set in EU law. However, there may be other cases where regulators have more discretion about the amount and type of data reporting required.

Current data management systems and associated costs

A response to increased information requirements is that regulators have needed to build information systems that are able to receive the data and also invoice companies to recover the costs of regulatory activity.

For example, the Environment Agency currently has 28 different databases that are used both by business to report their data requirements and by the regulator to maintain and manage information received. Those used by business include:

- GOR (General Operator Returns) - used for the return of monitoring information used for compliance checking. Used primarily for water quality discharge, water resources (abstraction) and waste tonnage returns.

- PIEDC (Pollution Inventory Electronic Data Capture) - tool for operators to provide return information for the PPC regime on releases to land water and air.

- OPRA Tool (Operator Risk Assessment) – operators use to provide information for risk assessments.

Regulators typically incur the following broad types of IT system costs:

- Software upgrades (about every 2 years)

- Hardware upgrades (about every 5 years)

- Software license fees

- Hardware support and hosting

- Data security costs and maintenance

For example, the Environment Agency estimates that the IT cost

per annum of maintaining 16 of its regulatory system databases is around £2.25m, with hardware support costing around £1.5m and application support about £0.75m.

Complex business processes resulting from legacy systems can also mean it takes longer to answer specific business questions.

There is limited data sharing between regulators

Data sharing between regulators was an important recommendation from the Hampton Review[32] and has been written into the Regulators' Compliance Code.[33]

Our research highlights that basic identity information provided by businesses on who, where and the nature of the activity is duplicated across regulators. Other common areas of duplication that have been identified include:-

- Site activities/processes;

- Site description;

- Existing permits, registrations and licences;

- Management procedures and systems.

Thus, regulators all need to identify the type of business entity, where they are operating and what activities they are involved in and how this relates to environmental impacts. This basic information is rarely shared across regulatory bodies and leads to increased transaction costs for the businesses that have to submit this information a number of times.

There are also issues within and across regulators. For example not being able to share data easily and get a coherent view of risk profiles can constrain risk targeting, earned recognition and opportunities to reduce the number of regulators needed across regulators. A large amount of information supplied by business to regulators is also held in local offices and not easily shared to get a national company picture.

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[32] Hampton, P. (2005) Reducing administrative burdens: effective inspection and enforcement: http://www.bis.gov.uk/files/file22988.pdf

[33] BERR (2007) Statutory Code of Practice for Regulators: http://www.berr.gov.uk/files/file45019.pdf

Mapping has provided more insight into requirements on different sectors

Based on our case studies and wider consultation, IOs vary depending on the sector. For example, according to one of the soft drinks manufacturers interviewed, many companies in the sector routinely provide the following:

- Environmental Permitting Regulations (EPR) – annual compliance return, including annual consumption of energy and water and output (absolute numbers and ratios), effluent data, including pH and flow

- Pollution Inventory – provided annually to the Environment Agency (some overlap with EPR)

- Abstraction data – recorded daily and provided annually to the Environment Agency, and monthly to the water supplier.

- EP OPRA – which duplicates other information submitted to the Environment Agency.

- Environmental Performance Indicators and improvement targets such as the Resource Efficiency Physical Index (REPI)[34] which is required by the Environment Agency

- Bi-Annual waste & water minimisation studies

- Climate Change Agreement (CCA) – data submitted for some sites annually to the CCA Administrator (Environment Agency).

Other data are collected and retained, e.g. waste transfer notes, Producer Responsibility Obligations (PRO) requirements and Ozone Depleting Substances Regulations and Fluorinated Greenhouse Gas (F Gas) Regulations requirements. In the case of the waste management sector, the data provided depends on the activity being undertaken. The Environmental Permitting regime specifies different reporting formats and information. For example, waste electronics, hazardous waste, composting waste, food waste, packaging waste, landfill waste, commercial and industrial waste all have different reporting needs which can be extremely complex and administratively expensive for the businesses

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[34] The Environment Agency is now running a trial which businesses can opt to join where instead of reporting REPI data they can provide evidence of whether they have met their own resource efficiency performance indicators.

involved.

In contrast, in the construction sector, despite being subject to a large number of legislative requirements, there is little reporting to Government. Small businesses generally have few requirements for environmental reporting beyond initial planning permission though, like all other waste producers and waste owners, may need to provide Duty of Care records to the Environment Agency on request. Large businesses may also have to report the following data to the Environment Agency:

- Carbon emission data – as part of the CRC EES.
- Waste data when a permit is required – as part of the Environmental Permitting Regulations 2010.
- Abstraction licences – if dewatering undertaken, a visual inspection is usually carried out but monitoring data are sometimes requested.

Local authorities may also ask for other records, such as on dust, noise and vibration.

There is also very little direct reporting to Government by the arable farming sector, with records only being kept in the event of an inspection.

Why reporting is required is clear to some but not to others

Based on our case studies and wider consultation, it appears that it is generally clear to larger businesses which data sets need to be reported to the regulator (or kept), while reporting rules are often difficult for smaller operators to understand due to the technical guidance and complexity.

However, it is not always clear to businesses why information is needed or whether and how it is used by the regulator. Some businesses across a range of sectors expressed concern that much of the information collected are not reviewed. Examples were given such as information collected under the F Gas Regulations. Some also commented that although it is made clear why Government and regulators think certain information is required the reasoning is not always necessarily sound.

Several arable farmers felt that some of the information collected in relation to cross-compliance (e.g. Soil Protection Review) was simply a box ticking exercise that delivered no real environmental benefit. In addition, although the Environment Agency provides

sector-level feedback on environmental performance, limited feedback appears to be given to provide a national picture of environmental performance at a company level, which could be used by the investment community and influence decisions. However, as noted below, this is being addressed by the Clear Info project.

Some of the businesses interviewed also expressed concern about the way that information is interpreted across different regulators, e.g. permits compared to planning information, or within a regulation authority, e.g. regional variation in data validation. This can lead to uncertainty in making investment decisions when they get inconsistent feedback due to different views on the data and information on which they report.

Some businesses would prefer better alignment with their own information management systems

A number of the businesses interviewed explained that they already had ISO 14001 accreditation. To secure this they routinely check environmental information and feel there should be better alignment between what they report internally, as part of good management systems, and externally to the regulator.

One trade association commented that regulators often do not understand that the data they are asking for can conflict with normal business practices. For example, recognising that the Environment Agency wants a way of comparing companies, by asking for one single conversion rate to convert turnover from Euros to Sterling, this can cause problems for businesses which may work on a daily exchange rate or negotiate different rates based on financial contracts.

Opportunities exist to improve the transmission efficiency and frequency of information reporting

Our research highlights that different types of information are submitted by business with variable formats and standards. For example text documents may be submitted in support of licence applications. Excel spreadsheets are often used to report on environmental data and monitoring information. Other formats may be in pdf documents that require lower storage space.

Some information may not require formal submission but companies are required to keep paper based documents as a reference for a period of time (3–5 years) that may be needed at the time of a site inspection.

The frequency of reporting can also vary considerably depending

on the regulatory regime and EU requirement e.g. monthly, quarterly, annually.

Variation across the devolved administrations can also lead to additional complexity for companies operating across England, Scotland, Wales and Northern Ireland. Different reporting standards, conventions and frequencies can add to the overall regulatory burden.

There is some duplication of effort in reporting, particularly on basic company information

Many of those who took part in the case studies and the wider consultation highlighted areas of overlap or duplication such as in carbon reporting, Environmental Permitting, water and waste. For example, one waste management business commented that there was :

"Duplication of effort in having to separately report three different kinds of waste to three separate reports. Surely one report to one point who then split the information out would be a more efficient use of my time and regulators' time."

One area of duplication that was highlighted by many business was carbon reporting. It was pointed out that the duplication exists not just between the different reporting requirements for Government, but also with industry reporting requirements. For example, as well as existing carbon reporting schemes such as the EU Emission Trading System, mandatory greenhouse gas reporting for quoted companies arising from the Climate Change Act 2008 will shortly be introduced. There are also various voluntary industry and investor initiatives such as the Carbon Disclosure Project (CDP). In addition, some businesses may provide carbon emissions data to clients, procurement companies and local authorities (e.g. through their supply chain schemes). Work to reduce some of this duplication is already underway (see Initiatives).

There is also duplication with voluntary industry reporting on waste (e.g. via WRAP) and, in the arable farming sector, with assurance scheme reporting.

However, our research also illustrates that the majority of core information content is regulator-specific and so not duplicated across regulatory authorities. This is mainly due to legislative reporting requirements that describe what information is formally required to be reported to specific regulators. This suggests there is

less scope to reduce the burden of reporting on this core set of information, unless legislative change at an EU level occurs that reduces the volume of data required.

Costs to business

The Environment Agency has estimated[35] that routine reporting for the following regimes results in the following annual administrative burden costs for business:

WEEE = £39.5m

Hazardous waste = £14.7m

Packaging data reporting = £11.4m

EPR permits = £1.8m

Landfill returns = £960k

Initiatives are already underway or planned to improve IOs

Action has already been taken or is planned to improve information obligations such as on Producer Responsibility Obligations and Waste. The Environment Agency, in particular, has a number of initiatives underway including:

Sharing environmental data via web-based portals: Following a successful national trial of an operator data sharing portal for remote compliance assessment of its landfill sites, this has been extended to other operators in the landfill, metals recycling, chemical, combustion and food and drink sectors.

Pollution Inventory reporting: Following a consultation exercise with business the Environment Agency has agreed to reduce the number of items that are required from Pollution Inventory reporting to be set at the EU minimum levels.

Clear Info project: The aim of this project is to have better evidence with which to regulate companies that own a number of businesses and sites by integrating environmental data derived from separate but related regulatory activities and working with parent companies at the Board level to make improvements in their environmental performance..

E-docs programme: The electronic duty of care (edoc) programme will modernise the way waste information is collected in

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[35] Environment Agency Clear Info Project.

the UK by creating a national, internet-based system to monitor the waste journey from production to collection, transportation, treatment and disposal.

Delivery of Greenhouse Gas Economic Instruments (DoGGEI): A review of the GHG schemes the Environment Agency administers on behalf of DECC to maximise efficiency and effectiveness and improve customer service.

Summary findings about information obligations

- Data reporting has developed incrementally with around 250 separate reporting obligations in total.

- Some businesses have extensive reporting requirements, whereas others have very few, depending on the nature of their obligations and activities

- There are instances where information is reported at multiple times of year in different formats to different locations.

- It is not always clear why information is reported and how it is used

- There are many databases across different regulators with limited interoperability.

- Information is not systematically available to those able to act on it (either within, between or outside regulators).

- Progress is being made via recent initiatives to improve business experience in data reporting and use, e.g. data portals, Clear Info project

Reforms to Guidance

Key issues	Reforms
Guidance has developed in a piecemeal way with over 5,000 documents and 100,000 pages spread over multiple websites and in different formats and styles. Some documents are well written and user friendly; others less so. Readers often have to read several documents across several sites to understand what's required. Finding out about and understanding environmental is more onerous and time consuming than necessary and there are particular problems for small businesses. There is widespread support for guidance to be restructured and web-enabled, to make it easier to find and use.	Defra and its regulators will work with the Government Digital Service (GDS) as it migrates government websites onto the www.gov.uk platform to: • provide user-friendly guidance on each environmental topic that helps give businesses and others confidence about what they need to do to comply with the law; • retain more detailed and technical guidance or materials where there is a clear user need that the Government is best placed to meet; • provide tailored access to relevant information and answers for less specialist readers; • archive or find alternative organisations to host other documents. Our ambition is to do as much of the work as possible by the time Defra agencies' websites migrate to www.gov.uk at the end of March 2014 aiming to complete the first component and to have made significant progress towards the second and third. This has been informed by a pilot phase, carried out last year, and is being done in partnership with industry and other users of the guidance.
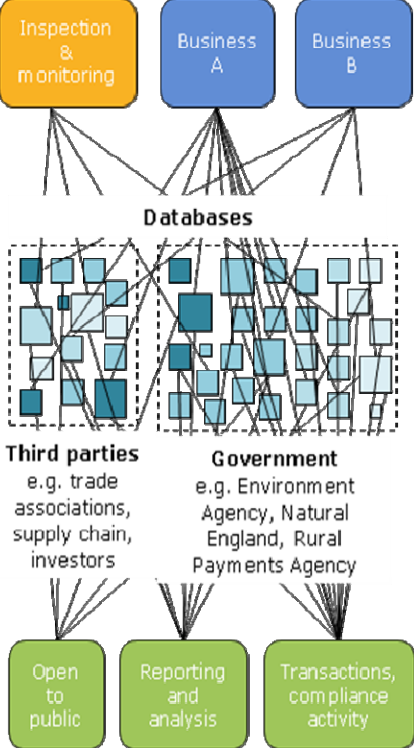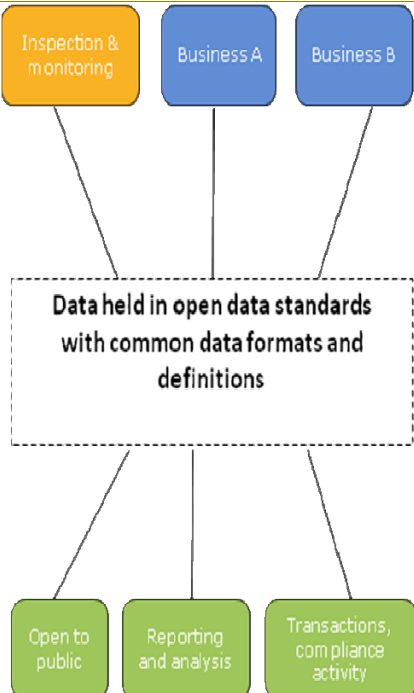
Designed for the user on www.gov.uk

User

The Public | Business | Professional /Advisory

Need

I am a ... what do I need to know?

I would like to.... what are my obligations?

How do I apply for...?

I want to know more about how I...?

I'm an expert and know what I want...

Entry points

Google/gov.uk search bar

Click through the site

Likely journeys

Mainstream content including 'Smart Answers' & other tools to direct users to relevant content

Core guidance

Additional and specialist materials

Reforms to Information Obligations

Key issues	Reforms
Data reporting has developed incrementally with around 250 separate reporting obligations in total.	Defra and its regulators will:
Instances where information is reported at multiple times of year in different formats to different locations.	• Do a root and branch review of each obligation to make sure it is needed and used and prepare a plan to implement the changes identified. Unnecessary requirements will be removed as soon as practical;
Not always clear why information is reported and how it is used.	• Work with the GDS to simplify the way information is collected and managed for one obligation;
Many databases across different regulators with limited interoperability.	• Establish how far and when this can be extended to simplify environmental information obligations more widely.
Information not systematically available to those able to act on it (either within, between or outside regulators).	Our ambition is to do this by March 2014.

The current situation and the vision for reform

Current situation	Description	Impact
	Information obligations are perceived as complex and overlapping for business	Higher than necessary cost & inconvenience
	Complex legacy systems for regulators and others to manage. Problems of data quality and consistency	Higher than necessary IT and data costs
	Hard for regulators to target risk and deliver good customer experience. Some data available to public and others but in a piecemeal way	High costs. Limits capacity to motivate environmental performance

Vision for reform	Description	Impact
	User-friendly 'tell us once' information provision. Focus on information that is needed and used	Efficient time and cost requirement. High customer satisfaction
	Efficient data management	Cost efficiency
	Coherent view of customers and environmental performance	Better customer service. Target public resources. Non-state environmental motivators

Brief comments on implementation

Defra and its regulators have developed plans between October 2012 and May 2013 to implement these reforms.

While this report covers environmental regulation specifically, we will also:

- review all the information farmers have to supply to Defra and its regulators to help respond to recommendations made by the Farming Regulation Task Force which asked government to ensure all data requests are necessary, and to avoid duplicated information requests wherever possible.

- work with all Defra's regulators to reform guidance and review information obligations across all Defra's policies.

A first stage of implementation is planned to run until March 2014. The shape and timing of further work will depend on what is found during the first stage.

Listening to your views is essential to the success of these reforms. An online platform (http://guidanceanddata.defra.gov.uk) has been launched to seek your comments and feedback.

We will continue to work with other Government Departments with related policies to make guidance more coherent for users.

These reforms apply in England. We will continue to work with counterparts in Devolved Administrations to consider how to achieve a joined up result for users.

Annexes

1. Governance and stakeholder engagement

1.1 Steering Group

Why   Provides overall direction and advice for the SERR project team.

Who   Director-level representation from Defra, Environment Agency, Natural England, BIS Better Regulation Executive, HM Treasury, DECC, Cabinet Office

Key insights

- The review needs to take into account a broad consideration of implications of any changes proposed, including their potential impact on members of the public.
- As well as longer-term recommendations, the review should seek out 'quick wins' that can deliver benefits rapidly.
- The needs of small businesses differ from those of larger and more complex companies and that a 'one size fits all' approach is not appropriate. A success measure therefore needs to be the speed with which the appropriate level of guidance can be accessed by all types of business.
- A function of guidance is to give business confidence that if they follow it they are compliant. If guidance is to be drafted by third parties, a quality assurance process may be needed to retain this confidence.
- There may be opportunities to learn from other parts of Government where clear and simple guidance has been produced such as employment law.
- Marketing will be important to tackle those who are currently unaware of their environmental obligations. This could possibly be achieved through intermediaries or trade associations or through wider publicity initiatives linked to the Single Government Domain.

1.2 Sounding Board

Why   Provides a forum in which emerging findings and recommendations can be tested with key external stakeholders concerned with environmental regulatory reform.

Who   Representation Royal Society for the Protection of Birds/Wildlife and Countryside Link, National Trust, Council for the Protection of Rural England, The Ramblers, Open Spaces Society, English National Park Authorities Association, Local Government Association, Aldersgate Group, National Farmers' Union, Country Land and Business Association, EEF, Confederation of British Industry, Federation of Small Businesses, Environmental Industries Commission, UK Environmental Lawyers Association, Chartered Institution of Water and Environmental Management.

Key insights

- The effectiveness of the regulatory framework in delivering environmental objectives depends amongst other things on the level of enforcement resource deployed, as well as the ease for understanding of obligations among the regulated. It will be important to ensure that the impact on environmental outcomes of changes arising from SERR is measured.
- SERR should take a long-term, visionary perspective on the reform of environmental regulation, to take into account moving goalposts for managing resource scarcity and managing competition for ecosystem services, which may demand tighter regulation.
- Businesses are showing real leadership in sustainability, and the design of the regulatory framework may need to change to take advantage of this trend. Similarly land will need to be managed differently to provide a wider range of commodities, and businesses will need to operate within a circular economy.
- Policy in some areas e.g. water management, greenhouse gas emissions abatement are already thinking 20 years into the future; SERR needs to

- Experience elsewhere suggests that wide stakeholder engagement can be very valuable early on in reviews like SERR to identify potential problem areas and opportunities.

1.3 Critical Friends Group

Why

Provides critical challenge of emerging findings and recommendations from leading business and academic experts in environmental regulatory reform and its impact on business.

Who

Experts from Centre for Climate Change Economics and Policy Sustainability Research Institute at University of Leeds, Cranfield University, WSP Environment & Energy, SKM Enviros, Landmark Information Group, Milieu Law and Public Policy Consulting.

Key insights

- International experience provides useful examples of approaches to regulatory reform to learn from e.g. Netherlands integrated site licences that simplify reporting, Australian board-level sign-off of environmental performance reducing need for performance reporting to Government.
- Government should take care not to crowd out private sector businesses e.g. in provision of information management and reporting tools by providing services that could profitably be provided privately.
- Government must ensure that guidance does not stifle innovation and allows scope for flexible approaches to be adopted by business to achieve outcomes. This may require going back to the principles that underpin guidance.
- In some policy areas, clear articulation of a basic set of principles could be much more useful than several pieces of overlapping legislation. This would enable a more informed debate about what it means and how to interpret and implement.
- Future ambition to simplify guidance could relate to having an integrated license to operate summarising all obligations and expressed in outcome terms.

- It is likely to be beneficial to pilot new regulatory approaches (e.g. single route for reporting information to Government) on a voluntary basis with leading businesses, and to then invite others to opt-in when benefits have been demonstrated. Retail could be a good sector to trial better information reporting mechanisms, where here is substantial supply-chain driven reporting.
- If non-environment regulators participate in sharing business performance data (via G-cloud) collated with a single business identifier this may increase value of information for regulators, providing an overall picture of a business's risk portfolio and management performance covering environmental risk, health and safety risk etc.

1.4 Expert Group

Why   Provides detailed expert input and challenge to the review from Defra Network policy and regulatory teams.

Who   Defra environmental policy experts/advocates, representatives from other key initiatives (e.g. Farm Regulation Task Force), and Defra Network (EA/NE) experts covering guidance, data and inspections/enforcement.

Key insights
- Achieving improvements in the regulatory framework will require a cultural change within Defra, so ongoing engagement of policy teams will be very important to maintain buy-in.
- There is a link between SERR and the Review of Advice, Incentives and Voluntary Approaches (AIVA) arising from NEWP Recommendations 18 and 20 which will report by March 2013. Recommendations need to be aligned.
- Some concern was expressed at the wide scope of SERR, which could become unmanageable.
- The problems of regulatory complexity were considered to be already well established and understood, so SERR should focus more on developing the options than developing a detailed evidence base.

- Businesses subject to a general duty are thought likely to be less knowledgeable about regulations than those requiring permits, so how requirements arising from general duties are communicated should be examined, e.g. through case studies.
- In some policy areas local authorities deliver on Defra's behalf and it was recommended that these burdens on local authorities should also be captured.

1.5 Red Tape Challenge comments

Why　　　Provides perspectives of Red Tape Challenge Environment Theme participants on opportunities and ideas for reform relevant to SERR.

Who　　　Approximately 3,000 comments were posted to the Red Tape Challenge website regarding environmental legislation.

1.6 Case studies

Why　　　Provides detailed business perspectives on the impact of environmental regulation in specific sectors and on opportunities for regulatory reform.

Who　　　Approximately 30 businesses and trade associations have been consulted across 11 business sectors. See Case Study annex below for further details.

Key insights　　　See Case Study annex and references throughout report.

1.7 Roundtable discussion arranged via Aldersgate Group

Why　　　Provided opportunity to test emerging ideas and recommendations with senior business representatives, under Chatham House rules.

Who　　　22 people attended, including senior industry representation from water industry, information technology,

telecommunications, retail business and specialist consultants and professional bodies, and representatives from Government departments and agencies.

Key insights

- Rich information is provided by existing reporting within industry e.g. along supply chains. Regulators should consider using these information flows more effectively before creating new reporting requirements.
- Reporting to a single location would save business resources and improve information quality. A new IT-based approach should be developed, with built-in flexibility to accommodate change to regulatory requirements.
- Any new regulatory regime should include EU reporting obligations, recognising that although Defra's remit is UK-specific, EU regulations are part of the requirement for UK-based businesses.
- IT enables new forms of regulation e.g. where citizens report incidents directly to regulators in the form of a photo taken from their mobile phone.
- Processes need to be put in place to ensure regulators do not drown in data e.g. by providing a single business identification code to ensure all information reported can be collated.
- The subject and quality of information provided by businesses to regulators should be improved to increase its value to investors seeking to assess business performance and risk.
- Regulators and businesses need to work together to ensure that commercially sensitive business information is not made available to competitors, though this should not be a major issue for most environmental information.
- Incentives for reporting vary significantly between large multinational businesses and SMEs, which needs to be reflected in the design of reporting regimes and generation of associated commercially valuable information.
- Business to business data exchange may help drive economic venture. For example, identifying food waste in a community context can be used to show

where and how methane could be injected into the grid. Smart data collection can inform a new business.

1.8 Environmental Professional Bodies Group

Why Provides opportunity to test emerging findings and recommendations with bodies representing professionals working in environment-related industries.

Who Representation from various professional bodies including Institute of Ecology and Environmental Management (IEEM), Chartered Institution of Water and Environmental Management (CIWEM), Chartered Institute of Environmental Health (CIEH), Institute of Environmental Management and Assessment (IEMA).

Key insights

- Better management of guidance through a single website was thought to be a good idea that would reduce wasteful duplication. However guidance was thought to always be necessary to help interpret legislation.
- While large businesses typically have resources to find out about environmental obligations, smaller businesses find it much more difficult. Targeted, sectoral guidance is likely to be appropriate, similar to the Netregs model, although it needs cross-sectoral coordination to maintain consistency.
- Businesses are particularly receptive to advice and guidance when preparing to apply for permits, so this is a good time to target communication. People are also receptive when recently employed in a new role.
- There is scope for businesses to make savings from better environmental management practice, so there should be an element of advocacy of business benefits in its promotion.
- The legal strength of health and safety regulation has led to it being taken seriously by business and its requirements being made clear. A lack of legal force was thought to have resulted in environmental regulation lacking the clarity and simplicity found in H&S.
- Industry professionals have played a lead role in developing guidance materials in the past, in

collaboration with Government, and this approach could be used more generally. However guidance will always need an official stamp of approval from a sponsoring Government body to demonstrate its credibility.

- The amount of information reporting required for environmental regulation varies significantly between areas of regulation and between industries. In some there is a lot of reporting, and perhaps scope for rationalisation, but in others there is potentially not enough to achieve regulatory objectives.
- Care is required in the design of rationalised reporting; an enormous information reporting form where only a small proportion is relevant to any given business is not a good solution.

1.9 Written invitation to comment and stakeholder event

Why   Provided opportunity to comment on SERR, open to any interested party, advertised through Defra website and direct email request to comment to previous RTC interested parties.

Who   Responses have been received from 20 organisations, including 11 businesses, 8 trade associations and 1 NGO.

Approximately 100 people representing the views of businesses, trade associations, Government bodies and NGOs were invited to attend an event on 19th September 2012, to develop and test emerging ideas.

Key insights Findings from written responses are summarised below.

1.10 Other meetings

Law Commission The Law Commission is undertaking a project to investigate how wildlife management legislation can be reformed. The law in this area is considered to be outdated, complex and

as a result encourages poor compliance. This means it is not as effective as it could be at delivering objectives for biodiversity. The Law Commission have been tasked with putting together a modern, consistent and simple to understand regulatory framework. The intention is that the number of statutes will be vastly reduced and that the framework will have flexibility to deal with changing priorities. The ultimate benefits of such reform will be much better alignment with policy objectives, greater compliance and hopefully less administrative burden. The Law Commission has now presented its final recommendations to Ministers for formal response.

Better Regulation Delivery Office	Discussed SERR with BRDO team, including a workshop attended by BRDO, Defra and local authority representatives. Key points raised include: • Businesses can see good environmental performance as a positive business opportunity, so regulatory reform should aim for compliance performance and excellence becoming ingrained in business practice. • An overarching environmental code (e.g. as per the Swedish model) is desirable, with simpler principles and a clear statement of how to comply, especially for small businesses. • There is a potential for a waste & packaging pilot for regulatory reform. It would be cross regulatory, including local authority 2-tier and Environment Agency; consumers are often savvy in this space; and data flows exist between business and residents/consumers so Government can potentially take a step back. • Primary Authority enables businesses to form a statutory partnership with a single local authority, which then provides robust and reliable advice for other councils to take into account when carrying out inspections or dealing with non-compliance. It offers simpler, more successful local regulation and is an important illustration of how compliance assurance is being reformed.

- Useful research[36] into the role of citizens in regulation has been produced for BIS.

Local Authorities Consulted with Local Government Association and directly with a sample of local authorities to explore their current experience of environmental regulation and opportunities for improvement. Highlighted lack of consistent process for the development of guidance and the burden placed on local Government by environmental regulatory framework through inspection and enforcement obligations. Local authority officers can provide a business-level perspective on regulatory framework. Findings are reflected in descriptions of regulatory framework and other findings throughout this report.

1.11 Wider stakeholder engagement

1.11.1 Introduction

Responses were received from 11 businesses representing the following sectors: alcoholic drinks (1), HVACR[37] (1), mining and quarrying (2), retail (2), waste management (4) and water (1). Responses were also received from the following eight trade associations and one NGO (Canal & River Trust):
- British Hospitality Association
- British Veterinary Association
- FETA
- Mineral Products Association
- Nabim
- Society of Motor Manufacturers & Traders Association
- Surface Engineering Association
- UK Petroleum Industry Association

1.11.2 Environmental regulatory framework

All but three respondents felt that environmental regulation had affected the strategic decisions made by businesses across a wide range of sectors. For some, this had

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[36] http://www.bis.gov.uk/assets/brdo/docs/publications-2011/11-1473-citizen-in-regulation.pdf

[37] Manufacturers, suppliers, installers and contractors of heating, ventilation, air conditioning and refrigeration equipment.

involved large scale investment in new equipment and technologies. For example, the UK Petroleum Industry Association (UKPIA) reported that refineries have invested over £1000m over the last 10 years, the major portion of which has been spent on emissions abatement technology to meet and maintain compliance with changing requirements imposed by environmental legislation, e.g. conditions imposed by the Environmental Permitting regime, requiring reductions in nitrous oxide and sulphur dioxide emissions. In addition to Environmental Permitting, other areas where environmental regulation was felt to have impacted on both strategic and operational business decisions included the F Gas Regulations and waste.

Some businesses had opted to be demonstrably compliant with environmental regulation by adopting Environmental Management Systems such as ISO 14001 for reputational reasons as it was considered that failing to comply could have damaging consequences in terms of customers and investors.

Two trade associations highlighted the negative impact of environmental regulation on growth in their sector. For example, the Surface Engineering Association (SEA), which provides a focus for all aspects of the surface engineering industry (e.g. metal and paint finishing, etc.), was particularly concerned about the impacts of REACH and Environmental Permitting and commented that:

"Businesses now spend more time in ensuring they are compliant than they do in trying to develop and grow. "

Nabim, representing the flour milling industry, commented that when Environmental Permitting initially came into force many companies kept their production capacity below the 300 tonne per day threshold in order to avoid the regulation which led to some mills running at less than optimum efficiency.

Of the three respondents that felt that environmental regulation had not influenced strategic business decisions, the British Hospitality Association commented that *".... it is doubtful if businesses include environmental regulation in their strategic decisions unless new developments or acquisitions are concerned...".*

1.11.3 Legislation

Understandably, in view of the wide range of sectors represented, a large number of pieces of legislation were reported, though the Environmental Permitting Regulations and waste, carbon reduction (e.g. EU ETS, CRC EES, CCA/CCL), water and Producer Responsibility legislation were common to a significant number. Most felt that the regulatory obligations were pretty clear although one business felt that they *"can be very complex and difficult to navigate"*, particularly the Water Framework Directive, and the SEA commented that:

"Due to the nature of the substances used by our members they are often subject to legislation that was meant for major, multi-national processing sites not small SME type businesses and this leads to a great deal of frustration and uncertainty in what is required to comply, e.g. COMAH."

Despite feeling that the obligations were reasonably clear, respondents identified a range of problems in the design of the regulatory legislative system including issues arising from:

- The interface between the planning permission process and the Environmental Permitting regime.
- Inconsistency of definitions, e.g. definition of waste in different contexts.
- Overlaps between the various carbon reduction schemes, e.g. EU ETS, CRC EES and CCA.
- Tensions between regulatory obligations, e.g. between food safety and carbon reduction obligations.
- Differences in legislative requirements between the devolved administrations, e.g. in relation to waste, which create problems for UK-wide businesses.

A number of respondents also highlighted problems arising from the implementation of legislation such as inconsistencies in the approach taken by regulators across the UK and also within England. One example of this was given by the UKPIA which, together with its members, expressed *"concerns regarding fragmentation of the COMAH Competent Authority (CA) between HSE, the Environment Agency, NIEA, SEPA (and soon to be exacerbated by the fifth environmental regulator in Wales)"* and noted that *"There is a lack of common focus on a uniform policy and strategy and in consistent regulation ..."*. Others expressed concerns about the length of time it took for some decisions to be made by regulators and the delays in finding out about new legislative requirements which could cause problems for businesses in implementing the changes.

Ideas suggested by respondents for improving legislative aspects of the regulatory framework included:
- Assessing the impact of potential new legislation on other regimes more fully to avoid conflicting or overlapping requirements.
- Improving the alignment between the planning process (led by local planning authorities), Environmental Permitting requirements (led by the Environment Agency), and species licensing (led by Natural England).
- Assessing all water-related policy for the UK together to streamline regulations and controls.
- Introducing one fully connected uniform system for regulatory controls of water supply and waste water services.
- Combining the WEEE and Waste Batteries registration into one system and aligning the deadline for reporting (on an optional basis).

- Updating the European Waste Catalogue codes so that each WEEE classification has its own unique coding on both non-hazardous and hazardous waste (to enable the capture of all WEEE data, much of which is currently misreported as scrap metal).

1.11.4 Guidance

A wide range of resources were cited as being used by businesses to find out about their obligations, including government websites (e.g. Environment Agency, the former Netregs and Business Link,[38] Defra, HSE, etc.), trade associations, trade press, newsletters, legislation services and external consultants as well as direct contact with regulators. Typically, respondents reported that they spent between 1 and 3 days per month finding out about environmental obligations.

There were mixed views about government websites, with some finding them easy to navigate and use and others commenting that it could be difficult to locate the appropriate guidance. The Environment Agency and HSE websites were highlighted as being ones where it was more difficult to find relevant information even by those who considered them very good overall.   For example, one business commented:

"Some websites are very good, e.g. Business Link and EA summarise per sector, but there can be so much information on these, you can easily go around in circles trying to find information."

Another consultee felt that there was confusion with the current arrangements where both Defra and the Environment Agency websites held information on the same subject but the information was different. It was also felt that some of the information provided on the Defra website could be more helpful. For example, it was noted that the consultations page simply lists all the consultations without any detail of when each one starts and finishes. The Scottish Government's consultations page was given as a good example of the layout and information that should be provided.

Some businesses commented that they do not use government websites but instead rely on trade bodies and other industry sources. Reasons for not using them were that the information is not specific enough for their business and/or sector and that they had had poor experiences in the past of trying to find the relevant information.

Most did not comment specifically on the quality of government guidance but those that did felt that some documents were clearer than others. The Mineral Products Association

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[38] Information on environmental regulation was migrated to www.gov.uk in October 2012 and is currently being restructured.

noted that it is also not always clear to businesses where guidance sits, i.e. if it is an interpretation of the law or if it is a legally binding document, and felt that providing this information at the beginning of the document would provide greater clarity. Several respondents felt that government guidance was often too generic. For example, the British Veterinary Association commented that *"it provides guidance for members in the form of an easy to understand quick reference poster"* and that this is *"complemented by supporting web guidance which is currently being reviewed by the EA with a view to achieving recognition as an approved sector guide ...."*. Two guidance documents were specifically highlighted: guidance on Duty of Care waste obligations was considered outdated as it no longer reflected current practice[39] and guidelines on Great Crested Newt Mitigation were felt to be unclear.

Ideas suggested by respondents for improving the design and communication of environmental regulatory obligations included:
- Developing a single website containing all relevant guidance on environmental regulation, as well as 'Frequently Asked Questions' and a telephone helpline to deal with unanswered queries.
- Government providing electronic updates to those affected by new or changes to regulations and/or guidance.
- Government co-developing guidance materials with industry bodies and other stakeholders to ensure that they are fit for purpose and meet the requirements of specific sectors
- Establishing a clear distinction between guidance materials that set out regulatory requirements and those that are best practice
- Government helping and encouraging trade associations to produce sector-specific guidance where appropriate.

1.11.5 Information obligations

The majority of respondents indicated that businesses were required to collect a significant amount of information, particularly in relation to the Environmental Permitting Regulations and waste, carbon reduction, water and Producer Responsibility legislation. This information was either kept by the business to be shown on inspection or reported to regulators such as the Environment Agency.

Many highlighted areas of overlap or duplication such as in carbon reporting, Environmental Permitting, water and waste. For example, one waste management business commented that there was:

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[39] The guidance is currently being reviewed.

"... duplication of effort in having to separately report three different kinds of waste to three separate reports. Surely one report to one point who then split the information out would be a more efficient use of my time and regulators' time."

The Society of Motor Manufacturers and Traders (SMMT) commented that regulators often do not understand that the data they are asking for can contradict other business practices, giving the example of the Environment Agency wanting to use one single conversion rate to convert turnover from Euros to Sterling for the CRC EES when businesses may work on a daily exchange rate or negotiate different rates based on financial negotiation.

Some respondents commented that there was not only duplication in the information provided to government but also in that submitted to the supply chain, customers, investors and assurance schemes, etc.

Ideas suggested by respondents for improving the reporting of regulatory information to government included:
- Introducing electronic reporting of data and information (e.g. waste transfer notes for non-hazardous waste, water abstraction returns, new/varied consents, permits and licences, etc.).
- Developing a single place to which reporting information is provided, although noting that this could impose costs on business to establish new reporting processes.
- Developing a Planning Portal style website for environmental permits, providing greater transparency of the application process and details of permits granted.
- Implementing a single quarrying annual monitoring report, including both operational environmental performance data and broader information about environmentally beneficial activities such as habitat creation.

1.11.6 Compliance assurance

From the responses it was clear that in addition to providing information to government, the majority of businesses were inspected by regulators, most commonly the Environment Agency. Few comments were made about the frequency of inspection or the relationships with regulators. However, a few respondents commented on the lack of consistency in the advice given and decisions made by Environment Agency inspectors in different regions.

On the issue of earned recognition, one waste management business commented that:

"As a business we took the decision to go with ISO 14001 but even with ISO 14001 we still seem to get detailed audits on what we would consider low risk operations." In addition*: " Despite the additional controls this puts in our management systems with the benefit of a 'lighter touch' by the EA, the additional cost is in no way offset by an kind of reduction in EA subsistence costs, i.e. self-regulation is costing the business more."*

Similarly, the UKPIA commented that although there have been discussions with the Environment Agency about the Environmental Permitting Regulations Assurance Scheme, member companies have so far not joined as they believe that there are few attractions in terms of reporting requirements.

One water company also noted that:

"In some areas, notably drinking water regulations compliance, self-reporting has proved successful. Some inspections by third parties have reduced as a result but this has yet to be offered across the whole range of obligations which we have to meet."

Some respondents felt that there was insufficient inspection either of smaller businesses or in relation to certain regulations. For example, one waste management business commented:

"EA seem to target the larger businesses. Lower standard businesses still do not appear to get the scrutiny they deserve."

Two respondents from the HVACR sector expressed concern about the lack of policing by regulators in relation to the F gas regulations. It was noted that compliance with the EU Directive had involved significant costs for mandatory training and certification, which SMEs in particular found hard to absorb. However, it was pointed out that despite this significant investment – estimated at around £60m for the refrigeration and air conditioning sector alone – there has been little or no enforcement.

Ideas suggested by respondents for improving government compliance assurance activities included:
- Examining the scope for recognising compliance with environmental management standards (e.g. ISO14001) with reduced inspections.
- Requiring companies to complete a short survey confirming their awareness of and compliance with environmental regulation (as is the case currently for businesses of a certain size that are required to hold annual audits and report them to Companies House and HMRC).
- Using self-regulation backed up by automated secure recording and audit systems, the latter only being accessible to government and its agencies.
- Considering the scope to have only one enforcement agency, e.g. a single UK-wide Competent Authority responsible for enforcing the COMAH Regulations.
- Extending the primary authority approach from local authorities to national regulators.
- Making it compulsory for all companies above a certain size to be members of a trade association (as in other EU countries), which could then operate a compliance scheme and provide information to government.

2. Case study summaries

2.1 Purpose, approach and scope

2.1.1 Purpose of case studies

Case studies for specific industry sectors have been developed to provide insight into how businesses perceive the total stock of environmental regulation that affects them. The case studies are intended to provide a rich qualitative insight into business experience of environmental regulation, to complement the more quantitative and comprehensive analysis undertaken as part of the regulatory mapping exercise, and the wider qualitative survey via correspondence.

As summarised in Table A1, sectors have been selected to illustrate the varied impacts of environmental regulation, to include:
- Sectors that have a significant environmental impact;
- Sectors subject to a complex set of regulations that are thought to impose a significant burden;
- Sectors that interact with multiple Government departments and agencies;
- Sectors that include large businesses, small and medium sized enterprises(SME) and micro-businesses;
- Sectors that are thought to have potential for significant growth, and sectors that are experiencing steady demand;
- Sectors representative of both urban and rural economic activity.

Selection of sectors has also been informed by willingness and availability of sector representatives to participate in the research.

2.1.2 Research approach

For each case study sector, desk research has been used to identify:
- Key industry characteristics;
- Sector environmental management objectives and obligations;
- Relevant items of environmental legislation [and sector-specific guidance];
- Regulatory agencies regulating the sector;
- Permission, inspection and reporting requirements;
- Sources of information and guidance available to the sector.

For six priority case study sectors, this desk research has been complemented with interviews with a sample of representative businesses and trade associations

(approximately 7 organisations for each sector). Where possible a workshop has then been held with interviewees to feed back common themes that have emerged and to test ideas for improvement.

2.1.3 Research scope

During the interviews and workshops some policy-specific issues were raised the resolution of which are not within the scope of this review. These issues have been communicated to relevant policy teams within Defra and are not reported here.

Table A1: Case study sectors and research method

Case study sector	Key sector characteristics			Research methods employed		
	Mix of large, SME and micros	Links to Growth Plan Themes	Urban or rural activities	Desk research	Business/ trade association interviews	Ideas generation workshop
1: Quarrying	Mix	Construction	Mainly rural	✓	✓	✓
2: Arable farming	Mix	Rural Economy	Rural	✓	✓	
3: Soft drinks manufacturing	Mix	(indirectly, Rural Economy)	Both	✓	✓	
4: Waste management	Mix	Low carbon investment	Both	✓	✓	✓
5: Commercial construction	Mix	Construction	Both	✓	✓	✓
6: Personal care product manufacturing	Mix		Both	✓	✓	
7: Non-ferrous metals and surface treatment	Mix	Advanced manufacturing	Both	✓	✓	
8: Biofuels manufacturing	Mix	Low carbon investment	Both	✓	✓	
9: Electronic product manufacturing	Mix	Advanced manufacturing	Both	✓	✓	
10: Water collection, treatment and supply	Mainly large		Both	✓	✓	
11: Dairy product manufacturing	Mix	(Indirectly, Rural Economy)	Mainly rural	✓	✓	

2.2 Case study 1: Quarrying

2.2.1 Industry characteristics

Quarrying is the extraction of useful materials from the ground. This case study focuses on the quarrying of construction aggregates which includes sand, gravel and crushed rock. The UK typically needs 205 million tonnes of aggregates per year, or approximately 4 tonnes per head of population, of which around 150 million tonnes is extracted, the remainder being from recycled or secondary sources[40]. Around 90% of aggregates are used in construction, for houses, other buildings and structures, roads, railways and by the water industry[41].

UK quarrying businesses range in scale from large multinationals to micro-businesses. In the UK there are over 2,000 quarries and associated manufacturing sites. The sector supplies approximately £9 billion of products and services each year, and is an essential input to the construction industry. It provides nearly 30,000 jobs directly, many in rural areas[42].

2.2.2 Environmental regulatory framework

Although the total UK land use committed to mining and quarrying is relatively low (0.9%) compared to other uses (e.g. farming at 71%), the environmental and amenity impacts of quarrying can be significant[43], and consequently the sector is subject to significant regulation. Prevention of pollution to land, water and air, control of noise, dust and vibration, protection of biodiversity and protection and creation of habitats are core environmental management objectives for the quarrying sector. While quarrying operations can significantly disrupt natural habitat, the restoration of quarrying sites after use can provide new valuable habitats such as wetlands and offer other benefits for water and flood management, and public amenity.

Operators tend to manage environmental regulations alongside development planning, and manage site health and safety as a separate issue. The businesses we spoke to told us that planning and environmental regulations have a significant impact on investment in quarrying. For example, the permissions obtained control the activities allowed at a given site in line with sustainable development, environmental and social objectives. Some

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[40] http://www.mineralproducts.org/sustainability/market-summary-data.html

[41] http://www.mineralproducts.org/prod_agg01.htm

[42] http://www.mineralproducts.org/iss_industry01.htm

[43] http://www.bis.gov.uk/assets/foresight/docs/land-use/jlup/35_digging_the_backyard_-_mining_and_quarrying_in_the_uk_and_their_impact_on_future.pdf

thought that changes to regulation of water abstraction within quarries may encourage different/ better water management, whilst the importance of efficiently integrating controls on abstraction with existing planning and permitting regulations, through co-design with the industry, was emphasised. For operators producing processed products environmental regulation and societal demands are reportedly important drivers for product development (e.g. with low embodied carbon, permeable paving). There may be scope to improve materials reuse and quarry restoration by modifying waste policy to enable the wider use of suitable "waste" material as an input to products and for use in restoration.

Figure A1 provides a summary of the environmental regulatory framework for the sector. In order to establish a quarry, operators must obtain planning permission from the local planning authority, which one business told us can take as long as 10 years. To obtain planning permission environmental impact assessments are undertaken and a restoration plan developed. Planning permission will include conditions on how the quarry is managed, including requirements for environmental protection. Environmental permits will also be required from local authorities (Environmental Permitting Regulations (EPR) Part A2 and B) and the Environment Agency (EPR Part A1, waste management, water management), and species licences from Natural England.

Fig A1: Summary of environmental regulatory framework for quarrying

Environmental objectives | **Regulatory agencies** | **Permissions, inspections and reporting** | **Regulated business**

Local planning authority — Permit: Planning Permission; Inspect: Planning inspections; Report: Annual minerals returns (similar report also provided to ONS annually)

English Heritage — Permit: Planning permission (consultee)

Natural England — Permit: Planning permission (consultee), Species Licences; Inspect: on exception basis; Report: may require species surveys, Biodiversity Action Plan reports

Environment Agency — Permit: Planning permission (consultee), Environmental permits; Inspect: Site inspections; Report: water abstraction, discharges to water, mining waste directive reqs, permit breaches/non-compliance + may require EPRTR reports, landfill returns, waste and recycling data, stack test and borehole monitoring data, energy efficiency and carbon reporting for sites with production plant.

Local authority env. health — Permit: LAPPC Part B permits; Inspect: Site inspections, Noise and nuisance monitoring; Report: noise and dust monitoring

Environmental objectives: Access for roads and footpaths; Heritage protection; Flood risk management; Protection of habitats & biodiversity; Prevent pollution of land, water and air; Control of water abstraction; Control of contaminated land; Waste management; Reduction of packaging waste; Reduction of carbon emissions; Control of noise, dust, vibration

Regulated business: Quarrying business

2.2.3 Legislation

Important pieces of legislation that apply to quarrying businesses include the Environmental Permitting Regulations[44] (England and Wales) 2010 (as amended), Water Resources Act 1991, Town and Country Planning Act 1990 and National Planning Policy Framework 2012 (which includes technical guidance on flood risk), the Town and Country Planning (Environmental Impact Assessment) Regulations 2011, Conservation of Habitats and Species Regulations 2010 (as amended), the Environmental Protection Act 1990 (Part 3 - statutory nuisances) and the Contaminated Land[45] (England) Regulations 2006 (as

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[44] In England and Wales the permitting requirements as set out in article 7 of the Mining Waste Directive have been transposed through the Environmental Permitting (England and Wales) Regulations 2010: http://www.environment-agency.gov.uk/static/documents/Research/PS019-MWD_Regulatory_Framework.pdf

[45] Contaminated Land Regulations would not apply to quarrying as a general rule, but when dealing with legacy contaminated land or activities that have caused land to become contaminated.

amended). One business we spoke to told us there are 150 pieces of legislation that apply to their quarrying operations.

Businesses we spoke to identified a range of problems in the design of the regulatory legislative system including issues arising from:

- The interface between the planning permission process and environmental permitting process[46].
- Inconsistency of definitions, e.g. definition of waste in different contexts.
- Duplicative provisions for species protection.

Ideas raised during this review for improving legislative aspects of the regulatory framework included (most important to businesses first):

- Industry should be involved as standard practice in the design of new regulatory regimes and have greater influence over the final decisions made.
- Improve alignment between the planning process (led by local planning authorities), environmental permitting requirements (led by the Environment Agency), and species licensing (led by Natural England).
- Resolve inconsistencies in definitions and rules concerning the management of waste, particularly with regard to when material use is treated as "disposal" or "recovery".
- Identify areas of ambiguity in the regulatory framework and develop position statements to clarify.
- Integrate Local Authority Pollution Prevention and Control (LAPPC) Part A and Part B permits where they apply to the same site.

2.2.4 Guidance

According to the businesses we spoke to, large quarrying businesses tend to have teams of specialists in-house focused on monitoring and influencing regulatory policy and ensuring compliance. Smaller operators are more likely to rely on external consultants to advise them. Businesses we spoke to use the Defra, Environment Agency and Her Majesty's Revenue and Customs (HMRC, for Landfill Tax information) websites as well as legislation.gov.uk and the Planning Portal. They generally found these sites to be acceptable, although some complained that the Environment Agency website could be hard to search and navigate but had shown some recent improvement. The former Netregs/Business Link site, which had areas structured around sectors, was thought to have been the right sort of idea. They also benefit from information and networking provided by the Mineral Products Association and British Aggregates Association, and informal professional networks.

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[46] Work (http://www.environment-agency.gov.uk/business/regulation/139368.aspx) is underway to address this issue, so it is not discussed further here

Businesses typically commented that they could find out about environmental regulation because they have already invested time in getting to grips with it, but thought it would be very challenging for someone seeking to understand their environmental obligations for the first time.

Ideas raised during this review for improving the design and communication of environmental regulatory obligations included (most important to businesses first):

- More proactive dialogue with regulators to discuss upcoming issues and current problem areas.
- Improving the consistency in the design of guidance materials, so that they are written for the quarrying audience, in plain English.
- Government co-developing guidance materials with industry bodies or consultants who understand the quarrying industry to maximise relevance.
- Establishing a clear distinction between guidance materials that set out regulatory requirements and those that are best practice
- Developing a single website providing a summary of or pointing to relevant regulations, guidance, permits and a forward plan of relevant consultations.
- Industry providing single named contacts to regulators to improve communications.
- A "rate this guidance" function on websites so that industry users can provide direct feedback to guidance authors on its usefulness.

2.2.5 Information obligations

Quarrying businesses have to report to local authorities for both planning and environmental health, the Environment Agency and Natural England, though there is reportedly relatively little duplication in the information provided. Ideas raised during this review for improving the reporting of regulatory information to Government included (most important to businesses first):

- Developing a Planning Portal style website for environmental permits, providing greater transparency of the application process and details of permits granted.
- Implementing a single consolidated annual quarrying monitoring report, including both operational environmental performance data and other information about environmentally beneficial activities such as habitat creation. This would be designed to ensure that reporting effort required was reduced.
- Developing a single place to which reporting information is provided, although noting that this could impose costs on business to establish new reporting processes.
- Ensuring that the emphasis of information reported is on indicators aligned closely to intended environmental performance outcomes rather than standardised monitoring requirements.
- Establishing a standard data interface definition to enable direct reporting from electronic information management systems into Government systems.

2.2.6 Compliance assurance

Quarry operators are inspected by the Environment Agency, local authority environmental health officers and local authority mineral planning authority officers. Planning permission conditions may need to be discharged prior to operations commencing or at certain points during the life of a development, and are monitored on site visits by the local planning authority or the Environment Agency to ensure compliance. Businesses told us that while site visits are necessary for regulation to be effective, both the Environment Agency and local authorities may visit the same site to inspect different activities, which can cause confusion and sometimes results in different advice or comments being provided. They reported inconsistencies in the perceived quality of inspection carried out. Good inspectors maintain good relationships with local sites, allowing for pragmatic decision-making. Poor inspectors can come unprepared, lacking knowledge of the site and the permits that apply. Businesses perceived problems of inconsistency in discretionary decisions.

Ideas raised during this review for improving Government compliance assurance activities included (most important to businesses first):

- Increasing the recognition of actions to address issues when they occur, providing a more proportionate response rather than prosecuting for problems that were resolved.
- Examining the scope for recognising compliance with environmental management standards (e.g. ISO14001) with reduced inspections, although some expressed concern that this approach could be too "tick-boxy" and system focused, and insufficiently focused on environmental outcomes.
- Greater use of 3rd party assurance and reporting.
- Introducing annual compliance statements to reduce reliance on site-based inspection. The relevance of this approach would depend on company size, among other things.
- Introducing a single quarterly joint inspection that includes (as necessary for a given site) the Environment Agency, local authority environmental health and local planning authority officers in one meeting.

2.3 Case study 2: Arable farming

2.3.1 Industry characteristics

One quarter of all agricultural land in the UK – almost 5 million hectares – is used for growing crops. Cereals such as wheat, barley and oilseed are most commonly grown, comprising almost 80% of the total,[47] and are grown on around 2.5 million hectares in England on nearly 40,000 farms.[48] Other arable crops, such as proteins and sugar beet, make up 13%, horticultural crops (fruit, vegetables and ornamentals) account for 4%, while potatoes account for 3%.

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[47] http://www.defra.gov.uk/food-farm/crops/
[48] http://www.defra.gov.uk/publications/files/pb13527-farm-reg-task-report.pdf

In 2011 the total income from farming in the UK was valued at £5.69 billion, a 25% increase in real terms from 2010.[49] The UK is the fourth largest producer of cereals and oilseed crops in the EU, accounting for around 8% of total EU production. The UK is also the fourth largest EU producer of sugar beet. There are around 4,500 sugar beet growers in the UK, contracted to supply British Sugar.[50]

The UK has the second largest consumption of organic produce in the EU. EU law requires that those engaged in organic production are licensed by either the Member State or an approved organic control body.   In 2008 UK organic land area was over 700,000 hectares and there were almost 8,000 organic operators certified.[51]

The total volume of water used in agriculture is 184 million m^3, of which drinking water for livestock is the biggest form of water usage (41%), followed closely by irrigation (38%).[52]

Virtually all (98%) of England's farm businesses are micro   businesses.[53] The agriculture sector in the UK employs 534,000 people.[54]

2.3.2 Regulatory framework

The key environmental management objectives for the arable farming sector are: prevention of pollution to land, water and air; management of waste and agricultural waste; water abstraction and impoundment; and habitat and species conservation, as shown in Figure A2 below. As such, arable farmers are subject to a wide range of environmental obligations that affect them in different ways, with some requiring records to be kept and others requiring them to be aware of, and follow, certain requirements. The main pieces of legislation are related to:

- **Pesticide use** (e.g. Control of Pesticides Regulations 1986, Plant Protection Products Regulations 2011 and Plant Protection Products (Sustainable Use) Regulations 2012)
- **Fertilizer application in Nitrate Vulnerable Zones (NVZs)** (Nitrate Pollution Prevention Regulations 2008 as amended)
- **Waste and agricultural waste management** (Environmental Permitting Regulations 2010 as amended (EPR 2010), Sludge Use in Agriculture Regulations 1989 as amended, Hazardous Waste Regulations (England and Wales) Regulations 2005, Environment Protection Act 1990 Section 34 and Environmental Protection (Duty of Care) Regulations 1991))

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[49] http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-crosscutting-auk-auk2011-120709.pdf
[50] http://www.defra.gov.uk/food-farm/crops
[51] http://www.defra.gov.uk/food-farm/crops/
[52] http://www.defra.gov.uk/statistics/files/defra-stats-foodfarm-farmmanage-fbs-waterusage20110609.pdf
[53] http://www.defra.gov.uk/publications/files/pb13527-farm-reg-task-report.pdf, p15
[54] http://www.defra.gov.uk/publications/files/pb13527-farm-reg-task-report.pdf

- **Water abstraction and impoundment and, in some cases, land drainage consents**[55] (Water Resources Act 1991, Water Act 2003, Water Resources (Abstraction and Impoundment) Regulations 2006 and Land Drainage Act 1991)
- **Environmental Impact Assessment (EIA)** (Environmental Impact Assessment (Agriculture) (England) (No. 2) Regulations 2006 and Water Resources (Environmental Impact Assessment) (England and Wales) Regulations 2003)
- **Fuel oil storage** (Water Resources (Control of Pollution) (Silage, Slurry and Agricultural Fuel Oil) Regulations 2010 (SSAFO 2010))
- **Habitats and species conservation** (e.g. Wildlife and Countryside Act 1981, Conservation of Habitats and Species Regulations 2010 and Hedgerows Regulations 1997)

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[55] Farmers wishing to build a sump to abstract water are required to obtain a land drainage (or flood defence) consent. If the sump is to be built on the bed or within the channel of a main river, consent is required from the Environment Agency (as well as an abstraction licence).   If it is to be built on an ordinary watercourse, consent is required from either the Internal Drainage Board (IDB) or lead local flood authority depending on the detail of the proposal.

Figure A2: Summary of environmental regulatory framework for the arable farming sector.
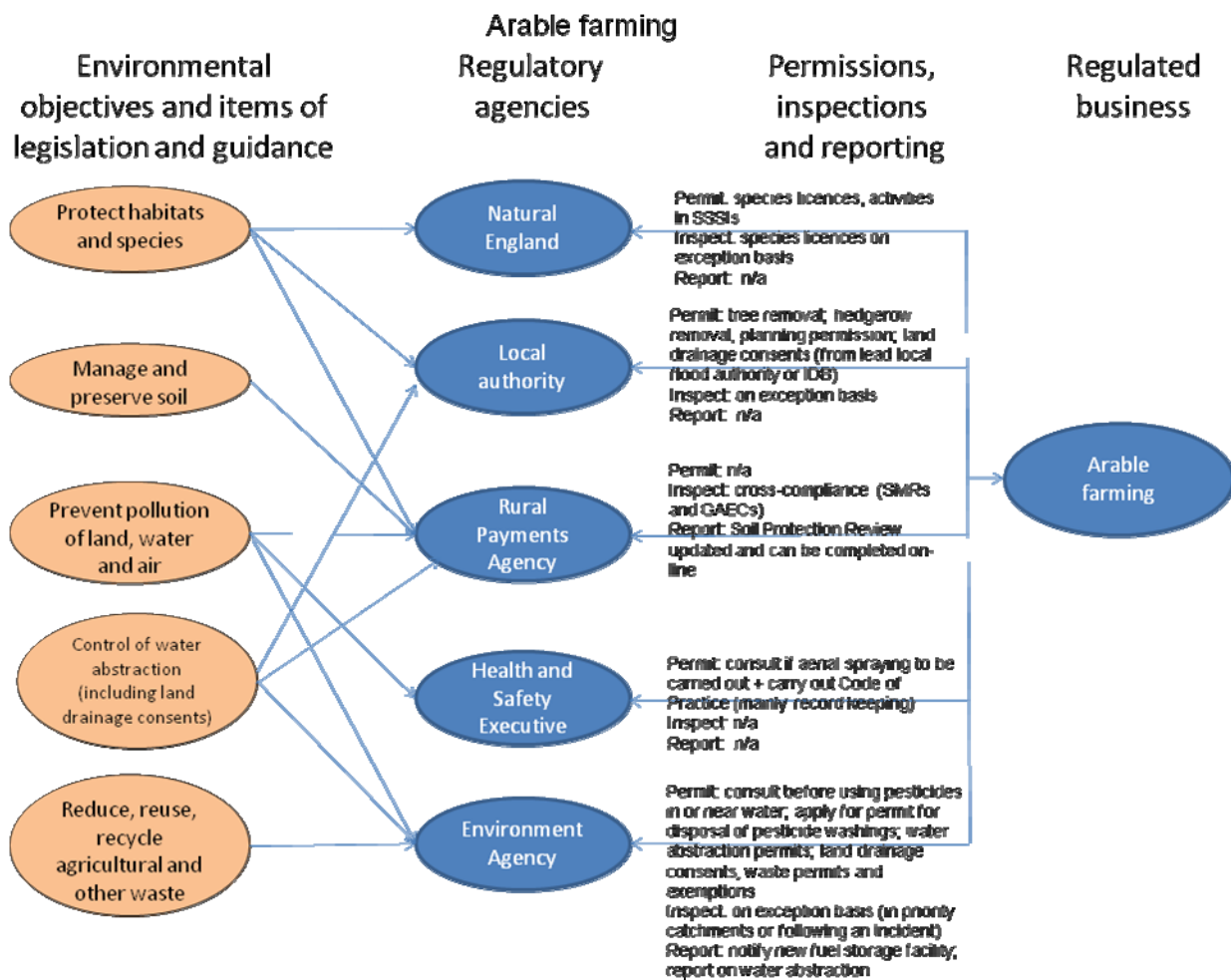
Other relevant legislation includes:

- **Noise and nuisance** (e.g. Control of Pollution Act 1974 Part III, Environmental Protection Act 1990 and Crop Residues (Burning) Regulations 1993)
- **Biocidal Products** Regulations 2001
- **Contaminated land** (Environmental Protection Act 1990 Part 2A and Contaminated Land (England) Regulations 2006)
- **Discharge to surface water or groundwater** (EPR 2010) – e.g. disposal of pesticide washings requires an EPR permit (i.e. as a "groundwater activity")
- **Discharge to the public sewer** (e.g. Water Industry Act 1991 and Trade Effluent (Prescribed Substances and Processes) Regulations 1992)
- **Weeds** Act 1959 and Ragwort Control Act 2003
- **Protection of Badgers** Act 1992
- **Town and Country Planning** Act 1990 and Town and Country Planning (Trees) Regulations 1999
- **Environmental Damage** (Prevention and Remediation) Regulations 2009

- **Public Rights of Way** (e.g. Highways Act 1980 and Countryside and Rights of Way Act 2000)

The majority of arable farmers in England receive payments as part of the Common Agricultural Policy (CAP) Single Payment Scheme (SPS) and/or have entered into commitments under certain rural development schemes since 1 January 2007. As such, they are required to meet a number of so-called **'cross compliance obligations'** covering public, animal and plant health, animal welfare, the environment and landscape features.[56] Around three quarters of these standards simply require compliance with existing law (which applies to all famers in England, not just those who claim the SPS and/or receive certain rural development scheme payments).

There are three types of cross compliance requirements:

- Statutory Management Requirements (SMRs)
- Standards of Good Agricultural and Environmental Condition (GAEC)
- Requirements to maintain a level of permanent pasture not included in the crop rotation for five years or more. This is not currently a cross compliance requirement for individual farmers.

Statutory Management Requirements

Statutory Management Requirements (SMRs) are legal requirements applicable to farmers, based on EU and UK law. They reflect a number of articles from EU directives and regulations which address the environment, public, plant and animal health and animal welfare. [57] Those which are relevant to arable farming include: SMR 1 – Wild birds; SMR 2 – Groundwater (EPR 2010); SMR3 – Sludge Use in Agriculture Regulations 1989; SMR 4 – Nitrate Vulnerable Zones (NVZs) (Nitrate Pollution Prevention Regulations 2008); SMR 5 – Habitats and species (Conservation of Habitats and Species Regulations 2010); SMR 9 – Restrictions on the use of plant protection products (e.g. Plant Protection Products Regulations 2005); and SMR 11 – Food and feed law[58].

Good Agricultural and Environmental Condition

Standards of Good Agricultural and Environmental Condition (GAECs) are legal requirements set in English and UK law. They either mirror existing law, or were already existing good practice. GAECs relate to soil protection, ensuring a minimum level of maintenance (particularly in relation

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[56] The legal basis for Cross Compliance is Council Regulation (EC) No 1782/2003(OJ L 270, 21.10.2003) and Commission Regulation (EC) No 796/2004 (OJ L141, 30.4.2004), as well as the domestic legislation which provides for the administration and enforcement of the Regulations.

[57] The full list of SMRs is given at: http://rpa.defra.gov.uk/rpa/index.nsf/293a8949ec0ba26d80256f65003bc4f7/6eb355ea8482ea61802573b1003d2469!OpenDocument

[58]http://rpa.defra.gov.uk/rpa/index.nsf/vContentByTaxonomy/E0F4CD5E0EE89F7D802577140050AD2C?OpenDocument

to landscape features), avoiding the deterioration of habitats and protection and management of water and include: GAEC 1 (Soil Protection Review (SPR)); GAEC 14 (Protection of hedgerows and watercourses); GAEC18 (Spray irrigation), GAEC 19 (No spread zones) and GAEC 15 (Hedgerows – Hedgerows Regulations 1997).[59]

When asked to list their main environmental regulatory obligations, all interviewees included those related to: nitrogen fertilizer application (most mentioned NVZ obligations while some referred to RB 209), pesticide use (particularly in relation to Local Environmental Risk Assessment for Pesticides (LERAPs)), waste and agricultural waste permits and exemptions; and the fuel/slurry storage regulations. All were in the SPS and considered that cross compliance obligations were also 'regulatory'. In addition, the majority of those interviewed were in the voluntary agri-environment scheme, Environmental Stewardship,[60] either at Entry Level (ELS) or Higher Level (HLS), and so were subject to another set of environmental obligations they had to meet to receive payment.

Of these, most interviewees who expressed a view felt that NVZ obligations and cross-compliance requirements were the most onerous and problematic. In the case of NVZ obligations, they were regarded as being overly complex and prescriptive, with, for example, inorganic and organic nitrogen applications having to be worked out in advance in significant detail. Of the cross-compliance requirements, GAEC 14, which protects hedgerows and watercourses by requiring a 2 m margin to be maintained between the cultivated area of the field and the field edge, caused most concern   This was because of the risk that contractors could breach it by mistake during ploughing, as the rules state that each margin has to comply with the limit and there can be no off-setting.

However, most of the interviewees acknowledged that the majority of the environmental obligations had simply resulted in increased record keeping and that some of these records would have been kept anyway as part of running the business. Some also acknowledged that by taking account of environmental obligations (e.g. nitrogen applications, sprayer testing, spreader testing, management plans, etc.), costs had been reduced. In addition, there was a general recognition that the obligations associated with arable farming were far less onerous than those associated with livestock.

Most of the farmers interviewed did not think that environmental obligations had affected their more strategic business decisions, although one gave a number of lesser examples of how they had impacted, including:

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[59] The full list of GAECs is given at:
http://rpa.defra.gov.uk/rpa/index.nsf/293a8949ec0ba26d80256f65003bc4f7/6eb355ea8482ea61802573b1003d2469!OpenDocument
[60] http://www.naturalengland.gov.uk/ourwork/farming/funding/es/default.aspx

- ELS/LERAPs –with the change in the rules on LERAPs, the renewal of an ELS agreement was used as an opportunity to protect every watercourse with grass buffer strips.
- Ban on straw burning – this meant that straw now needed to be chopped up, resulting in higher energy costs, though some soils might benefit from increased organic matter.
- Waste – fertilizer bags and cardboard now needed to be recycled.

Of the others, one felt that planning regulations had more of an impact, while another, who was a mixed farmer, commented:

"Although environmental regulatory obligations have not directly affected the strategic decisions within the business, they impact on it because they add to the long list of other activities and obligations that need to be carried out. They also cause a lot of anxiety because a breach can result in the loss of a significant amount of money."

Two considered that, more generally, reform of the CAP and particularly the 'greening measures' could result in increased costs and may affect business decisions. Current speculation about these measures was already resulting in some farmers having doubts about renewing their ELS agreements.

Two interviewees felt that environmental obligations had affected the strategic decisions within their business in several ways. For example, one farmer whose holding was in a Special Protection Area (SPA) had not carried out any significant activity or development due to the restrictions resulting from SPA status. In addition, due to constraints on water abstraction, he was again attempting to gain planning permission and a grant through the Rural Development Programme for England (RDPE) to build winter storage facilities having previously missed the grant application deadline due to the length of time taken for an EIA as part of the planning process.

2.3.3 Legislation

There were mixed views about the clarity of environmental obligations, with some interviewees commenting that they were reasonably clear (e.g. *"they're pretty well written and understandable"* and *"they're all obvious requirements that should be met anyway"*) and others stating that they were not (e.g. *"some are opaque"*). Examples of obligations which were regarded as less clear included those relating to water abstraction and impoundment, nutrient management plans and NVZs.

In the latter case, one farmer explained that when he was first subject to these requirements, he did not understand them and so, after attending a course which he found unhelpful, he decided to carry out research and design his own course, which was delivered to a number of farmers in his area. However, even now he still had to remind himself of the limits, particularly for organic nitrogen. He was also concerned that there are too many provisions that allowed farmers to add more nitrogen under different

conditions, although some of these had been included at the request of the industry, and that the 'N max' for various crops is far higher than any farmer would apply.[61]

Most interviewees felt that the main issue was the large number of environmental requirements with which they must comply, which was made worse by the difficulty in distinguishing between regulatory requirements and voluntary best practice options (e.g. as set out in the Codes of Good Agricultural Practice) and the lack of a definitive list of what was required. As a result, it was difficult to keep track of them all and there was a constant worry that something had been missed. This situation was even worse for mixed farmers who also had to deal with livestock requirements. One farmer, who was a member of the organisation, Linking the Environment and Farming (LEAF), noted that the LEAF audit was helpful in acting as an *aide memoire* of obligations. Another suggested that an alert system for cross compliance could be useful.

One interviewee added that farmers are expected to be experts in all the obligations placed on them, whereas government inspectors and advisers tend to specialise in certain areas. So, for example, when he wanted to dredge a river he had to deal with five different specialists. This made it frustrating when a mistake was made as it was usually through being unaware of what was required. However, there were cases where expert advice was need, e.g. when preparing an EIA.

One farmer felt that too much legislation was simply *"a bureaucratic box ticking exercise"* and that some farmers had *"learned how to play the game"*, employing a consultant to write a report of which they had no ownership nor understanding and then carrying on as before. He gave the example of the SPR which had not, in his view, resulted in any improvement in soil management. He also questioned the logic of some requirements, pointing to the SSAFO Regulations which require new oil storage facilities to be bunded, while pre-1990 stores (which are more likely to fail) do not.

One interviewee from the National Farmers' Union (NFU) felt that some farmers struggle to understand the 'bigger picture' and this has not been helped by the conflicting messages from different parts of government about what the priorities should be, particularly in local areas.

2.3.4 Guidance

The farmers interviewed used a number of sources of information, which depended on their individual preferences and how comfortable they were with the internet. Most preferred to find out about their obligations on-line and wanted to have all the relevant information in one place to avoid wasting time searching the web. However, a few wanted

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[61] N max is intended to be a regulatory back stop to prevent excessive application rather than a way of reducing nitrogen use. It will represent the optimum rate in some situations.

important information such as the Cross-Compliance Handbook to be sent by post (e.g. "*I simply don't have the time to search websites for information"*).

Websites included:

- Defra – for some this was the *"first port of call"*, but interviewees commented that it was not intuitive and was difficult to navigate. Its search engine was also quite poor and so some commented that *"It's often easier to 'Google' to find the information required"*. One interviewee added that the content was *"rather long-winded"*.
- Environment Agency – several commented on the difficulty in finding relevant information but its monthly environmental guidance update was regarded as helpful by some.
- Natural England – most used it for information on Environmental Stewardship.
- Rural Payments Agency (RPA) – several commented that the website was very good. Its annual SPS alert was also considered helpful.
- Netregs/Business Link[62] – several interviewees had used Netregs/Business Link in the past but there were mixed views, with some complaining that it was *"easy to get lost in the detail"*. -
- Farm assurance schemes – several commented that the websites contained all the relevant information and were easy to navigate.
- Trade associations and other industry bodies, e.g. NFU, HGCA, etc.

Other sources included:

- Government publications, e.g. Cross-compliance Handbook, ELS Handbook – for some, the RPA's Cross-compliance Handbook was a key reference document (*"It's very helpful and easy to read"*). However, for those more comfortable using the internet, *"Defra and RPA booklets remain in the cupboard"*.
- Trade association newsletters, e.g. NFU and Tenant Farmers' Association (TFA).
- Farming press, e.g. Farmers' Weekly.
- Meetings, training events (e.g. BASIS) and trade show stands.
- Farm assurance inspectors.
- Farm visits by government advisers, e.g. Environment Agency and Natural England.
- Government staff – if quick advice was needed, some farmers preferred to talk directly to the RPA or Natural England rather than trying to search various websites.
- Advisers, agronomists and other consultants.
- Colleagues and peers.

Interestingly, none of the farmers specifically mentioned the Farming Advice Service (FAS),[63] which has been set up to provide advice on cross-compliance (and other areas)

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[62] Information on environmental regulation was migrated to www.gov.uk in October 2012 and is currently being restructured.
[63] http://www.defra.gov.uk/farming-advice/

and has a programme of training events and farm visits. However, this may be because the FAS 'brand' is not well known and because many of the FAS contractors work for range of different organisations that are better known to farmers in their usual capacity rather than as part of the FAS.

Several interviewees commented that generally there was too much information. It was also felt that there was no clear architecture or structure, resulting in a significant amount of time being wasted on the web searching for useful information among the large amount of irrelevant material. This was made worse by the poor broadband speeds in some rural areas. One farmer gave a recent example of trying to write an Environmental Policy Statement setting out the environmental risks for his farm. He had great difficulty in finding an example and eventually found a template from the manufacturing industry on the Scottish Environmental Protection Agency (SEPA) website that he was able to adapt. He felt that more templates would be useful.

It was felt that the large amount of information available made it difficult for some farmers to cope. As a result, as noted earlier, many used consultants (e.g. to help fill in the SPS claim form), which it was felt could result in a lack of responsibility and the possibility of mistakes. However, one farmer explained his reasoning: *"I try to avoid using advisers where possible but do so where I'm financially exposed, e.g. SPS claim form, Health and Safety audit, etc.".*

On guidance documents, several interviewees felt that they were often too complex and detailed and would benefit from providing more examples. It was also felt that some guidance could be improved. For example, a recent FAS technical advice note on nitrogen in manure and slurries was felt to be poorly written and duplicated the hub of nutrient management advice on the Tried and Tested website.[64]

On average, interviewees estimated that it took them between 2.5 hours and a day per month to find out information about and understand environmental obligations, though this varied greatly. For example, more time was spent if researching a large project such as a water storage reservoir or prior to submitting an SPS claim form.

Interviewees gave an average rating of 2 out of 5 (5 = easy and 1 = difficult) for the ease with which they could find out about environmental obligations. However, there was a wide range of scores (1-4). The farmer who gave a score of 1 commented that his assessment was based on his NVZ experience and the fact that many farmers pay for consultants because they are unable to find out about and understand their obligations easily. Similarly, those giving a score of 2 commented that they were not as confident as they would like to be that they had taken account of all environmental obligations. Those

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[64] This is a partnership initiative funded by Natural England's Catchment Sensitive Farming (CSF) initiative[64] and run by the NFU, Agricultural Industries Confederation (AIC), Country Land and Business Association (CLA) and LEAF

providing scores of 3 and 4 felt that it was now much easier to find the right information, particularly with the Cross-Compliance Handbook and RPA website bringing together all the requirements.

Interviewees were in favour of all information about obligations being in one place, with most considering that it should be provided by a web-based interactive tool that lists the main requirements, with links to more detailed information setting out what needs to be done to comply with each, and that provides regular updates/alerts. It was felt important that the information provided was tailored to business need and it was suggested that this could take the form of a more tailored version of the cross-compliance reporting tool and guidance (e.g. taking account of type of enterprise, location, specific requirements, etc.) [65].

A number of other ideas were suggested for improving the design and communication of environmental regulatory obligations, including:

- Targeted classroom learning from regulators.
- More join-up between the Environment Agency and Natural England (if they remain separate agencies).
- An extension of the CSF approach where officers are grounded in agriculture and can provide advice directly to farmers in a *"partnership of equals".*
- An on-line checklist of obligations like in the Red Tractor scheme which has links to more information if the box is not ticked.
- More example templates.

2.3.5 Information obligations

Arable farmers are required to keep a variety of information, e.g. booklets, forms, plans, etc. Most environmental information is collected and maintained but is not provided to government directly unless at an inspection. For example, farmers in NVZs must: plan in advance how much nitrogen will be spread, related to soil nitrogen supply and crop need; prepare a risk map if spreading organic manure; and keep records of nitrogen applications to show that they have not exceeded certain limits. Farmers must also retain waste transfer notes, hazardous waste consignment notes, EPR permit (groundwater activity) records and other EPR waste permits and exemption certificates.

In addition to applying for EPR permits and registering for waste exemptions from the Environment Agency, farmers must also apply for an abstraction licence from the Environment Agency if they want to abstract $20m^3$/day or more from surface waters or groundwater. In meeting their licence requirements, they must keep daily meter readings, and once a year they must submit their weekly or monthly totals or meter readings to the Environment Agency. They can do this on paper forms or online. It should be noted that to use water efficiently and reduce costs, farmers need to take daily meter readings and

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[65]. This was previously hosted on Business Link and is now available on www.gov.uk.

for some this task will be automated by their irrigation equipment. They must also notify the Environment Agency of any new, enlarged or restructured fuel storage system in advance.

Farmers in the SPS need to submit an annual claim form to the RPA, which includes specific cross-compliance questions, and they also need to update their SPR. If they are in ELS, environmental information (e.g. the Farm Environmental Record (FER)) also needs to be submitted to Natural England.

Most interviewees record compliance information electronically, with some using specific software packages, e.g. 'Gatekeeper' for nitrogen applications. However, some record compliance information in a field book. Farmers can submit some information on-line, currently via the cross-compliance reporting tool.

Only two interviewees provided estimates of the time take to manage and report compliance information, with one indicating that it took about 3-4 days per month *"though some of this would have been done anyway"* and the other estimating that it took a total of around nine hours per week to record this information (3 hours by those recording, 2 hours by managers and 4 hours by the secretary).

Interviewees felt that there was some duplication between the information retained as a requirement of environmental regulation or of cross-compliance conditions and that required by farm assurance schemes, e.g. SPR, nutrients, etc. Some also commented on the overlap with the Voluntary Initiative (VI) e.g. in relation to sprayer testing and crop protection plans. One area that was highlighted where there was significant overlap was soil protection, where the SPR, the ELS Soil Management Plan and LEAF soil audit were all broadly similar.

Interviewees recognised that it was important to show that they were complying with their environmental obligations and some commented that they would have collected the information anyway. However, they were unclear why some of the information was needed (e.g. waste exemptions) and how the reporting frequencies were decided (e.g. water abstraction readings). They felt that more feedback from regulators would be helpful on what they did with the information and on how it informed the risk factors that were taken into account in deciding on inspection frequency.

A number of ideas were suggested for specifically improving the reporting of regulatory information to government, including:

- Regulators should review the information being collected from farmers and share more information. [66]
- Farmers should be able to enter all information once on a database that was used by all interested parties.[67]

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[66] Defra-led projects are underway to address both of these issues.

- All compliance information should be collected on-line.
- Farmers should be required to fill in an on-line questionnaire like the SPR which they reviewed and signed off and which was available for inspection.

2.3.6 Compliance assurance

Government checks for compliance through a system of record keeping and data submission backed up by inspection. Each year a minimum of 1% of farmers who receive SPS payments and/or payments under certain rural development schemes are subject to a cross-compliance inspection by RPA, though until the end of 2011, SMRs 2, 3 and 4 and GAEC 18 were inspected by the Environment Agency rather than the RPA. RPA also carries out inspections on a minimum of 5% of SPS claimants and rural development scheme beneficiaries each year to confirm compliance with scheme eligibility rules (the majority of SPS eligibility inspections are carried out by remote sensing rather than by means of an on-farm inspection). Arable farmers may also be inspected by the Environment Agency and local authorities. In addition, if they are in Environmental Stewardship or the CSF initiative, they may be subject to an advisory visit by Natural England.

In view of the low inspection rate for cross-compliance generally and, until recently, the Environment Agency's more significant role in cross-compliance inspections, most interviewees reported that they were inspected infrequently by RPA on the arable side, with none having been inspected over the last couple of years. However, one interviewee questioned the approach taken by RPA to inspections, which is based on a mix of random and risk selection, pointing to the high level of repeat inspections in the absence of failures. Inspections involved the checking of records and other requirements, e.g. 2 m margins, and could take several days depending on the size of the farm. For example, one interviewee had an RPA inspector on his farm for three days while another reported that his neighbour's inspection had lasted 10 days. Relationships with RPA inspectors were generally felt to be pretty good, although there were concerns about the inspection regime (see below).

Interviewees reported that they were rarely inspected by the Environment Agency but that, when they were, the inspectors were generally proactive and helpful. It was noted that some farmers complained about their lack of industry experience but this is not something that the interviewees had experienced.

Some interviewees were also visited by Natural England advisers in relation to Environmental Stewardship and the CSF Initiative. One interviewee commented that: *"Involvement with CSF has been like a breath of fresh air and has to be the way forward'. CSF Officers try to help farmers to meet their obligations and provide useful advice in the*

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[67] The Environment Agency's General Operator Return (GOR) is an on-line system which is a step towards this idea.

same way as ADAS used to". However, CSF Officers have no remit to act if advice on how to meet obligations is not taken up.

All of the interviewees were in farm assurance schemes (e.g. CMI Combinable Crops and LEAF Marque) and were subject to an annual inspection. This consisted of an examination of records and a walk around the farm and typically took between a half and a whole day. One interviewee commented that: *"The advantage of these inspections is that if the inspector notices a problem with a voluntary requirement there is an opportunity to put things right".*

In terms of demonstrating compliance, most interviewees commented that it was relatively easy to demonstrate compliance, with an average rating of 3 out of 5 (range, 2-4). However, several interviewees expressed concern about the system of compliance assurance in relation to cross-compliance. One commented that:

"Because farmers are not inspected regularly they can think that everything is fine and then an RPA inspector comes along and finds various issues (e.g. inadequate record keeping), which results in a breach and loss of SPS payment. Also, the whole system is based on ticking boxes rather than necessarily taking action to comply. The SPR is a good case in point – just because one is produced does not mean that a farmer has necessarily changed the way he/she manages soils on the farm."

One interviewee went further:

"The whole compliance system associated with the SPS is disproportionate and makes farmers feel like criminals. For example, errors with 2 m margins can sometimes occur but can result in a reduction of £3k in the SPS payment which feels like a fine. The whole system is too process-driven with too many rules and too much box ticking with little real thought about environmental outcomes.

Interviewees gave a lower score for the support from government in order to become compliant, with an average of 2 out of 5 (range, 1-3). Even the interviewee who gave a score of 3 commented:

"Although the information is available, the interpretation is not always as helpful as it could be.."

A number of ideas were suggested for improving government compliance assurance activities including:

- Farmers should submit data on-line in a self-regulatory process and earned recognition should be a key element of compliance monitoring.
- Government should take account of compliance with farm assurance schemes, with earned recognition resulting in a reduced likelihood of inspection for good performers.
- More self-regulation is needed along the lines of the LEAF audit

- Government needs to prioritise so that it – and farmers – focus on a few key obligations. At the moment, farmers can get lost in the detail.
- More use should be made of farm assurance and other advisers to provide advice on cross-compliance.
- More generally, a change in approach – based on the carrot rather than stick – could work with the SPS to enable farmers to deliver real environmental outcomes rather than simply ticking boxes.

2.4 Case study 3: Soft drinks manufacturing

2.4.1 Industry characteristics

In 2011, the UK soft drinks manufacturing industry was valued at £14,585 million, with over 14,500 litres of soft drinks being consumed, equating to an average of approximately 235 litres per person.   There are five main categories of soft drink products: carbonated drinks (45% market share); dilutable drinks (22%); bottled waters (14%); fruit juices (8%); and still and juice drinks (10%). Health issues and changing lifestyles have influenced shifts in UK consumption from regular variants (now with a market share of 39%) to low calorie and no added sugar variants (61% market share). [68]

There are around 300 soft drink manufacturing businesses in the UK and the sector currently employs over 12,000 people.[69] Twenty of the larger soft drinks manufacturers are regulated by the Environment Agency under the Environmental Permitting Regulations 2010.

Exports of soft drinks in 2011 were valued at £371.4 million.[70]

2.4.2 Regulatory framework

The businesses we consulted considered that prevention of pollution to land, water and air, energy and refrigeration (F-Gas Regulations), management of waste, including that from packaging, and water abstraction are the key environmental management objectives for the soft drinks sector. Figure A3 provides a summary of the environmental regulatory framework for the sector. Assuming that planning permission has been granted, in order to operate, any operator utilising significant quantities of vegetable raw materials with an average finished product production capacity greater than 300 tonnes per day is regulated under Part A(1) of the Environmental Permitting Regulations 2010 (EPR). Other legislation with which businesses may need to comply includes: Packaging (Essential Requirements) Regulations 2003; Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (PRO Regulations); waste and hazardous waste legislation (e.g.

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[68] http://www.britishsoftdrinks.com/PDF/UK%20soft%20drinks%20report%202012.pdf
[69] https://nationalcareersservice.direct.gov.uk/advice/planning/LMI/Pages/softdrinks.aspx
[70] http://www.fdf.org.uk/publicgeneral/UK_Exports_2011.pdf

Environment Protection Act 1990 and Environmental Protection (Duty of Care) Regulations 1991) Hazardous Waste Regulations (England and Wales) Regulations 2005)); water abstraction legislation (Water Industry Act 1991 and Water Resources (Abstraction and Impoundment) Regulations 2006)); discharge consents legislation (Water Resources Act 1991 and Trade Effluent (Prescribed Substances and Processes) Regulations 1992); and Ozone Depleting Substances Regulations (Qualifications) Regulations 2009 and the Fluorinated Greenhouse Gas Regulations 2009 (ODS and F-Gas Regulations).

Several other regulations may also apply including: the Building Regulations 2000 Part L (relating to the energy performance of buildings including air conditioning equipment); the Control of Pollution (Oil Storage) (England) Regulations 2001 (where any oil stored less than 50 m from a borehole must be bunded); and a number of vehicle emission regulations for companies using their own fleet. The soft drinks sector is an energy-intensive industry and some operations are subject to the Climate Change Levy (CCL) Regulations 2001. Businesses in energy-intensive industries may qualify for a discount in CCL payments if they are signatories of a Climate Change Agreement (CCA)[71]. Several of the businesses interviewed were covered by a CCA and so were entitled to a rebate. They commented that although they were exempt from the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES), they still had to provide data to prove that that was the case.

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[71] http://www.decc.gov.uk/en/content/cms/emissions/ccas/ccas.aspx

Figure A3: Summary of environmental regulatory framework for the soft drinks sector.
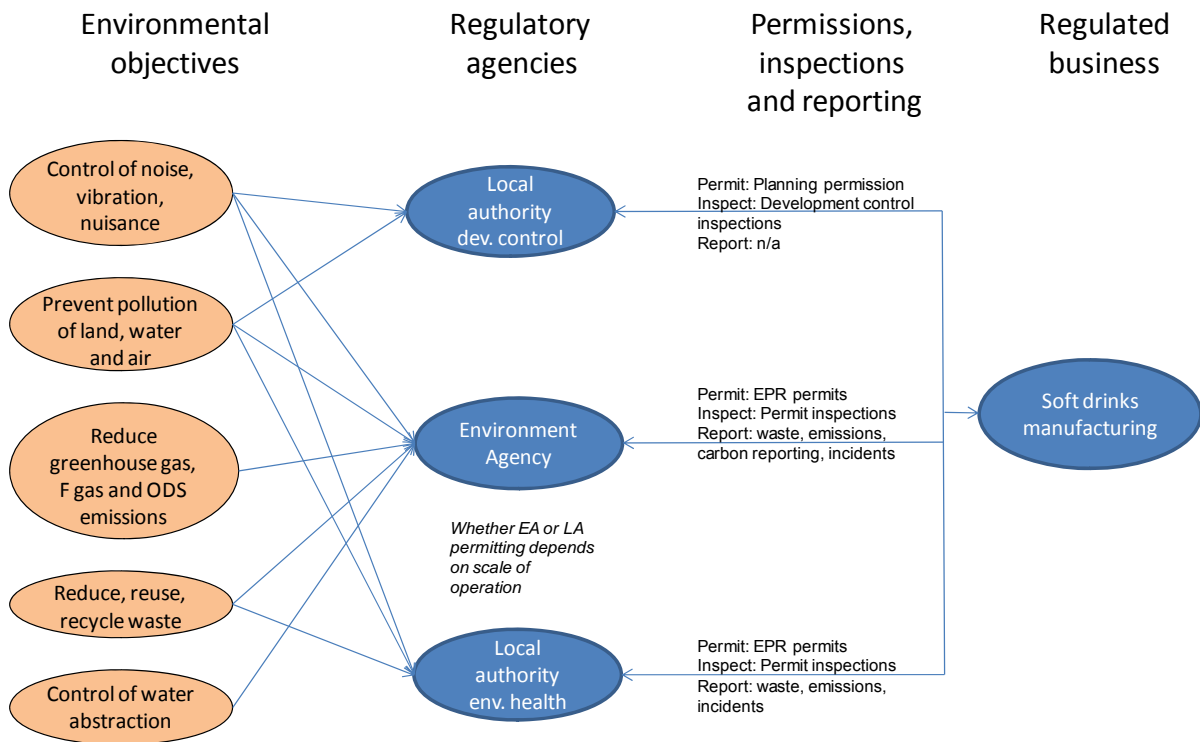
Most interviewees felt that environmental obligations had in some way affected the strategic decisions made by businesses in their sector, although there were also financial drivers involved. For example, one commented that the PRO Regulations may have had some impact on the company's packaging decisions although it is likely that they would have been made anyway due to the need to cut costs. It was felt that CCAs have helped to justify the additional capital spend on energy efficient plant and equipment and, for some, switching fuel types (e.g. fuel oil to gas). There has also been investment in processes to reduce water use. However, in both cases, it was considered that these investments are likely to have been made as a way of reducing future costs. Businesses are also driven by sustainability goals and targets. Indeed, one interviewee felt that voluntary carbon reduction targets and other targets on water usage and packaging (e.g. Federation House and Courtauld Commitment) have been larger drivers as they are important for reputational reasons.

One interviewee commented that environmental regulatory obligations had significantly influenced the company's decision to invest in ISO 14001, adding that while there were ongoing costs involved in this, there were also benefits in terms of reduced risk and, thus, lower Environment Agency costs due to having a lower OPRA score for sites. Two other businesses had also become ISO 14001 accredited but felt that the benefits were mainly reputational though there were also some cost savings due to lower OPRA scores.

2.4.3 Legislation

Most businesses we spoke to felt that, in general, environmental obligations are reasonably clear. However, they pointed out that not only are they faced with a large number of environmental obligations, but there is also the added problem of some legislation in Scotland being different to that in England and Wales. In addition, different departments are responsible for it. This made it difficult to keep track of all their requirements and there was a risk of missing some.

It was pointed out that particular problems can arise with new requirements where it can sometimes be difficult to work out the purpose of the changes and whether or not it applies to the business/sector. Changes are also sometimes communicated too late by government. Businesses felt that regulators should make more effort to target those affected by new obligations to ensure they are aware and understand, pointing to two recent examples. The first was the new Industrial Emissions Directive where it had still been difficult to work out its impact on the sector despite website briefings and direct communications to the trade associations by the Environment Agency and the second related to a recent change in relation to waste where it had initially been unclear for companies whether they would have to register as waste carriers. It was felt that Defra in particular should be more proactive as this would greatly help businesses, particularly SMEs.

Several companies relied on trade associations such as the BSDA to work out whether the sector was affected by new requirements. Some used external consultants and others had become ISO 14001 accredited as a way of keeping track of all the legislation through their legal registers. One interviewee summed up the views of others:

"In total, there are around 200 entries on the company's legal register. The whole legislative area can feel like a minefield, which is why the company pays for consultants to carry out searches. Anything that simplifies this legislative area would be welcome."

2.4.4 Guidance

The businesses we consulted use a range of sources of information, including:

- **Former Netregs/Business Link websites** [72]– several interviewees had used these websites and thought they were generally quite helpful, particularly in relation to new obligations, although there was a lot of material.
- **Environment Agency website** – one interviewee commented that the website was relatively intuitive and easy to navigate, while others felt that although there was a large amount of very useful information, it was not easy to use and it was often difficult to find

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[72] Information on environmental regulation was migrated to www.gov.uk in October 2012 and is currently being restructured.

documents. Two interviewees gave specific examples of when they could not find the documents they were looking for on the website. In one case, the interviewee was seeking a variance to his site permit and spent several hours trying to find the relevant documentation. In the end, he inadvertently missed one of the forms and had to resubmit the whole variance request.

- **Defra website** – this was felt to be reasonably good and easy to navigate. It was thought to be particularly useful for information on ODS and F-Gas Regulations and on climate change related legislation but several commented that, unhelpfully, there did not appear to be a link to the DECC website.
- Other government websites such as **DECC** (for information on CRC EES, CCAs etc.), **legislation.gov.uk.**
- **WRAP**, other waste and recycling-related organisations and **waste companies.**
- **Trade and professional bodies** such as ESA, IEMA, FDF.
- **Environmental summaries and updates**, e.g. ENHESA, Barber, Waterman Group, etc. Some of these were felt to be good as they highlighted upcoming changes in layman's terms, while others often contained too much irrelevant information.
- **External consultants** – one interviewee commented that one of the main sources of information is the website of the company's accreditation consultant, the rationale being that as they are inspecting and accrediting for ISO 14001 it is important to know their interpretation of the requirements.

However, the point was made by several interviewees that it was not intuitive where to look for guidance and it would be helpful if there was a clear road map showing business where to go for information.

On guidance, one interviewee commented that, once found, the Environment Agency guidance was generally very helpful. Another felt that while it was generally of good quality, it was still difficult for site staff with no environmental background to understand and some guidance, such as that on OPRA, could be quite difficult to follow. Indeed, he was still struggling with it despite having read it several times. Another commented that there was a large amount of guidance available and some of it was too long for busy people to read through, giving the example of the guidance on oil storage which is around 30 pages.

On average, interviewees spent between half and two days per month finding out information about environmental obligations and gave an average rating of 3.5 out of 5 (range, 3-4) (5 = easy and 1 = difficult) for the ease with which they could find out about environmental obligations. However, one interviewee commented that:

"The score of 4 is based on the fact that our company employs consultants to help with this. If the rating was for finding out about new obligations, the score would only be 2-3."

A number of ideas were suggested for improving the design and communication of environmental regulatory obligations, including:

- Government as a whole should be even more proactive, working with trade associations to ensure that companies are aware of their obligations, particularly new requirements.
- Information on any changes to obligations should clearly state why they have been made, who is affected and how they should be implemented.
- All the relevant Information should be on one website to cut down the time spent searching different websites and other sources.
- All documents and forms should be easily available on-line.
- Guidance should be more succinct and clearer to follow, with flow diagrams, checklists, etc. (i.e. written for the users not for the experts).
- A road map showing which department covers which legislation and where to find relevant information should be developed.
- More sector-specific guidance should be produced that is co-developed with industry.

2.4.5 Information obligations

The businesses we interviewed listed a significant number of data requirements. For example, one business indicated that the following data were provided:

- EPR – annual compliance return, including annual consumption of energy and water and output (absolute numbers and ratios) as well effluent data, including pH and flow, provided to the Environment Agency
- Pollution Inventory – data on energy and water use provided annually to the Environment Agency (some overlap with EPR)
- Abstraction data – recorded daily and provided annually to the Environment Agency and monthly to the water supplier.
- EP OPRA – which duplicates other information submitted to the Environment Agency.
- Environmental Performance Indicators and improvement targets such as the Resource Efficiency Physical Index (REPI),[73] which is required by the Environment Agency
- Bi-annual waste and water minimisation studies submitted to the Environment Agency
- CCA – data submitted for some sites annually to the CCA Administrator (Environment Agency).

Records showing compliance with packaging requirements and PRO must also be retained, as must waste and hazardous waste transfer notes. In addition, monitoring data showing compliance with consent conditions must be retained and provided, if required, to the sewerage undertaker. There are also a number of data requirements in relation to the ODS and F-Gas Regulations, including preparing an inventory of all equipment containing controlled substances (e.g. refrigeration plant, air conditioning plant), keeping records of periodic checks carried out to ensure that controlled substances are appropriately

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[73] The Environment Agency is now running a trial which businesses can opt to join where instead of reporting REPI data they can provide evidence of whether they have met their own resource efficiency performance indicators.

managed and holding evidence that contractors have the required competency levels to perform servicing and maintenance activities.

One business noted that although a significant amount of information is provided to government through EPR, much of this would have been collected anyway for commercial reasons. For example, a waste minimisation review is required every two years but is done routinely by the company. Another reported that an in-house exercise was recently started to work out what data sources were provided to the Environment Agency in order to streamline data reporting and made the comment that:

"We are convinced that much of the information we supply is not reviewed."

All of the businesses interviewed manage their compliance information via an Environmental Management System (EMS). Some businesses provided an estimate of the time taken to manage and provide this information, with one stating that it takes the equivalent of 50 man hours a month and another indicating that it takes around 2-4 weeks to compile information for the Pollution Inventory for one site. One interviewee stated that local environmental managers spend around one week per month on information gathering and analysis, and one day per month on demonstrating compliance.

Several of the businesses we consulted commented that there was a significant amount of duplication on carbon reduction targets, particularly in relation to voluntary industry and investor targets, e.g. the Carbon Disclosure Project. However, one business did not consider the duplication to be significant.

Businesses reported that there was also an overlap between some of the compliance data required by EPR, the Pollution Inventory and the water supplier, though, again, one did not consider it a big problem. In addition, there was some overlap between data reported to the Environment Agency on waste and that reported to WRAP as part of the Courtauld Commitment.

Several of the businesses commented that there had been no feedback from Environment Agency on why various data sources were needed and, to them, some appeared unnecessary. For example, the Environment Agency required data on discharges to the sewer but this information was also gathered from sewerage undertakers. In addition, they felt that there was often no explanation on the need for data to be reported in certain units. For example, one business commented that the Environment Agency wanted energy use reported using a different conversion factor to that used for CCA reporting but with no explanation. Similarly, another reported that in the annual compliance return, energy use was reported in megawatts/hour but the Environment Agency wanted an energy factor of 2.6 to be applied with no explanation, while at the site, water use was measured in litres per hour but was required in m^3 per hour.

There was an average rating of 2 out of 5 (range, 1-3) from businesses for support from government in order to become compliant. Two businesses provided low scores of 1 and

2, making the comment that the support is generally passive, with businesses having to search for and understand the information for themselves. One added that when he telephoned his local Environment Agency office for advice he was often told to look at the website, which he regarded as *"not very helpful"*.

In terms of demonstrating compliance, businesses gave an average rating of 3 out of 5 (range, 2-4). One business with a rating of 2 commented that *"it is not particularly onerous but seems a waste of time – it appears to be largely a tick box approach with lip service being paid to compliance"*. Another commented that preparing the annual compliance return can be onerous.

A number of ideas were suggested for improving the reporting of regulatory information to government including:

- simplified reporting – reducing the number of data that have to be provided and removing duplication
- electronic forms – moving from the current arrangement where data are provided in a wide range of different forms including hard copies to a system where all forms can be submitted electronically
- company level reporting – considering the scope to move from site-level to company level reporting.

2.4.6 Compliance assurance

All of the businesses had a number of sites covered by EPR Part A(1) and so were subject to regular compliance inspections by the Environment Agency, with the frequency of inspection being related to their OPRA scores. The inspection usually involved a walk round the site focusing on issues picked up at the last inspection to check that they had been dealt with satisfactorily and sometimes an examination of the permit and any other documentation. One interviewee stated that its sites were subject to *"roughly 2x 1hr inspections per 6 months spread across 3 factories"*, while others were inspected annually. A few smaller sites covered by EPR Part A (2) and B were regulated by local authorities and were inspected less frequently.

One interviewee felt that the frequency of inspections was not risk-based, commenting:

"The current annual (or twice-yearly) inspection by EA adds nothing and is a waste of time and money. More of a risk-based approach should be taken, with inspections only taking place at more risky sites."

One business stated that it takes about 1-2 days per month to prepare for an inspection, while the inspections themselves can take between one day and one week depending on the size and complexity of the site. Another commented that it can take 1-2 weeks to ensure that all areas of the site are ready for inspection, while the inspection itself can take half a day.

One interviewee expressed frustration at the fact that there were five different Environment Agency officers regulating the company's five sites, each of whom had a different level of experience and approach. It was noted that when EPR was first implemented there was one officer responsible for all sites and it was felt that it would be useful if that approach could be reinstated. [74] Another commented that Environment Agency reports can take several months to be issued.

There were conflicting views on compliance assurance in relation to the F-Gas Regulations. One business noted that when the regulations were introduced, the Environment Agency had asked for a significant amount of information to check for compliance (e.g. How much and what type of refrigeration equipment is there on site? What type of gas is used? Is it checked regularly by a suitably qualified engineer?). It had taken about two weeks to compile this information even though a register was maintained to record it. The following year, the Environmental Agency had asked for the same information but the company had resisted this. In contrast, another business reported that although there are a significant number of requirements, compliance has not been checked by government.

In addition to the Environment Agency and local authorities, sites are also visited by the Health and Safety Executive (HSE) in relation to health and safety.

A number of ideas were suggested for improving government compliance assurance activities including:

- More access to advice and guidance not just at inspection.
- ISO 14001 provides government with the best assurance of compliance but there may be cheaper ways to get an EMS.
- Greater transparency about the risk-based approach being taken to inspection.
- More acknowledgement of a good compliance record.[75]

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[74] As part of its sectoral approach, the Environment Agency is now looking at how its inspectors work with companies that have several sites.

[75] The Environment Agency has set up the 'Greener Business Showcase', which highlights those businesses that are leading the way in terms of environmental performance. It can be viewed at: http://www.environment-agency.gov.uk/business/news/142651.aspx.

2.5 Case study 4: Waste management

2.5.1 Industry characteristics

The waste management industry covers activities concerned with the collection, transport, treatment and final management of waste and recyclables. Types of facilities operated by businesses in the sector include: waste transfer stations, material recovery facilities, anaerobic digestion facilities, composting facilities, waste to energy combustion plants, advanced thermal treatment plants, mechanical biological treatment facilities and landfills. Waste generation in the UK can be divided into three main sectors: construction and demolition, commercial and industrial, and local authority collected waste[76].

Defra estimates total waste generated in the UK to be approximately 290 million tonnes per year[77]. Total UK waste generation has decreased by 11.3% between 2004 and 2008. Out of the sectors generating more than 25mt of waste per year, the industrial and commercial sector has seen the biggest percentage change in generation with a decline of 17.3% over the period[78].

Waste collected by local authorities in England put to landfill fell by 16% between 2011/12 and 2010/11 and has fallen approximately 52% since 200079. The amount of waste recycled, composted or reused by local authorities was 10.7 million tonnes out of a total of 25.6 million tonnes in 2011/12, more than the amount landfilled for the first time, although an increase in incineration may have partly accounted for the change to landfill[80.].

Total commercial and industrial (C&I) waste generation in England, in 2009, was estimated to be 47.9 million tonnes, a decrease of 29 per cent since the last national survey of business waste in 2002/3. 52% of C&I waste was recycled or reused in England in 2009, compared to 42% in 2002/3. 24% of C&I waste was sent to landfill in 2009, compared to 41% 2002/3[81].

The Environment Agency (EA) is responsible for regulating a wide range of types of waste management site in England and Wales. At the end of 2011 there were a total of 8,792 EA permitted sites, composed of 502 landfill, 3,484 waste transfer, 2,019 waste treatment,

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[76] http://www.defra.gov.uk/statistics/files/20110617-waste-data-overview.pdf

[77] http://www.defra.gov.uk/environment/waste/

[78] http://www.defra.gov.uk/statistics/environment/waste/wrfg01-annsector/

[79]
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85918/mwb201112_statsrelease.pdf

[80]
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85918/mwb201112_statsrelease.pdf

[81] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/85947/ci-statistics-release.pdf

2,435 metal recycling, 116 incineration, 157 use of waste and 79 land disposal sites[82]. Although usually any waste treatment, recovery or disposal operation needs to be authorised by a permit, very specific types of low risk waste handling operations may instead be required to register for an EA exemption[83]. There are over 300,000 waste activities with registered exemptions.

The waste management industry in the UK employs around 141,000 people that include: 29,000 working in integrated waste management companies; 60,000 in public waste collection, disposal authorities and LAWDCs; 45,000 in small medium enterprises involved in collection, processing and disposal; 1,000 working in support services; 3,000 contractors; 2,000 in plant/equipment; and 1,000 others, including regulators[84].

The UK Plan for Shipments of Waste implements the long-standing UK policy of self-sufficiency in the disposal of waste by strictly limiting when waste may be shipped to or from the UK for disposal[85].

2.5.2 Environmental regulatory framework

Prevention of harm to human health, prevention of pollution to land, water and air, control of noise, dust and vibration, protection of biodiversity and protection and creation of habitats are core environmental management objectives for the waste sector. While waste operations can significantly disrupt natural habitat, the restoration of landfill sites after use can provide new valuable habitats. In the absence of a waste management industry, the environmental and health problems arising from uncollected and unmanaged waste would be significant. The waste management industry plays an important role in significantly reducing harm to humans and the environment from waste, operating within a strict regulatory framework and using a variety of techniques and technologies.

The businesses we spoke to and the Environmental Services Association (ESA), a members organisation promoting the waste and resource management industry, identified a number of key drivers within the regulatory framework affecting investment in the sector: environmental legislation, planning rules, health and safety[86], the Landfill Tax and energy from waste. Their comments are summarised below:

- Environmental regulation: can have a significant impact on whether companies choose to invest in waste infrastructure. Regulations set the standards for how waste should be managed and set the sanctions for those who break the rules. To

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[82] http://www.environment-agency.gov.uk/research/library/data/142511.aspx
[83] http://www.environment-agency.gov.uk/business/topics/permitting/32322.aspx
[84] https://nationalcareersservice.direct.gov.uk/advice/planning/LMI/Pages/wastemanagement.aspx
[85] http://www.defra.gov.uk/environment/waste/business/international-shipments/
[86] While Health and Safety regulations are not within the scope of SERR, ESA highlighted their importance within the discussion

invest in waste infrastructure the sector requires the certainty of a clear and precise legal framework and the certainty that there will be zero tolerance of environmental criminals who deliberately flout the rules. Without effective regulation and appropriate sanctions for environmental criminals, there would be no viable market for waste management services.

- Planning: The ESA's members[87] find the planning system to be highly unpredictable. They find approval by planning officers is no guide to the actions of local planning committees and the decisions of planning committees can often be overturned on appeal over a varied timeframe.

- Health and Safety: the waste management industry is undergoing significant transformation, from its reliance on disposal in landfill to much higher levels of recycling and recovery. This transformation is requiring increasingly sophisticated systems for waste collection, handling and processing, which can pose additional operational risks and hazards. It is important that employees have the skills and competencies they need to manage these increasingly complex systems.

- Landfill Tax: The landfill tax escalator encourages councils and companies to develop recycling infrastructure by making the landfill disposal route a more expensive option. This is helping the UK meet its goals under the Landfill Directive. The 'escalator' has provided the predictability of annual increases and the medium term target rate of £80/tonne and has given the waste management industry the platform needed to invest in a much wider range of treatment facilities. Total landfill tax revenue was £1.1 billion in 2011[88]. The ESA argues that the Government must maintain long term certainty regarding the level of landfill tax[89].

- Energy from waste: The ESA believe that Energy from Waste is critical to achieving both waste and energy strategy goals. Currently there are 18 energy from waste plants in England and Wales with a total capacity of over 3 million tonnes a year[90]. Energy generated from waste combustion and landfill gas contributes 1.5% of the UK's total electricity supply and nearly 30% of the renewable electricity. The EU Renewables Directive requires the UK to source 15% of its primary energy from renewable sources by 2020, equivalent to a seven-fold increase in UK renewable energy consumption from 2008 levels[91].

Figure A4 provides a summary of the environmental regulatory framework for the sector.

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[87] http://www.esauk.org/reports_press_releases/esa_reports/No_Time_to_Waste.pdf
[88] http://www.ons.gov.uk/ons/dcp171778_267211.pdf
[89] http://www.esauk.org/esa_policies/finance/
[90] http://www.environment-agency.gov.uk/research/library/position/103220.aspx
[91] http://www.esauk.org/esa_policies/energy_from_waste/

Fig A4: Summary of environmental regulatory framework for waste

Environmental objectives

- Access for roads and footpaths
- Heritage protection
- Protect habitats and biodiversity
- Prevent pollution of land, water and air
- Control of water abstraction
- Control of contaminated land
- General waste management
- Management of specific types of waste*
- Reduction of carbon emissions
- Control of noise, dust, vibration

Regulatory agencies

- Local planning authority
- Natural England
- Environment Agency
- Local Authority env. health

Permissions, inspections and reporting

Permit: planning permission
Inspect: planning inspections
Report: annual waste returns

Permit: planning permission (consultee), Species Licences
Inspect: on inspection basis
Report: on inspection basis

Permit: environmental permits; planning permission (consultee); waste exemptions
Inspect: site inspections
Report: waste management systems

Permit: LAPPC part B permits
Inspect: site inspections, noise and nuisance monitoring
Report: noise monitoring

Regulated business

- Waste business

*e.g. Waste electrical and electronic equipment (WEEE), packaging, batteries and accumulators

2.5.3 Legislation

There are approximately 60 items of legislation that can apply to a waste operation. However, there are many different types of waste treatment facilities and the specific legislation often varies depending upon which waste activity is being undertaken and exemptions can also vary.

Businesses we spoke to identified a range of problems in the design of the regulatory legislative system including issues arising from:

- The interface between the planning permission process and environmental permitting process.
- Inconsistency of definitions, e.g. definition of waste in different contexts.
- They often find it difficult to understand where all the amendments are listed or found online.

- The legislation is generally relatively clear but there are grey areas that create uncertainty due to technical nature of operations and the way the regulation should be implemented. Issues often arise that don't fit within a standard tick box approach and often delays in getting advice that lead to uncertainty and impact on business decisions.

Ideas generated during this review for improving legislative aspects of the regulatory waste framework included:

- Improved alignment between planning and environmental permitting.
- Resolve inconsistencies in the definitions of "waste".
- Industry involved as standard practice in the design of new regulatory regimes.
- Regular consolidation of legislative amendments.

2.5.4 Guidance

Large waste businesses tend to have teams of specialists in-house focused on monitoring and influencing regulatory policy and ensuring compliance. Smaller operators are more likely to rely on external consultants to advise them. Businesses we spoke to use the websites of Defra, Environment Agency, HMRC, local authorities, Business Link and Net Regs (now part of www.gov.uk) as well as www.legislation.gov.uk. They also benefit from information and networking provided by the ESA and informal professional networks. Some of the feedback we received included the following comments:

- Defra guidance tends to be quite broad and lacks detail on the practical application that is of most relevance for waste operators. The Environment Agency interpretation of policy rules is reportedly much more useful and relevant. Often delays exist between the change in rules and date of converting into practical steps for delivery. One waste company we spoke to told us that they need at least a 12 month period to understand implications and bring within existing permit work arrangements, also to fit in with budgetary planning and expenditure required to meet new obligations.

Guidance notes and position statements are a good source but some do not have issue dates. This makes it difficult to know when they have been changed and how long ago. Frustration was expressed at links on Defra and EA websites changing without notice or signposting to new locations. Waste companies we spoke to were not aware of the EA's monthly e-newsletter sent out to over 30,000 businesses, which includes legislative updates, but thought such a service would be valuable, as would an archive to find older reference material. Ideas generated during this review for improving guidance included the following:

- A single website for information.
- Guidance by default co-developed with industry.
- Consistent guidance types.
- "Rate this guidance" web functionality.

- Date stamping of new or modified guidance with a supporting page listing changes.
- Industry providing single named contacts to regulators.
- Greater use of push guidance systems with updates.

2.5.5 Information obligations

Waste businesses report information to local authorities, the Environment Agency and Natural England. There is relatively little duplication in the core content of data provided to each of these organisations, however, basic information on the name of company, location and type of activity is often duplicated. Some of the feedback included the following comments:

- The volume of information required to be reported was viewed as significant, with examples of tonnages of waste material, carbon emissions, environmental impacts, landfill tax etc.
- Small changes to data requirements can lead to higher costs for business due to need to redesign reporting systems company wide.
- The ability to report information electronically is generally preferred by large operators but not always feasible for smaller companies which lack resources and capacity.
- Sometimes the format of data required by a regulator varies, however, this generally relates to a single data set that is then adjusted to meet the requirement (e.g. annual or quarterly data)
- One company we interviewed had outsourced 70% of its data monitoring and reporting to an accredited 3rd party, with the quality assurance undertaken internally.

Ideas generated for improving information reporting included the following:

- Central place to which information is provided.
- Common formats and consistent methods for reporting.
- Reduction in duplicating similar information on company details and activities.
- Provision for electronic reporting where possible.

2.5.6 Compliance assurance

Waste operators may be inspected by the Environment Agency and local authority officers. Many waste companies are also independently audited by 3rd parties or supply chain customers to ensure they are complying with requirements. Some of the comments we received on compliance included:

- Limited feedback on how the information is being used to assess compliance by regulator, despite requirements for lots of data to be submitted.
- Some companies undertake internal audits and have voluntary accreditation for ISO 14001.

- Lack of consistent response from regulator was highlighted as a concern. Businesse felt that national contacts do not always have the level of local knowledge of operating conditions and issues.
- System for dealing and responding to compliance queries is often slow and can impact on business investment decisions.

Ideas generated for improving regulation of compliance regimes included the following:

- Single waste annual monitoring report.
- Consistent methods for checking compliance.
- Better recognition of other compliance assurance checks that are available.
- Modifications to regulatory position statements[92] website to improve usability, highlight recent changes and improve archiving.
- More regular seminars from EA to help explain interpretation of regulations.

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[92] Building on: http://www.environment-agency.gov.uk/research/library/position/34157.aspx

2.6 Case study 5: Commercial construction

2.6.1 Industry characteristics

The sector is defined[93] as including: construction materials and products; suppliers and producers; building services manufacturers, providers and installers; contractors, sub-contractors, professionals, advisers and construction clients and those organisations that are relevant to the design, build, operation and refurbishment of buildings.

The stages of construction include: pre-design; design; procurement; construction on site; and refurbishment /refit. Operations in the sector include: decommissioning and demolition; site clearance; remediation; on-site construction; and refurbishment/refit.

The construction industry's output in the UK was worth over £100 billion a year and accounted for 8% of the UK Gross Value Added (GVA) in 2008.[94] Despite being in recession from 2008, the UK construction industry is still large, consisting of over 300,000 firms employing over 2 million people in a multitude of roles.[95]

The public sector is a major client of the industry and is responsible for directly procuring about a third of all construction. Product manufacturers and suppliers are also a key part of the industry and companies in the sector have an annual turnover of over £40 billion. In many sectors, these firms are world leaders and over £5 billion of construction products are exported annually from the UK.[96]

2.6.2 Regulatory framework

The businesses we consulted considered that prevention of pollution to land, water and air, control of noise, dust and vibration, management of waste, water abstraction and protection and enhancement of biodiversity are the key environmental management objectives for the commercial construction sector.

Figure A5 provides a summary of the environmental regulatory framework for the sector. In order to carry out construction on-site, planning permission must be obtained and, depending on the size of the project, an environmental impact assessment (EIA) may also be needed. For all projects in excess of £300,000, a Site Waste Management Plan

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[93] http://www.bis.gov.uk/policies/business-sectors/construction
[94] http://webarchive.nationalarchives.gov.uk/+/http://www.bis.gov.uk/policies/business-sectors/construction/sustainable-construction
[95] http://www.bis.gov.uk/policies/business-sectors/construction
[96] http://www.ukti.gov.uk/export/sectors/construction.html

(SWMP) must be produced help minimise construction waste and ensure the efficient use of resources.[97]

Contractors must also:

- Register the site as producing hazardous waste with the Environment Agency if applicable;
- Comply with Duty of Care requirements for waste including keeping records on the quantity and descriptions of waste generated, exported or imported onto site. This includes origin/destination and details of registered waste carriers;
- Agree a discharge consent with the water company if discharging into a foul sewer or obtain a permit from the Environment Agency if discharging into a watercourse;
- Keep a record of all nuisance-related complaints and action taken; and
- Comply with Part L of the Building Regulations 2000, e.g. on energy efficiency.

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[97] This may not be mandatory in future.

FigureA5: Summary of environmental regulatory framework for the commercial construction sector.

Environmental objectives	Regulatory agencies	Permissions, inspections and reporting	Regulated business

Environmental objectives: Building control; Access for roads; Biodiversity and heritage protection; Prevent pollution of land, water and air; Control of water abstraction; Control of contaminated land; Waste management; Reduction of packaging waste; Reduction of carbon emissions; Control of noise, dust, vibration

Local authority Planning/ Building Control

Permit: planning permission
Inspect: planning inspections

Permit: building control approval
Inspect: building control inspections

Natural England

Permit: planning permission (consultee), Species Licences
Inspect: on exception basis
Report: may require species surveys

Environment Agency

Permit: planning permission (consultee), environmental permits
Inspect: on an exception basis
Report: waste data, carbon emissions data, water abstraction data

Local Authority env. health

Inspect: on an exception bases
Report: noise & nuisance and dust monitoring

Construction business

Operators may also need to:

- Apply for Environment Agency and local authority permits or exemptions e.g. for storage of hazardous waste materials, use or treatment of waste materials, water discharge, surface run-off and site closure;
- Apply for a water abstraction licence or exemption from the Environment Agency if dewatering is undertaken on-site;
- Gain formal flood defence consent from the Environment Agency for works in, over, under or adjacent to main rivers or from the lead local flood authority for works on other watercourses;

- Carry out protected species and/or ecological surveys as part of the planning process and apply for a species licence from Natural England; and
- Record carbon emissions for the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES) or other related carbon reduction schemes.

Environmental regulatory obligations were felt by most interviewees to have affected the strategic decisions made by businesses in the sector. For example:

- Environmental regulation has generally put a spot light on environmental protection and management and reduction of impacts.
- The fact that businesses are subject to a wide range of environmental regulatory obligations has influenced the decision of many principal contractors to be ISO 14001 accredited.
- Waste legislation has increased the amount of recycling and, for one company, has influenced its decision to buy a recycling facility.
- Carbon reduction legislation has put an increased focus on carbon emissions.

However, interviewees also pointed out that there are other important drivers. For example, some companies have become ISO 14001 registered for reputational and business reasons as it can be helpful in demonstrate compliance and avoiding prosecutions which are of interest to both clients (e.g. information is requested at Pre-Qualification Questionnaire (PQQ) stage for tenders) and investors. There are also financial drivers, with companies striving to meet targets for reducing waste and carbon emissions and increased resource efficiency in order to cut costs.

Other regulatory regimes can also influence strategic business decisions. For example:

- Changes to the Building Regulations directly affect the products and services being delivered, with a focus on improving efficiency.
- Planning regulation has both positive (e.g. local planning strategies pushing for renewable energy) and negative impacts (e.g. for property development).
- Incentive-driven regulations, e.g. Renewable Heat Incentive (RHI), Feed-In Tariff (FIT), have an impact on business strategies as to do taxes and levies (e.g. Landfill Tax and Aggregates Levy).

2.6.3 Legislation

The sector is covered by a large number of environmental regulations. Indeed, one of the businesses we spoke to said that its legal register contains 278 pieces of legislation at a UK level. Most of the businesses we consulted found their environmental requirements to be reasonably clear, although there were a few 'grey areas'. However, they noted that it can be difficult to keep on top of all the requirements and felt that this would be even more problematic for SMEs who may not have in-house expertise. They commented that the situation is made worse by the different approach to regulation being taken by the devolved administrations which is causing significant problems for companies operating across the UK.

A number of issues were raised by businesses in relation to the environmental legislative framework:

- There is significant overlap in some areas, e.g. noise and nuisance and waste and hazardous waste.
- There is a lack of integration between Environment Agency and local authority permitting. An example was given of a contractor requiring two permits for crushing plant during demolition: the crushing was regarded as a waste activity by the Environment Agency and, thus, required a permit, while the local authority also required a permit due to air pollution resulting from crushing.
- Health & safety and environmental legislation are closely linked, particularly on brown field sites, but there can be tensions, e.g. in relation to on-site lighting. There are also overlaps with planning. For example, even if SWMPs are no longer required by waste legislation, they are part of non-statutory codes such as the Code for Sustainable Homes, and thus become mandatory through the planning process.
- Many problems do not originate in the design of the legislation, but rather in their implementation by government departments and regulators. For example:
  - o the definition of construction waste used by HMRC in relation to the Landfill Tax differs from that used by the Environment Agency when classifying waste (e.g. non-hazardous, inert, non-inert, hazardous, etc.), which is based on EU legislation.
  - o industry also has different views from the Environment Agency and Defra on the classification of 'top soil' as a waste under the Environmental Permitting Regulations (EPR).

The most popular ideas for improving the legislative aspects of the regulatory framework were (most important to businesses first):

- Consolidate legislation by area, e.g. waste and nuisance.
- Resolve inconsistencies in the definitions of "waste".
- Involve industry as standard practice in the design of new regulatory regimes.
- Link SWMPs with the Construction Design and Management Regulations 2007 (CDM).
- Build in environmental obligations into Business Information Modeling (BIM).

2.6.4 Guidance

The businesses we consulted use a wide range of government websites, including Defra, the Environment Agency, DECC (for information on CRC EES, etc.), HMRC (for information on the Landfill Tax), DCLG (the Planning Portal), BIS and legislation.gov.uk (particularly when there are 'grey areas'). The Defra website was considered to be *"pretty good"*, though it was felt that some knowledge of where to look for information was needed and there were some broken links. The Environment Agency website was considered harder to search and navigate, due partly to the large amount of information it contains, but it was felt to have improved significantly over the last couple of years and the new Construction page was praised.

Most businesses had also used the former Netregs/Business Link site.[98] This was considered useful as it brought together relevant information on environmental obligations for the construction sector and was written in plain English. Indeed, several interviewees had found it a useful training resource. Other sources of information included membership and industry bodies and fora (e.g. IEMA, RTPI, UKCG, etc.), newsletters and legislation services (e.g. Lexus Nexus, ENDS, iCroner, Practical Law, etc.), Building Research Establishment (BRE) publications and Environment Agency public registers.

Overall, the businesses we consulted felt that knowledge and experience were required to navigate a complex regulatory landscape and this was reflected in the rating of 3 out of 5[99] (range 2 to 4) given by interviewees when asked how easy it was to find out about and understand environmental obligations. While larger companies have more dedicated resource in-house, some also use external consultants, e.g. to compile and update their legal registers. SMEs may have internal experts, use external advisers, or remain in the dark. Those interviewed estimated that it typically takes around ½ to 2 days per month to keep up to speed with environmental obligations but more effort is needed when legislation changes and interpretation of its relevance and impact is required. Trade bodies play an important role in helping to provide more sector-specific support and information.

The most popular ideas for improving the design and communication of environmental regulatory obligations were (most important to businesses first):

- Set up a regular stakeholder forum for the construction sector with the Environment Agency, Natural England and local authorities.
- Co-develop guidance with industry bodies to ensure simplicity, readability and relevance.
- Ask the regulators to provide industry with single named contacts.
- Provide consistent guidance types.
- Use social media to communicate changes in legislation.
- Use alternative types of 'guidance', e.g. training videos and posters for site operators as an effective way of getting messages across

There was also strong support for the development of a single website providing a summary of all relevant information and guidance for the sector.

2.6.5 Information obligations

As noted in Figure A5, the construction sector has few compliance data reporting requirements. Small businesses do not have any reporting requirements beyond the initial

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[98] Information on environmental regulation was migrated to www.gov.uk in October 2012 and is currently being restructured.
[99] In a scale of 1 to 5, 1 is difficult and 5 is easy.

planning permission. Large business may have to report the following data to the Environment Agency:

- Carbon emission data – as part of the CRC EES.
- Waste data when a permit is required – as part of the Environmental Permitting Regulations 2010.
- Duty of Care records on request – all waste producers and waste owners.
- Abstraction licences – if dewatering undertaken, a visual inspection is usually carried out but monitoring data are sometimes requested.

Local authorities may also ask for other records, such as on dust, noise and vibration.

While there is little compliance data reporting to Government, there is some duplication with industry data requirements, e.g. on carbon emissions and waste. In terms of carbon reporting, one interviewee commented that:

"On energy/carbon, ISO14001 etc, we provide information to CRC EES, our Group, CDP, GRI, BITC, Achilles, clients and local authorities (e.g. through their supply chain schemes such as CEASAR). With the introduction of mandatory reporting for listed companies, this will be another doubling up on carbon reporting. CRC EES also doubles up on tax payments for carbon as the Climate Change Levy already levies a tax on all business energy bills."

There was also some concern that relatively few of the companies that had signed up to the Halving Waste to Landfill Commitment were actually reporting waste data to WRAP.

Not surprisingly, due to the lack of compliance data reporting by the sector, there was less interest in how to improve the current situation. However, one interviewee felt that it was important to rationalise the duplicative reporting of carbon emission, waste and other data to Government and industry. Another suggestion was to develop a waste tracking system where information is shared by different agencies.[100]

2.6.6 Compliance assurance

A construction site may be visited by local authority building control officers in relation to the Building Regulations. However, few other planned inspections take place, with these being confined mainly to Environment Agency and local authority environmental health officers who generally visit on an exception basis in the event of complaints or problems. Local authority tree officers or biodiversity officers may also visit if required, e.g. if a Tree Preservation Order is in place.

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[100] .An electronic Duty of Care/Waste Transfer Note system (edoc) is currently being developed by the Environment Agency and will be available in 2014.

The businesses we spoke to felt strongly that Environment Agency inspection visits can be useful in enforcing action at a site level and in encouraging greater compliance as some do not comply because of the low risk of being caught. They wanted more engagement with local officers but recognised the resource constraints within the Environment Agency. They also wanted more engagement at a national level, but acknowledged that this was improving. Overall, relationships with the Environment Agency were felt to be reasonably good, though several interviewees highlighted differences in the advice and legal interpretation given between regions.

The average rating for ease of demonstrating compliance was 3 out of 5 (range, 2-4), while that on the support from government was lower, at 2.5 out of 5 (range, 1-4).

The most popular idea for improving government compliance assurance activities was for the Environment Agency to carry out more planned visits to enable the industry to demonstrate compliance. Other ideas (most important to businesses first) were:

- Use a risk-based OPRA-style[101] inspection system, i.e. if the site has more compliance issues it is inspected more.
- Submit the form, HSE F10 Notification of Construction Project, to the Environment Agency as well as to HSE to enable targeting of inspections to take place.
- Extend the Considerate Construction Scheme, which has good uptake and is monitored by third parties, to cover environmental obligations.
- Ensure greater consistency in inspection.
- Make greater use of third-party assurance and self-reporting using e.g. ISO 14001 inspectors.
- Introduce annual compliance statements.
- Use compliance performance league tables.

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[101] Operational Risk Appraisal Scheme.

2.7 Case study 6: Personal care product manufacturing

2.7.1 Industry characteristics

Personal care products include toiletries, perfumery and fragrances, hair care, skin care, and decorative cosmetics (make-up). The European Commission defines a cosmetic product as 'any substance or mixture intended to be placed in contact with the external parts of the human body (epidermis, hair system, nails, lips and external genital organs) or with the teeth and the mucous membranes of the oral cavity with a view exclusively or mainly to cleaning them, perfuming them, changing their appearance, protecting them, keeping them in good condition or correcting body odours.'[102].

According to the Cosmetic, Toiletry & Perfumery Association (CTPA), of the 500 million people living in the EU most will use a minimum of 5-7 cosmetic products on a daily basis[103]. More than 4,000 companies operate in the EU cosmetics industry providing jobs for over 500,000 people; two-thirds of these are SMEs[104,105]. In 2011 the UK cosmetics market saw a 4.1% increase in value at retail sales price taking the total market to £8,356 million (against £8,028 million in 2010)[106].

The trade associations we spoke to for this research were the CTPA, the British Association for Chemical Specialities (BACS) and the British Aerosol Manufacturers' Association (BAMA).

2.7.2 Regulatory framework

All cosmetic products placed on the market in the EU are regulated by the Cosmetics Directive (76/768/EEC) (implemented in the UK through the Cosmetic Products (Safety) Regulations 2008 (as amended)), the primary purpose of which is to protect human safety[107]. From 11 July 2013, The European Union Regulation on Cosmetic Products (Regulation (EC) No 1223/2009) has full effect and the directive and UK regulations will be superseded[108]. Enforcement powers in the UK will be enacted via the Cosmetic Products

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[102] http://ec.europa.eu/consumers/sectors/cosmetics/glossary/
[103] http://www.ctpa.org.uk/content.aspx?pageid=233
[104] http://www.ctpa.org.uk/content.aspx?pageid=295
[105]
http://www.thefactsabout.co.uk/content.asp?menuid=44&pageid=44&menuname=Sustainability+matters&menu=main
[106] http://www.ctpa.org.uk/content.aspx?pageid=310
[107] http://www.bis.gov.uk/policies/consumer-issues/product-safety/cosmetic-products-safety-regulations-2008-as-amended
[108] https://www.gov.uk/product-safety-for-manufacturers

Enforcement Regulations 2013. The manufacturer or supplier of the cosmetic product is responsible for ensuring it is safe, and must collate information about the product including its ingredients and proof of any claimed effect. Under the Cosmetics Directive/Regulations substances are listed that must not be present in cosmetics products, and substances that may be used as ingredients subject to particular restrictions. For example, some ingredients must not exceed a certain level or may only be used in rinse-off products[109]. The safety of the finished product, all of the ingredients and how the products will be used must be assessed by a qualified professional. Assessors must be registered pharmacists, medically qualified, chartered biologists or chartered chemists, and have appropriate experience to make the assessment. These assessments may be inspected at any time by the enforcement authorities, usually local authority Trading Standards in the UK. Environmental claims made about personal care products must also be substantiated in accordance with advertising standards and consumer protection law[110].

As illustrated below, key environmental management objectives for the sector identified by the trade associations and businesses we spoke to are prevention of pollution to land, water and air, control of chemicals and hazardous substances, and reduction of production and packaging waste. Larger personal care manufacturers may undertake manufacturing processes that use significant energy and water, for which reduction of emissions of green house gases and control of water abstraction are also important environmental objectives.

Important items of legislation therefore include the Environmental Permitting Regulations (England and Wales) 2013 (as amended), the EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No 1907/2006 (as amended) and the REACH Enforcement Regulations 2008, the Waste (England and Wales) Regulations 2011 (as amended), Packaging (Essential Requirements) Regulations 2003 (as amended), Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended) and potentially the Water Resources (Abstraction and Impounding) Regulations 2006 (as amended) and the Climate Change Act 2008. The Control of Major Accident Hazards (COMAH) Regulations 1999 (as amended) will apply to some personal care product manufacturers, for example if they store large volumes of aerosols or ecotoxic chemicals. Personal care products that contain biocides may also be subject to the Biocidal Products Regulations 2001 (as amended) if the primary claim is a biocidal claim. Personal care product manufacturers blend together ingredients purchased from manufacturers, and must ensure that chemicals used are permitted under REACH.

Environmental obligations may have implications for product design and for production processes. The businesses we spoke to told us that these tend to be separate functions

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[109]

http://www.thefactsabout.co.uk/content.asp?menuid=34&submenuid=128&pageid=128&menuname=Confidence+in+cosmetics&menu=sub#legislation
[110] http://www.defra.gov.uk/publications/files/pb13453-green-claims-guidance.pdf

within a personal care products manufacturing business, and both functions will manage some aspects of environmental compliance. In smaller businesses these responsibilities may be addressed by the same person. Often environmental issues and health and safety issues are managed together.

Businesses and trade associations we spoke to reported that environmental regulation can affect both strategic and operational decisions of personal care product manufacturers. For example, we were told that the industry made a significant change in product design in response to environmental concerns by moving away from the use of chlorofluorocarbons (CFCs) in aerosols. Now under REACH, as "downstream users" personal care product manufacturers may need to change ingredients and/or suppliers depending on the REACH status of the ingredients suppliers provide. Some objectives of environmental regulation, such as packaging light-weighting and energy efficiency improvement, are reportedly well aligned to business objectives to reduce costs, and interviewees thought that significant improvements have been achieved by some members of the industry in these areas. For a large business we spoke to, carbon legislation (through the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES), the European Union Emissions Trading Scheme (EU ETS) and Climate Change Agreements (CCAs)) is significant and is being monitored as UK and EU requirements develop.

Fig A6: Summary of environmental regulatory framework for personal care product manufacturing

Environmental objectives | Regulatory agencies | Permissions, inspections and reporting | Regulated business

Control of noise, vibration, nuisance

Prevent pollution of land, water and air

Control chemicals and hazardous substances

Reduce, reuse, recycle waste

Control of water abstraction

Reduce greenhouse gas emissions

Ensure safety of cosmetics for humans

Local authority dev. control

HSE

PRO compliance scheme

Environment Agency

Whether EA or LA permitting depends on scale of operation

Local authority env. health

BIS/ LA Trading Standards

Safety of products to humans is an important focus of regulatory compliance activity

Personal care product manufacturers

Permit: Planning permission
Inspect: Development control inspections
Report: n/a

Permit: HSE notified of COMAH site by operator, Biocide registration
Inspect: REACH enforcement, COMAH site inspections (with EA)
Report: COMAH safety reports, Biocide product information

Permit: Register as producer
Inspect: risk-based by EA
Report: waste volumes

Permit: EPR permits, hazardous waste permits, carbon allowances
Inspect: Permit inspections, REACH enforcement, COMAH
Report: waste, emissions, carbon reporting, incidents, COMAH safety reports

Permit: EPR permits
Inspect: Permit inspections
Report: waste, emissions, incidents

Permit: Product safety assessed by qualified assessors
Inspect: On exception basis by local authority Trading Standards (e.g. to check labelling, claims made)
Report: Notify cosmetic products placed on the EU market using an internet-based portal developed by the European Commission. The information in this system may be accessed by BIS, Trading Standards and Poisons Centres.

2.7.3 Legislation

Views among businesses and trade associations we spoke to about environmental legislation were mixed. One respondent aspired to legislation with text that was clear enough to not require separate guidance notes to explain what it means, and considered the Environmental Permitting Regulations to be a good example of this nearly being achieved. On the other hand, one respondent who had been working in environmental regulation for a large multinational for 20 years commented that the regulation was still complex and difficult to understand, and therefore found supporting guidance essential.

The businesses and trade associations we spoke to noted that changes to the legislative framework could demand substantial business effort to understand and become compliant, citing the introduction of REACH and the CRC EES as examples. Some problem areas or areas of uncertainty were highlighted, including:

- animal testing requirements for personal care product ingredients under REACH and the Cosmetic Products Regulation.
- the potential for dual regulation under the Biocidal Products Regulation.
- forthcoming changes to COMAH regulations that may capture more businesses in the sector.
- tensions between safety and environmental objectives for the management of volatile organic chemicals (although it was noted that some of these issues had been tackled through some positive joint working between the industry and Environment Agency).

For REACH the HSE leads on registration for the whole of the UK[111], while the Environment Agency leads UK-wide intelligence-led REACH enforcement activities[112]. However, BAMA commented that in general having separate laws and enforcement agencies in devolved administrations would inevitably lead to more compliance workload for businesses, even though they are all complying with the same EU rules and regulations.

One respondent emphasised the great value to businesses of better advance warning of anticipated changes to regulatory requirements, to enable planning for the next financial year. The value of a mixed approach to communicating regulatory changes to businesses was also emphasised, combining website updates with face to face presentations and discussions.

2.7.4 Guidance

Respondents use both the Defra and Environment Agency websites to find out about environmental obligations, and most felt they were clear and accessible. For simplicity all REACH-related guidance is provided through the HSE website. Some considered the HSE website to be very good and well thought out. Some commented that while in general guidance documents were clear, finding the right material could be challenging and a general overview to guide people new to the subject is lacking.

BAMA thought the apparent need for businesses to seek advice from trade associations and consultants was related to the quality of guidance available from Government, observing that while the issues and resultant regulations are intrinsically difficult, the guidance can also be tricky to understand. They thought that trade associations and

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[111] http://www.hse.gov.uk/reach/ourwork.htm
[112] http://publications.environment-agency.gov.uk/PDF/GEHO0712BWSY-E-E.pdf

consultants usefully share knowledge between businesses and provide specialist advice, and that small companies are unlikely to have in-house expertise for very specific issues. It can be more efficient to use external advisers, and the need is compounded by the fact that businesses are leaner and fitter with fewer staff and more generalists. Businesses will also use professional networks, trade associations and Government/industry groups to help them understand their obligations and keep up to date with developments.

One small business was supportive of the idea of a trustworthy "one stop shop" website that would explain environmental obligations. One large business thought that update emails similar to those provided by HSE would be helpful. Trade associations wanted to be able to give members weblinks pointing to the right areas of the Defra and EA websites that would continue to work as new information was added, but this did not seem to be possible at the moment.

2.7.5 Information obligations

Reporting requirements identified by interviewees included packaging returns, waste returns, emissions reporting (including for CRC) and reporting requirements associated with environmental permits. Reporting about producer responsibility obligations and waste generated (e.g. waste transfer notes) were considered the most significant requirements by BAMA. BACS noted the Environment Agency's recent consultation on pollution inventory reporting as an example of the Government seeking to reduce reporting requirements. Duplication of reporting to Government did not appear to be a major issue for respondents. However, some commented that the environmental reporting requirements of product retailers can be significant and may overlap with Government reporting requirements.

On the question of whether it was clear why data were gathered by Government, one respondent commented *"If there is a clear link between an environmental benefit and the data required then that is OK. You're never going to love all this reporting, but if you can see a clear rationale then you'll understand why you have to comply".*

One respondent noted that while electronic methods for submitting information would generally be preferable, there are significant costs to business in putting these systems in place, and smaller businesses may not have such well integrated IT systems, so reporting could remain onerous. One large business would *"love"* a consolidated list of annual data reporting requirements, so that businesses could be aware upfront of what they needed to do.

2.7.6 Compliance assurance

Compliance assurance is primarily carried out by inspections and audits conducted by the Environment Agency, HSE, and local authority environmental health officers. The Environment Agency and HSE coordinate activities for REACH to avoid placing conflicting

demands on business and to ensure that the body with the best specialist skill targets the highest risk activities.

Respondents generally considered inspections and audits to be necessary to assure compliance with environmental regulations, and argued that inspection should be more risk-based, streamlined and coordinated. Several respondents reported positive relationships with the Environment Agency and HSE, finding them helpful and supportive, although some concerns were raised about inconsistencies in decisions made.

2.8 Case study 7: Non-ferrous metals and surface treatment

2.8.1 Industry characteristics

Under the Environmental Permitting Regulations (England and Wales) 2010 (Schedule 1 Part 2) the processing and treatment of metals is divided into three sections: ferrous metals (e.g. iron and steel works), non-ferrous metals, and surface treating metals and plastic materials[113]. Non-ferrous metals are used to take advantage of their desirable properties such as low weight (e.g. aluminium), high conductivity (e.g. copper), non-magnetic properties or resistance to corrosion (e.g. zinc). Non-ferrous metal regulated activities include production of non-ferrous metals from ore, concentrates or secondary materials by metallurgical, chemical or electrolytic activities, and melting of specified metals above specified capacity thresholds.

Surface treatment of metals and plastics can change their surface properties for decoration and reflectivity, improved hardness and wear resistance, corrosion prevention and as a base to improve adhesion of other treatments such as painting or photosensitive coatings for printing. Surface treatment therefore plays an important role in extending the life of metals, and in increasing equipment safety or reducing its consumption of other raw materials[114]. Currently, surface treatment is particularly important in the automotive industry and transportation, packaging, building and construction, microelectronics and printing[115], and surface treatment of thin sheet steel (with tin) remains an activity of importance to the food and drink and packaging industries. The surface treatment sector can include operations in both the ferrous and non-ferrous sub-sectors, but is treated by the Environment Agency as a separate activity in its own right[116].

In the UK primary non-ferrous metal production is undertaken at a very small number of sites, with the majority of business activity focused on manufacturing metal products (e.g. cars, packaging, extrusions) and recycling. There are approximately 26,000 enterprises in the UK manufacturing fabricated metal products, of which nearly all are SMEs or micro-businesses[117]. According to the Surface Engineering Association (SEA, a trade association for a range of surface treatment processes) there are around 600 surface

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[113] http://www.legislation.gov.uk/uksi/2010/675/schedule/1/made

[114] http://www.ineris.fr/ippc/sites/default/files/files/stm_bref_0806.pdf

[115] http://www.ineris.fr/ippc/sites/default/files/files/stm_bref_0806.pdf

[116] http://www.environment-agency.gov.uk/business/sectors/117203.aspx

[117] NUMBER OF LOCAL UNITS in VAT and/or PAYE BASED ENTERPRISES in 2012 for UK SIC 2007 category 25, "Manufacture of fabricated metal products, except machinery and equipment" - 26,445 businesses of which 26,395 have less than 250 employees: http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-254601.

engineering companies in the UK that offer processing skills to component manufacturers, most of which are SMEs and specialize in specific processes[118]. In addition a number of larger companies have in-house surface engineering capability, and in total SEA members represent £1 billion of annual sales and employ over 10,000 people in the UK[119]. The Environment Agency regulates around 65 non-ferrous metal sites and 110 surface treatment sites, while a significant further proportion of these businesses are regulated by local authorities[120].

2.8.2 Environmental regulatory framework

Important potential environmental impacts of non-ferrous metals production include emissions to air (e.g. of dust, metal compounds, dioxins, volatile organic chemicals), energy consumption, and solid waste production, although their significance varies considerably between types of process and metals produced, and controls put in place[121]. For surface treatment of metals and plastics the main potential environmental impacts relate to energy and water consumption, the consumption of raw materials, emissions to surface and groundwaters, solid and liquid wastes and the site condition on cessation of activities[122].

Environmental obligations are likely to have a significant impact on businesses in the non-ferrous metals and surface treatment industries, reflecting their potentially high environmental impact. The Non-Ferrous Alliance (NFA), a trade association we spoke to for this research, argued that regulation will always be needed to ensure businesses meet their environmental obligations, and that it is not realistic to deregulate. Instead the focus should be on ensuring that regulation can be easily understood, with minimum burden, not to the disadvantage of UK businesses, and sensibly administered to resolve issues.

The NFA explained that for a number of significant processes undertaken by members the potential for improving energy or waste efficiency is limited by their physical or chemical properties, so efficiency improvement is only likely through major technological innovations. For NFA members the rate at which technology can be changed is often dependent on the commercial lifecycle of existing equipment, which may be between 7 and 18 years. They argued that regulators need to show flexibility in requiring compliance with Best Available Technique Reference Documents (BREFs) to reflect these commercial constraints. It should be noted, however, that under the EU Industrial Emissions Directive (2010/75/EU) the time allowed to achieve new Best Available Techniques is set in the

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[118] http://www.sea.org.uk/about-us

[119] http://www.sea.org.uk/about-us
[120] http://publications.environment-agency.gov.uk/PDF/GEHO1110BTFX-E-E.pdf
[121] http://eippcb.jrc.es/reference/BREF/nfm_bref_1201.pdf
[122] http://www.ineris.fr/ippc/sites/default/files/files/stm_bref_0806.pdf
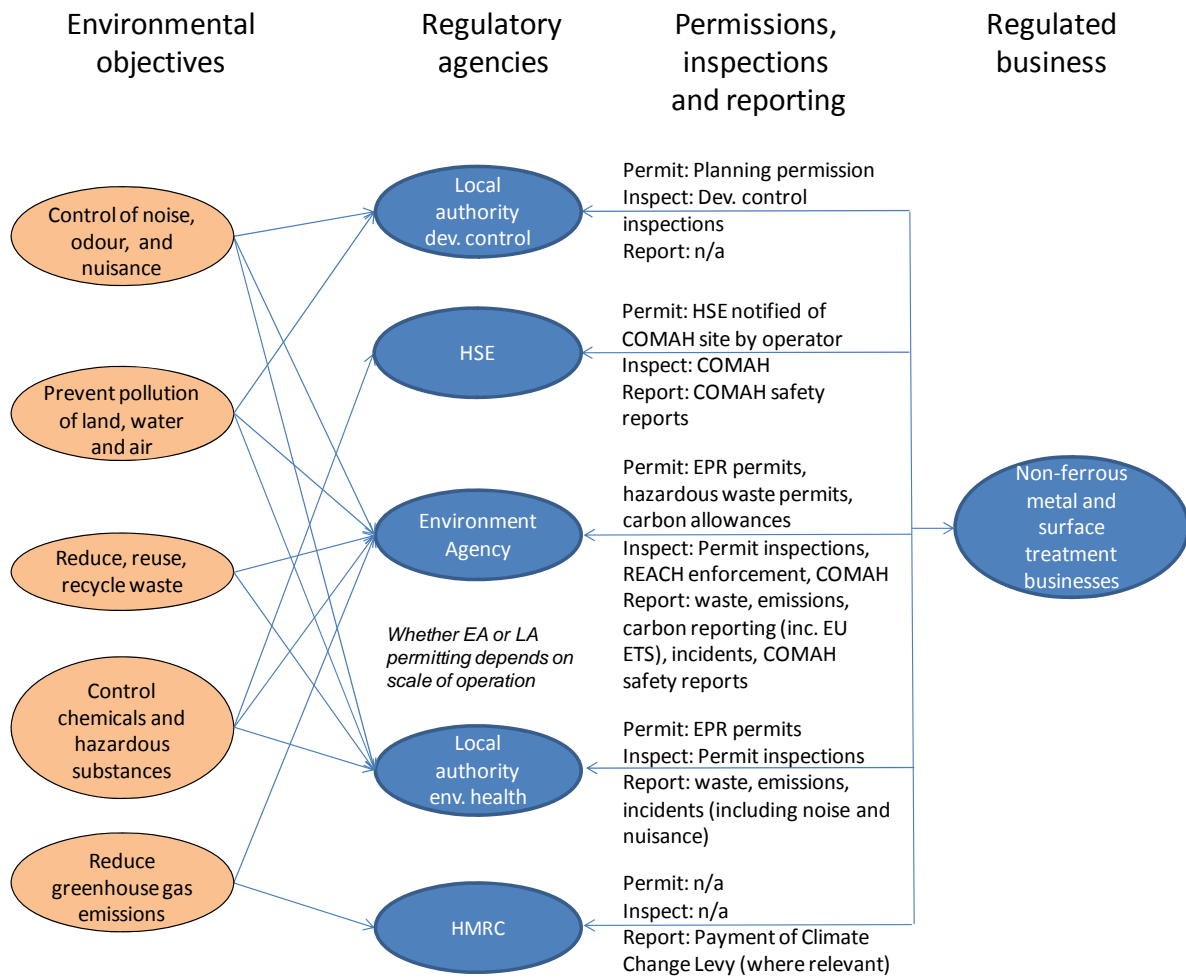
Directive[123]. The NFA also stressed the importance of risk-based rather than hazard-based regulation, and expressed concern that EU regulation tending towards hazard-based regulation could lead to some manufacturing processes becoming impossible in the EU in coming years, even though hazardous materials could be handled to reduce risks to an acceptable level. The NFA also expressed concern that increasingly stringent carbon legislation in the UK could push energy intensive industry overseas.

The SEA told us that *"Businesses now spend more time in ensuring they are compliant than they do in trying to develop and grow. Environmental regulatory obligations are having a negative impact on investment decisions, particularly the uncertainty associated with the REACH regulations. Arbitrary threshold[s], such as in the Environmental Permitting Regulations, dissuade companies from expanding their operations."*

As illustrated below, the non-ferrous metals manufacturing and surface treatment sectors mainly report to the Environment Agency which is responsible for regulating some part of the majority of the sector's key environmental objectives through permits and authorisations. The Environment Agency generally inspects data recorded during ongoing monitoring of the regulated activity on-site during integrated inspections. Other key regulators are local authorities which inspect ongoing site records and inspect compliance with permits for lower risk sites, and the Health and Safety Executive (HSE).

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[123] http://ec.europa.eu/environment/air/pollutants/stationary/ied/faq.htm

Fig A7: Summary of environmental regulatory framework for non-ferrous metals and surface treatment

Environmental objectives	Regulatory agencies	Permissions, inspections and reporting	Regulated business

Local authority dev. control
Permit: Planning permission
Inspect: Dev. control inspections
Report: n/a

HSE
Permit: HSE notified of COMAH site by operator
Inspect: COMAH
Report: COMAH safety reports

Environment Agency
Permit: EPR permits, hazardous waste permits, carbon allowances
Inspect: Permit inspections, REACH enforcement, COMAH
Report: waste, emissions, carbon reporting (inc. EU ETS), incidents, COMAH safety reports

Whether EA or LA permitting depends on scale of operation

Local authority env. health
Permit: EPR permits
Inspect: Permit inspections
Report: waste, emissions, incidents (including noise and nuisance)

HMRC
Permit: n/a
Inspect: n/a
Report: Payment of Climate Change Levy (where relevant)

Environmental objectives (left ovals): Control of noise, odour, and nuisance; Prevent pollution of land, water and air; Reduce, reuse, recycle waste; Control chemicals and hazardous substances; Reduce greenhouse gas emissions

Regulated business: Non-ferrous metal and surface treatment businesses

2.8.3 Legislation

Important items of legislation for these sectors include the Environmental Permitting (England and Wales) Regulations 2010 (as amended), EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No 1907/2006 (as amended) and REACH Enforcement Regulations 2008, Control of Major Accident Hazards (COMAH) Regulations 1999 (as amended), Persistent Organic Pollutants Regulations 2007, the Environmental Protection (Controls on Ozone-Depleting Substances) Regulations 2011, the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended), Climate Change Act 2008 (including the CRC Energy Efficiency Scheme), the EU Emissions Trading Directive 2003/87/EC, and the Waste (England and Wales) Regulations 2011 (as amended). The metal manufacturing sector is an energy-intensive industry and some operations are subject to the Climate Change Levy (CCL)[124]

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[124] https://www.gov.uk/climate-change-agreements

(introduced by the Finance Act 2000). Businesses in energy-intensive industries may qualify for a discount in CCL payments if they are signatories of a Climate Change Agreement (CCA)[125]. Umbrella Climate Change Agreements (CCAs) have been arranged for various parts of the metals sector including foundries, metal forming, metal packaging, non-ferrous metals, steel and surface engineering[126].

The SEA told us that the most important items of legislation for the surface engineering sector are the Environmental Permitting Regulations, EU REACH Regulations, Control of Major Accident Hazards (COMAH), EU Regulation of Persistent Organic Pollutants, controls of ozone-depleting substances, control of substances hazardous to health, and measures under the Climate Change Act.

The NFA argued that the clarity of legislation could be improved so that businesses could understand immediately what they were required to do, but at the moment saw the need for guidance to interpret the meaning of legislation into plain English.

The NFA raised particular concerns about the increasing use of brownfield sites for residential development leading to conflict between new residents and existing businesses over local noise and air pollution. The NFA argued that recent cases of no-win-no-fee law firms taking businesses to court on behalf of local residents were undesirable, and that instead problems should be resolved in such a way that businesses would implement a managed improvement plan rather than risk being put out of business by punitive damages being awarded.

2.8.4 Guidance

Guidance on the applicable environmental regulation for the metals manufacturing sector is available to businesses through various websites including the sector specific regulation guidance pages on the Business Link webpages[127], the Environment Agency[128] and www.gov.uk[129]. The Environment Agency currently provides information specifically about non-ferrous metals and surface treatments[130].

The NFA noted that the EA website has improved and contains some very good guidance, but that it could still be difficult to find. They emphasised the importance of businesses keeping on top of regulatory obligations as they change (e.g. for COMAH) for which short simple accessible guidance is required. They highlighted guidance developed by the EA for its own officers to explain the meaning of regulatory 'legalese' in plain English, which they considered to be very good, and argued that this kind of information needs to be

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[125] http://www.decc.gov.uk/en/content/cms/emissions/ccas/ccas.aspx
[126] https://www.gov.uk/Government/publications/climate-change-agreements-umbrella-agreement-for-the-name-of-sector
[127] http://www.businesslink.gov.uk content has now moved to www.gov.uk
[128] http://www.environment-agency.gov.uk/business/sectors/32557.aspx
[129] E.g. https://www.gov.uk/specialist/metals-and-minerals
[130] http://www.environment-agency.gov.uk/business/sectors/117205.aspx

available for all regulations. The NFA highlighted the case of REACH data sheets which contain important information produced by manufacturers for the safe management of chemicals, but can be long (perhaps 100 pages would be typical for a plant handling 10 chemicals). They argued that this presents a significant challenge for the successful communication of risks to employees.

The SEA told us that for their surface engineering members, environmental obligations are often not very clear, and that in their view regulations have been designed for large multi-national businesses rather the SMEs that make up much of their membership. This reportedly leads to a great deal of frustration and uncertainty about what is required. While they thought that Netregs was helpful, they reported that typically their members do not use Government guidance material because it is too general and not targeted at their sector, and not specific enough for SMEs. Instead the SEA reported that members often rely on organisations like theirs, or the EEF, to make them aware of obligations.

The NFA reported that in some cases (e.g. with Defra) consultation about regulatory change has been very effective, ensuring that industry can genuinely affect the outcome, but in other cases the dialogue has been poor.

The NFA thought that a web-based tool that provided sector-specific information on environmental obligations would be ideal, and preferable to having to phone someone up. They also expressed concern at the idea of environmental guidance being absorbed into www.direct.gov.uk (now www.gov.uk) arguing that instead the EA should focus on improving the structure, access and content of their website.

2.8.5 Information obligations

Businesses have to report to multiple organisations and may be required to report information on emissions to air, water abstraction, discharge to water, waste transfer, dust and noise monitoring and breaches or non-compliances with permits. Businesses may also need to report on energy efficiency and greenhouse gas emissions for production plant.

The NFA commented that for a lot of processes businesses need to employ someone full time to keep on top of obligations and deal with the bureaucracy of providing information, and reported some duplication in reporting for energy use, raw materials use and waste production. The SEA told us that for their surface engineering members there is significant duplication in information reporting to Government, citing duplication between information required by the Environment Agency and DECC for energy consumption.

The NFA though that reporting should be through an approach based on templates and electronic submission, while noting that auditing would be required to ensure it is correct. They also highlighted that reporting publically some environmental data (e.g. on carbon emissions) could expose commercially sensitive information leading to predatory pricing.

2.8.6 Compliance assurance

Non-ferrous metal and surface treatment businesses are inspected primarily by the Environment Agency or local authority environmental health officers for environmental issues, and potentially the HSE (e.g. for COMAH). Businesses can adopt the Environment Agency's MCERTS certification scheme for emissions measurement to give the EA confidence in the monitoring of emissions that they undertake[131].

The NFA reported very positive and constructive relationships with Defra officers and the EA sector lead. However, the NFA also reported very mixed feelings among members about inspectors at an operational level. Experienced expert inspectors are highly valued by members, but relationships with inexperienced inexpert inspectors could be quite negative. The NFA thought that the knowledge and expertise of inspectors could be improved through inspectors with different levels of expertise visiting sites together, and through an exchange of staff between the regulator and industry (within a manageable time commitment). The NFA thought the best approach to compliance assurance would be based on requiring and auditing environmental management systems of regulated businesses. They thought that auditing could be undertaken by Government or private sector assurance organisations, but that Government must retain effective enforcement powers.

The SEA suggested that the Government should require that all businesses above a certain size become members of a trade association (as is reportedly the case in other European countries) which would allow the trade body to operate a compliance scheme, and enable the Government to obtain necessary performance information via the trade body.

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[131] http://www.environment-agency.gov.uk/business/regulation/31829.aspx

2.9 Case study 8: Biofuels manufacturing for transport

2.9.1 Industry characteristics

Biofuel is a term used to describe liquid, solid or gaseous fuels produced from organic matter, which can be used for heating, energy generation and transportation. The three key types of biofuel used in transportation are biomethane, biodiesel and bioethanol. Biomethane is typically produced from purified gases from bacterial anaerobic digestion of waste materials (such as agricultural manure and slurry, food waste and sewage sludge) or non-waste feedstocks grown for the purpose (such as miscanthus or maize crops)[132]. Biodiesel can be used as a substitute for diesel fuel in road vehicles, and can be produced using either chemical or physical processes from waste or virgin cooking oil[133]. Bioethanol is produced from the fermentation of sugar or starchy crops, and can be used as a substitute for petrol in road transport vehicles[134]. This case study focuses on environmental regulation relating to the manufacture of biofuels from feedstocks. Additional regulations apply to the growing of crops for biofuels which are not addressed here.

Biofuels have the potential to provide a renewable source of fuel while delivering a reduction in greenhouse gas emissions. There is a risk, however, that unregulated production may cause social and environmental damage and lead to a net increase in carbon emissions. This is particularly true if produced from cultivated feedstocks grown on land which previously held high carbon stocks such as forest or peatland. As well as this direct impact, there is also potential for indirect effects if competing land uses are displaced by biofuel production[135].

Biomethane can be produced from anaerobic digestion in small-scale systems (e.g. on farms, or by businesses with large amounts of food waste) and in large-scale systems (e.g. treating municipal food waste diverted from landfill, or manures and slurries from several farms)[136]. Biodiesel can be produced on a small scale for personal use or for small businesses, up to large scale production in large chemical plants. There are approximately 75 permitted biodiesel installations across England, although many of these are not operational at present due to economic conditions[137]. Bioethanol production is typically a

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[132] http://www.environment-agency.gov.uk/business/sectors/32601.aspx

[133] http://www.environment-agency.gov.uk/business/sectors/32599.aspx

[134] http://www.environment-agency.gov.uk/business/sectors/32597.aspx

[135] http://www.dft.gov.uk/topics/sustainable/biofuels

[136] http://www.environment-agency.gov.uk/business/sectors/32601.aspx

[137] As advised by Environment Agency

large scale industrial process, currently undertaken at a small number of sites in the UK, although new sites are planned[138].

2.9.2 Environmental regulatory framework

Potentially hazardous chemicals (e.g. methanol) are used in the manufacture of biofuels, which can cause significant air and water pollution and land contamination. Harmful by-products such as glycerol are also produced from some processes[139]. Therefore, the main environmental objectives when manufacturing biofuels at any scale are centred around appropriate waste management and handling and storage of chemicals, solvents and oils so as to prevent pollution to air, land and water, and preventing the spread of disease if animal by-products are being used[140].

As outlined in Figure A8, businesses manufacturing transport biofuels interact with a wide range of Government bodies. The Environment Agency is responsible for regulating manufacturing processes through the Environmental Permitting Regulations. Other key regulators are the Health and Safety Executive (HSE), HM Revenue and Customs (HMRC) and the Animal Health and Veterinary Laboratories Agency (AHVLA) which address health and safety, collection of duties, and control of animal disease in the movement and use of animal by-products respectively.

The Renewable Transport Fuels Obligation (RTFO) Order which came into force in 2008 is the principle legislation in the UK specifically for the regulation of biofuels produced commercially for transport in the UK[141]. The RTFO obligates fossil fuel suppliers to produce evidence showing that a percentage of fuels for road transport supplied in the UK comes from sustainable renewable sources or that a substitute amount of money is paid. The RTFO Unit at the Department for Transport (DfT) issues certificates that permit the sale of verified renewable biofuels by fuel suppliers who supply at least 450,000 litres of fuel per year[142]. Owners of biofuel at the duty point are awarded one Renewable Transport Fuel Certificate (RTFC) per litre of biofuel[143]. In December 2011, the RTFO Order was amended to implement the sustainability criteria of the Renewable Energy Directive (RED), the principal EU regulation on biofuels which commits Member States to a target whereby 10% of all land transport fuels should come from renewable sources by 2020. This introduced mandatory sustainability criteria which biofuels must meet for those fuels to be eligible for Renewable Transport Fuel Certificates including requirements to ensure that they deliver greenhouse gas savings, that the cultivation of their feedstocks did not damage areas of high carbon stocks or high biodiversity, and to encourage the use of

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[138] As advised by Environment Agency

[139] http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1086114053&type=RESOURCES

[140] http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1086118931&r.i=1086118814&r.l1=1079068363&r.l2=1086021951&r.l3=1086113731&r.s=sc&r.t=RESOURCES&type=RESOURCES

[141] http://www.dft.gov.uk/topics/sustainable/biofuels/legislation

[142] http://www.dft.gov.uk/topics/sustainable/biofuels/rtfo

[143] http://www.dft.gov.uk/publications/rtfo-guidance

waste materials[144]. The amendment also introduced double rewards for some types of fuel, including fuels derived from waste materials like used cooking oil.

The Hydrocarbon Oils Duties Act 1979 requires oils duty be paid to Her Majesty's Revenue and Customs (HMRC) on motor and heating fuels produced, imported or used in the UK. The duty has historically been payable at varying rates dependent on the type of fuel favouring biofuel use, although from 1st April 2012 this no longer applies[145].

The Renewable Energy Association (REA), the trade association we spoke to for this research, considered the policy framework to have a "massive" effect on the strategic decisions made by biofuel businesses that they represent. For example the overall policy objectives for increasing the use of biofuels by 2020 fundamentally influence their investment decisions, and without Renewable Transport Fuel Obligation (RTFO) mandate transport biofuel businesses cannot operate.

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[144] http://www.dft.gov.uk/topics/sustainable/biofuels/rtfo

[145] http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageExcise_ShowContent&id=HMCE_CL_000205&propertyType=document

Fig A8: Summary of environmental regulatory framework for biofuels manufacturing
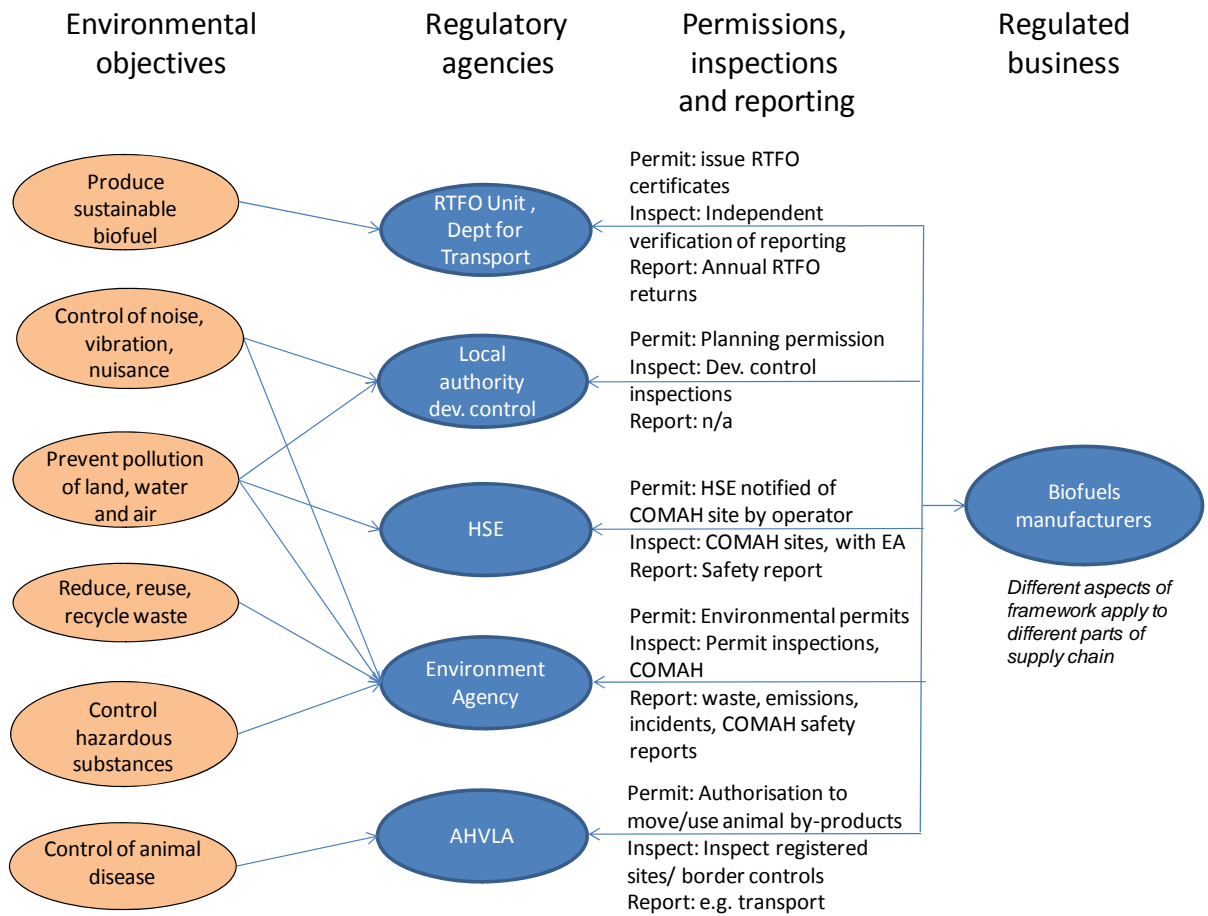
2.9.3 Legislation

Important items of legislation for production of biofuels include the Environmental Permitting (England and Wales) Regulations 2010 (as amended), the Waste (England and Wales) Regulations 2011 (as amended), the Control of Major Accident Hazards (COMAH) Regulations 1999 (as amended), the Control of Pollution (Oil Storage) Regulations 2001, the Renewable Transport Fuels Obligation (RTFO) Regulations 2007 (as amended), the Hydrocarbon Oils Duties Act 1979 and associated regulations, and the Animal by-Products (Enforcement) (England) Regulations 2011 (as amended).

The storage of waste and its recovery through anaerobic digestion to produce biomethane and digestate is regulated by the Environment Agency under the Environmental Permitting Regulations, depending on the scale of production and compliance with standards[146,147,148]. Biodiesel production is also regulated by the Environment Agency

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[146] http://www.environment-agency.gov.uk/business/sectors/32601.aspx

[147] PAS110 covers the production of quality anaerobic digestate: http://www.wrap.org.uk/system/files/private/BSI%20PAS%20110.pdf

under the Environmental Permitting Regulations, depending on the scale of operation. Small scale production (below 5,000 litres p.a.) is exempt from regulation. Production of biodiesel for commercial purposes is a regulated chemical activity; small to medium sized operations may qualify for 'low impact status', reducing fees and charges, whereas large scale production may require a bespoke permit[149]. The Biodiesel Quality Protocol developed by the Environment Agency and WRAP clarifies when quality biodiesel ceases to be waste and waste management controls are no longer required, provides users with confidence in the quality of biodiesel produced and sets standards and describes best practice for its use to protect human health and the environment[150]. Bioethanol producers must comply with the Pollution Prevention and Control (England and Wales) Regulations 2000 for chemical installations and obtain a permit under the Environmental Permitting Regulations from the Environment Agency[151].

The REA commented that the biofuels industry has been formed from agriculture and oil businesses, so people working in the sector have had to familiarise themselves with legislation designed for both sectors, which has been a steep learning curve and can create the perception of there being a significant amount of regulation.

2.9.4 Guidance

Guidance on the applicable environmental regulation for the biofuel manufacturing sector is available to businesses through various websites including the sector specific regulation guidance pages on the DfT[152] and the Environment Agency[153] webpages. Business Link[154] also includes information on best practice. There is also guidance documentation specifically on the RTFO available from the DfT[155] which also encourages stakeholder engagement for planning and implementation of the RTFO[156], which the trade association we spoke to thought was very positive. The HMRC website offers guidance on duty requirements[157].

The REA commented that the RTFO guidance provided by DfT provides the starting point for members seeking to understand their obligations, and whilst *"copious"* it is clear once it has been read. Ensuring compliance with RTFO is typically a full time job for a person in a large or medium size business, but would probably be one among a number of responsibilities for a responsible person in a small business. Businesses reportedly use

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[148] The implementation of the Industrial Emissions Directive will change the threshold by which anaerobic digestion plants will be brought into Environment Agency regulation: http://www.environment-agency.gov.uk/static/documents/Business/IED_Sector_Briefing_vMarch_2012.pdf

[149] http://www.environment-agency.gov.uk/business/sectors/65616.aspx

[150] http://www.environment-agency.gov.uk/static/documents/Leisure/090612_Biodiesel_QP_V5_final.pdf

[151] http://www.environment-agency.gov.uk/business/sectors/37349.aspx

[152] http://www.dft.gov.uk/topics/sustainable/biofuels/legislation

[153] http://www.environment-agency.gov.uk/business/sectors/32593.aspx

[154] http://www.businesslink.gov.uk content has since been migrated to www.gov.uk

[155] http://www.dft.gov.uk/publications/rtfo-guidance

[156] http://www.dft.gov.uk/topics/sustainable/biofuels/stakeholders

[157]
http://customs.hmrc.gov.uk/channelsPortalWebApp/channelsPortalWebApp.portal?_nfpb=true&_pageLabel=pageVAT_ShowContent&id=HMCE_PROD1_026553&propertyType=document

the trade association to gain clarification of their environmental obligations, as well as discussing issues among colleagues from other businesses.

2.9.5 Information obligations

Biofuels manufacturers have to report to a variety of agencies. They are required to report information on duty of care requirements with regard to any feedstock which may be classed as waste (including separate records for any animal by-products used), the volumes of fuel produced and records to demonstrate compliance with any environmental permits.

Duplication of reporting had not been raised as an issue with the REA. However, they raised concerns about the lack of public access to information contained in the RTFO returns, which have not been made public since December 2011. This information is very valuable to the sector to allow it to understand RTFO compliance, and whether it needs to take action to tackle any compliance problems that may be highlighted.

2.9.6 Compliance assurance

Biofuel manufacturers may be inspected by the Environment Agency and HSE acting together as the COMAH Competent Authority, the Environment Agency under the Environmental Permitting Regulations (depending on the scale of operations), HSE under the Health and Safety at Work Act and the AHVLA. HMRC excise officers monitor bioethanol plants to ensure appropriate duties are paid. Compliance with RTFO requirements can be assured through participation in existing environmental assurance schemes, such as Red Tractor, which the trade association we spoke to considered to be a good approach that avoids duplication of compliance requirements on businesses. RTFO returns must be independently verified.

The REA highlighted a case concerning waste cooking oil from UK registered tourist vessels where it had proved very difficult to establish which agency or Government body was responsible for the decision to ban its use for conversion into biodiesel, which had resulted in the closure of a biodiesel business. No agency seemed willing to take responsibility for the decisions, resulting in the trade association and the affected business being passed from one agency to the next, illustrating a lack of joined-up thinking across Government. To help address this problem, they thought that the Environment Agency should be more frequently involved in cross-Government discussions on biofuel regulation led by DfT.

2.10 Case study 9: Electronic product manufacturing

2.10.1 Industry characteristics

The design, manufacture, assembly, distribution and support of electronic products make a significant contribution to the UK economy. In use they enable numerous labour-saving devices and high-speed communications and information processing, and are fundamental to health, energy, defence, transport, entertainment and business technology, among many other applications. The value of the global electronics market is estimated to be $2 trillion per year. Semiconductors account for $275bn revenue worldwide, with growth predicted at 6% to 8% annually. Over 250,000 people in the UK are involved in the design, production and distribution of electronic products, employed by 11,000 companies[158]. In the UK a large proportion of electronics employers are SMEs, with 91% of companies employing fewer than 50 people and only 2% employing 200 people or more.[159]

2.10.2 Environmental Regulatory Framework

The key environmental obligations for the electronics industry relate to the efficient use of energy at a product and organisational level, prevention of emissions to land, water and air, the management of chemicals and hazardous materials, the improvement of product energy efficiency (and associated labelling) and the end of life treatment of waste electronic equipment. The same environmental regulations cover all electrical and electronic equipment (EEE) and related products, such as batteries, electric lighting, cables, computers and electrical appliances.[160] Manufacturing processes related to the production of electronic equipment are primarily regulated under the Environmental Permitting Regulations.

Intellect UK, the trade association we spoke to for this research, considered environmental regulation to have quite a significant impact on decision making among members. Some members have found benefit in reducing waste, and others have identified opportunities for new business as a result of environmental legislation. Carbon policy was also highlighted as an important factor influencing business decisions, including through its effect on energy prices.

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[158] http://www.bis.gov.uk/policies/business-sectors/electronics
[159] https://nationalcareersservice.direct.gov.uk/advice/planning/LMI/Pages/electronics.aspx
[160] http://www.environment-agency.gov.uk/netregs/businesses/62245.aspx

Fig A9: Summary of environmental regulatory framework for electronic product manufacturing
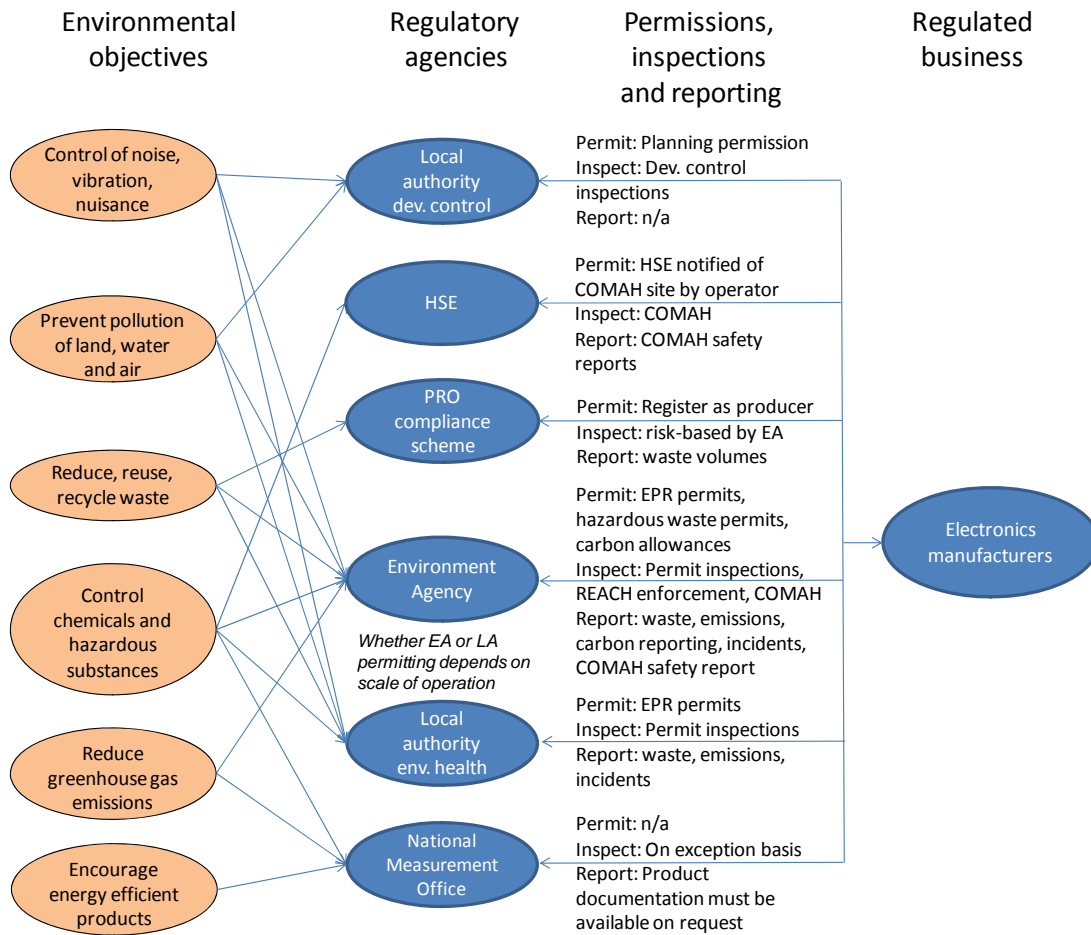
2.10.3 Legislation

Important pieces of legislation that apply to the sector include the Environmental Permitting Regulations (England and Wales) 2010 (as amended), the Waste Electrical and Electronic Equipment (WEEE) Regulations 2006 (as amended), the Waste Batteries and Accumulators Regulations 2009, the Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (as amended), the Restriction on the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Regulations 2008 (as amended), Ecodesign for Energy-Related Products Regulations 2010 (as amended), EU Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (EC) No 1907/2006 (as amended) and REACH Enforcement Regulations 2008 and the Waste (England and Wales) Regulations 2011 (as amended).

Intellect UK also emphasised the importance of legislation targeting reduction of emissions of greenhouse gases, which they considered to also be part of "environmental regulation"

from the perspective of their members. Intellect UK have identified approximately 220 items of legislation relevant to their members, and commented that it is complex to understand as members undertake a wide range of manufacturing processes. Overall they thought it was very difficult to identify environmental obligations, and that regulations that might be considered "environmental" were often considered separately (e.g. waste, emissions and energy). They also commented that the system is complex for businesses that operate across borders of the UK devolved administrations.

They have found that typically environmental obligations are managed by their members alongside health and safety obligations. Larger organisations tend to have resources dedicated to understanding obligations and therefore know what they are, whereas smaller businesses may not have dedicated resource and may find out about obligations only when a compliance problem arises.

2.10.4 Guidance

Guidance on the applicable environmental regulation for the electronics manufacturing sector is available to businesses through various websites including the sector specific and general manufacturing regulation guidance pages on the Business Link website[161] and the National Measurement Office website[162]. Defra and Environment Agency web pages also provide guidance on relevant regulations but are not targeted specifically at the sector.

The influence of businesses on each other along supply chains was also thought to play a significant role in informing them of their obligations. Consultants are also used by some members, particularly on specialist subjects such as packaging waste obligations.

Intellect UK expected larger members to come directly to the trade association to keep up to date with changes to environmental obligations, and expected smaller businesses to use websites as their first source of information. The trade association itself tends to use the Defra website as it is focused on policy developments, using the Environment Agency less frequently as it is focused on compliance and enforcement. Navigating the Defra website was reportedly difficult, but content is generally clear and well structured once found. They thought the Carbon Reduction Commitment guidance was still too long and did not address some key issues for members. Overall the trade association found their experience of dealing with government varied significantly between departments and agencies, with some good and bad experiences, and said they found it difficult to know where to start when engaging with government.

They thought a single website tailored to the sector covering relevant regulations, upcoming consultations, and permits for businesses would be very useful, as would 1

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[161] http://www.businesslink.gov.uk/bdotg/action/detail?itemId=1078172389&type=RESOURCES – to be migrated to www.gov.uk in October 2012
[162] http://www.bis.gov.uk/nmo/enforcement

page summaries that explained what legislation is coming in, what it is aimed at, what levels of funding are coming in and where they are coming from.

2.10.5 Information obligations

Each operator must sign up to WEEE and/or battery compliance schemes through which they are required to report on the amount of electronic equipment or batteries they place on the market. Operators also need to report the amount of packaging placed on the market via the National Waste Packaging Database. These regulations additionally place a requirement on the producer to pay for the recovery and recycling of products they place on the market. As a potential user of chemicals, the operator may also have REACH reporting requirements in the form of notifications.

An electronic manufacturer must retain a pack of technical documentation to prove they are conforming to the Ecodesign, RoHS, WEEE and batteries regulations which often require external sampling or testing. This documentation is not required for reporting to regulators but kept on site and must be available for inspection.

Intellect UK reported that members had found REACH registration problematic, and had also encountered intellectual property and awareness problems as this relatively new area of legislation had started to affect the sector. They also noted that the producer responsibility obligation regime was under review separately from this research, so opportunities for improvement in this area were not discussed in detail.

2.10.6 Compliance assurance

The industry is principally regulated by the Environment Agency and local authorities. The Environment Agency conducts a number of process installation audits and inspections using a risk based approach to assess compliance with environmental permit conditions. Local authorities perform similar roles for those facilities that have a less-significant impact. Desk-based audits are regularly carried out by the Environment Agency in relation to producer responsibility returns and risk based on-site visits may be required to justify quantities of WEEE/batteries/packaging placed on the market. The National Measurement Office requires that manufacturers hold documentation for Ecodesign[163] and RoHS[164] compliance, which must be produced on request.

Intellect UK reported that relations between their members and regulatory agencies were often not positive, although noted that it was rather like *"going to the dentist",* that is necessary but not expected to be pleasant. They were unsure of the experience of smaller businesses as they are not well-represented among members. They thought that a

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[163] http://www.bis.gov.uk/assets/nmo/docs/eup/leaflets/eup-leaflet-web.pdf
[164] http://www.bis.gov.uk/assets/nmo/docs/rohs/support-literature/nmo-rohs-leaflet-in-blue-and-updated-final.pdf

combination of spot-checks, and use of self- and third-party certification should be used to assure environmental performance. They believe that communication is improving up and down supply chains and companies are seeking increasing levels of assurance. If an electronics company says its complying it is likely to be as the reputational and supply chain pressures are significant, although consumers (e.g. of TVs) are often more concerned about safety than environmental performance.

2.11 Case study 10: Water collection, treatment and supply

2.11.1 Industry characteristics

Each day the UK water industry collects, treats and supplies more than 17 billion litres of water to domestic and business customers and collects and treats over 16 billion litres of the resulting waste water.[165] In England and Wales alone, the water industry treats over 10 million tonnes of waste water. To do this, there are over 315,000 km of sewers, 6,000 discharges from sewage treatment works and 25,000 intermittent discharges such as emergency overflows and storm sewer overflows.[166]

The water industry comprises regulated water utility companies, non regulated subsidiary water utility companies (e.g. involved in construction, engineering, consultancy, laboratory services, etc.) and the supply chain (e.g. contractors, manufacturers, suppliers, etc.).[167] In the UK, the industry is currently made up of 12 water and sewerage service providers and 14 major water suppliers, together with a number of smaller inset companies. The collection, treatment and distribution of water involve various physical assets such as reservoirs, water mains (there are over 335,000 km), sewers and treatment works, which together represent around three-quarters of all assets.

Approximately 166,500 people are employed in the industry and around 3,000 new workers per year will be required by the industry between 2008 and 2017.[168] The industry has an annual turnover of around £10 billion.[169]

2.11.2 Environmental regulatory framework

The water industry's main environmental objectives are centred around:

- ensuring that drinking water is safe and of a quality acceptable to consumers
- protecting the water environment, including nationally protected sites
- managing water resources – planning for water resource use now and for the foreseeable future
- dealing with sewerage and managing waste
- dealing with climate change, particularly reducing greenhouse gas emissions; and
- understanding and managing flood risk.

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[165] http://www.water.org.uk/home/resources-and-links/uk-water-industry/waterindustry
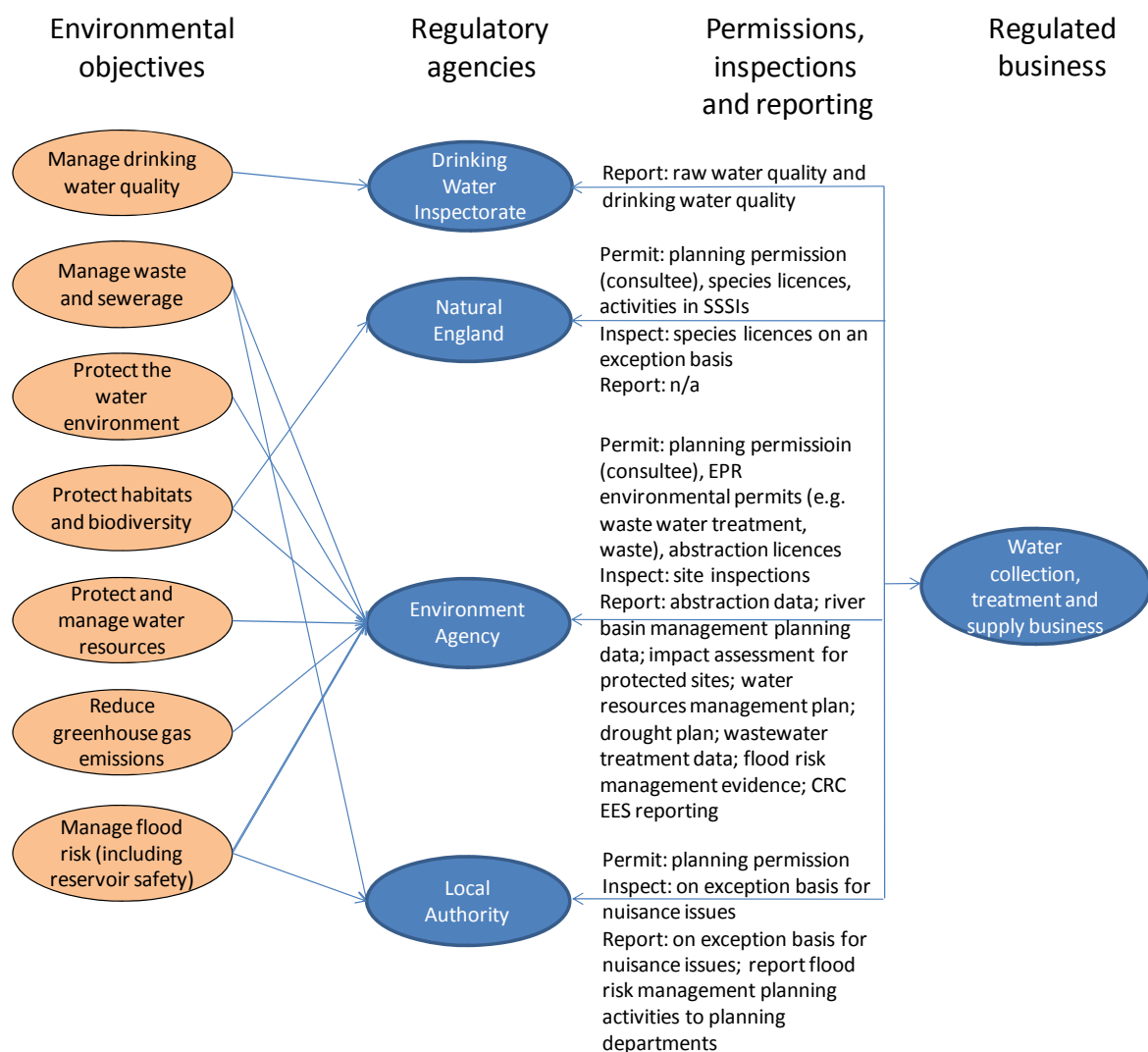[166] http://www.environment-agency.gov.uk/business/sectors/32421.aspx
[167] https://nationalcareersservice.direct.gov.uk/advice/planning/jobprofiles/Pages/watertreatmentworker.aspx
[168] https://nationalcareersservice.direct.gov.uk/advice/planning/jobprofiles/Pages/watertreatmentworker.aspx
[169] http://www.water.org.uk/home/news/press-releases/mfc9jun/mfc-final-revised3.pdf

Figure A10 provides a summary of the environmental regulatory framework for the sector. The key legislation is given in the following section.

Figure A10: Summary of environmental regulatory framework for the water industry.

Environmental objectives	Regulatory agencies	Permissions, inspections and reporting	Regulated business

Manage drinking water quality

Drinking Water Inspectorate

Report: raw water quality and drinking water quality

Manage waste and sewerage

Natural England

Permit: planning permission (consultee), species licences, activities in SSSIs

Inspect: species licences on an exception basis
Report: n/a

Protect the water environment

Protect habitats and biodiversity

Protect and manage water resources

Environment Agency

Permit: planning permissioin (consultee), EPR environmental permits (e.g. waste water treatment, waste), abstraction licences
Inspect: site inspections
Report: abstraction data; river basin management planning data; impact assessment for protected sites; water resources management plan; drought plan; wastewater treatment data; flood risk management evidence; CRC EES reporting

Reduce greenhouse gas emissions

Water collection, treatment and supply business

Manage flood risk (including reservoir safety)

Local Authority

Permit: planning permission
Inspect: on exception basis for nuisance issues
Report: on exception basis for nuisance issues; report flood risk management planning activities to planning departments

There were mixed views amongst the water companies represented about whether or not environmental regulatory obligations had affected the strategic decisions made by businesses in the sector. One view was that:

"The water industry responds to new obligations fully across all of its activities. The obligations have a very significant effect on strategic decision making. As an example the original Bathing Water Regulations derived from the EC Bathing Water Directive led to a £2bn 20-year investment obligation."

However, another view was that:

"The company is very environmentally responsible and so would make environmental improvements anyway without the need for legislation. Indeed, sometimes the legislation

can frustrate progress. For example, effluent re-use legislation can hinder novel but beneficial waste management activities.

Similarly, one interviewee felt that carbon reduction legislation had had less of an impact in reducing carbon emissions than the need to reduce energy costs.

2.11.3 Legislation

There is a large amount of legislation covering the water industry, most of which relates to: water quality; the water environment; water resources; climate change; sewerage and waste management; and flood risk management.

Water quality

The **Water Industry Act 1991** sets out the duty of water undertakers to supply drinking water that is safe and of a quality acceptable to consumers. The 1998 **EC Drinking Water Directive** is the primary legislation that sets standards for drinking water quality and is implemented in relation to public water supplies by the Water Supply (Water Quality) Regulations 2000, as amended.

The water environment

The **Water Framework Directive** (WFD) establishes a strategic approach to managing the water environment, with most of its requirements being imposed through the **Water Industry Act 1991** (WIA 1991) and the **Water Resources Act 1991** (WRA 1991).

Other relevant legislation includes:

- **Urban Waste Water Treatment Directive** (91/271/EEC) – protects the environment from the adverse effects of discharges of urban waste water and is implemented by the Urban Waste Water Treatment Regulations 1994.

- **Bathing Water Directives** – protect the health of bathers and the aesthetic quality at identified bathing waters and are implemented by the Bathing Water Regulations 2008.

- **Freshwater Fish Directive** (2006/44/EC), **Shellfish Waters Directive** (2006/113/EC) and **Dangerous Substances Directive** (76/464/EEC) – these will be repealed in December 2013 by the WFD which replaces them.

- **Wildlife and Countryside Act 1981** (WCA 1981) (as amended) – Section 28G(2) of the WCA 1981 imposes a duty on statutory undertakers (including water undertakers and sewerage undertakers) in relation to the impacts of their activities on Sites of Special Scientific Interest (SSSIs). Compliance with the Section 28G duty also contributes to meeting requirements for non-marine Natura 2000 sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) designated under the **Birds and Habitats Directives** and to meeting the objectives of these Directives.

- **Integrated Pollution Prevention and Control Directive** (2008/1/EC) – this lays down measures designed to prevent or, where that is not practicable, to reduce emissions in the air, water and land from the listed activities, including measures concerning waste, and is implemented in England and Wales through the Environmental Permitting (England and Wales) Regulations 2010. The IPPC Directive has been recast, along with the Waste Incineration Directive and other Directives, into the Industrial Emissions Directive (2010/75/EU).

Water resources

The main **water resources planning** requirements for water undertakers are set out under Section 37A of **Water Industry Act 1991**(WIA 1991) as amended by the **Water Act 2003**. This requires undertakers to draw up, consult upon and adopt a water resources management plan (WRMP).

Chapter II Part II of the **Water Resources Act 1991** (WRA 1991) sets out the circumstances in which **abstraction licences** are required. Water undertakers must comply with the terms of their abstraction licences.   In addition to Section 28G of the **Wildlife and Countryside Act 1981** (see above), water undertakers also have a duty under Section 9(5) of the Conservation of Habitats and Species Regulations 2010 (as amended) to have regard to the requirements of the **Habitats Directive** and, particularly, to review the effects of its abstractions on Natura 2000 sites.

Water undertakers, under Section 39B of the **WIA 1991**, must also prepare, consult upon and adopt a **drought plan** that sets out how they will continue to supply adequate quantities of wholesome water during drought periods.

Climate change

The Climate Change Act 2008 (CCA 2008) sets carbon emissions reduction targets and water undertakers are required to identify steps to contribute towards this. Companies are also expected to utilise the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES) where relevant.   From 2013-14 listed companies will also be subject to greenhouse gas (GHG) mandatory reporting arising from the CCA 2008.

Adaptation to climate change is embedded in many statutory obligations, such as WRMPs, that explicitly require undertakers to consider the impact of climate change by taking certain actions. The CCA 2008 also gives the Secretary of State the power to direct Reporting Authorities, including statutory undertakers, to produce reports detailing: the current and future predicted impacts of climate change on their organisation; proposals for adapting to climate change; and an assessment of progress towards implementing the policies and proposals set out in previous reports.

Sewerage and waste management

Relevant legislation in relation to sewerage includes:

- Part IV of the **Water Industry Act 1991** (WIA 1991) – sets out the general functions of sewerage undertakers including their principal duties.
- **Sewerage Sludge Directive** – transposed by the Sludge (Use in Agriculture) Regulations 1989. The Regulations introduce prohibitions on the supply and use of sludge in agriculture otherwise than in accordance with requirements for treatment and use which reflect the Directive requirements.
- **Urban Waste Water Treatment Directive (UWWTD) –** requires reuse of sludge where practicable. However, recycling to land of sewage sludge should not threaten WFD objectives.
- **Environmental Protection Act 1990 – nuisance** caused by odour from sewage treatment works is regulated by local authority Environmental Health Officers under the statutory nuisance provisions of Part III of the Act.
- Section 101A of the **WIA 1991** (as amended by the Environment Act 1995) – places a duty on sewerage undertakers to provide first time mains drainage (by connection to a foul sewer) in an area where non mains sewerage arrangements are causing an environmental or amenity problem or is likely to do so if no preventative action is taken.

Relevant waste management legislation includes:

- EU Waste Framework Directive (2008/98/EC) – provides the legislative framework for the collection, transport, recovery and disposal of waste, and is implemented by the **Waste (England and Wales) Regulations 2011**, as amended.
- **Environmental Permitting (England and Wales) Regulations 2010**, as amended – controls the recovery and disposal of waste through environmental permits.
- **Controlled Waste (England and Wales) Regulations 2012** – classifies waste as household, industrial or commercial waste.
- **Environmental Protection Act 1990** – defines within England, Scotland and Wales the legal framework for duty of care of waste, which is implemented through the **Environmental Protection (Duty of Care) Regulations 1991**, as amended.
- **Hazardous Wastes (England and Wales) Regulations 2005** – set out the regime for the control and tracking of the movement of hazardous waste for the purpose of implementing the Hazardous Waste Directive (Directive 91/689/EC).

Flood risk management

Under the **Flood and Water Management Act 2010** (FWMA 2010) the statutory duties of water companies under Section 94 of the Water Industry Act 1991 (in relation to any sewer that conveys surface water) are defined as *flood risk management functions* and water companies are defined as risk management authorities. Under the FWMA 2010, water companies which are risk management authorities must, amongst other things, exercise their flood risk management functions, acting in a manner which is consistent with the national flood and coastal erosion risk management strategy (the "National Strategy") and guidance on its application published by the Environment Agency.

Under the **Reservoirs Act 1975** any undertaker, operating or owning a 'large raised reservoir', has ultimate responsibility for the safety of the reservoir and is required to report to the Environment Agency. The Water Act 2003 amended the Reservoirs Act 1975 by giving the Minister powers of Direction to require reservoir undertakers to prepare reservoir flood plans.

Two interviewees commented that the environmental regulatory framework is complex. One felt that the waste management framework is particularly problematic (*"It's vast, complex, interlinked and often contradictory"*) and highlighted difficulties with co-digestion of wastes and the regulation of sewage sludge. It was felt that a review of the framework would be very beneficial, with the aim of simplifying the requirements and taking a more 'outcome focused' regulatory approach. The current approach was felt to be very prescriptive, resulting in most waste activities, regardless of their risk to the environment, needing regulatory scrutiny.

One interviewee who deals with the CRC EES commented that the legislation is complex and the reporting is burdensome. His company already has several thousand sites and is taking on several thousand more and so managing the gathering and reporting of energy efficiency information across the whole company will be an even bigger task (see also below).

In contrast, one respondent felt that environmental regulatory obligations are generally clear and that the industry has had time to adjust as changes have been made.

Several ideas were suggested by industry interviewees for improving the environmental regulatory framework:

- Regulations should be regularly reviewed to ensure they are still fit for purpose.
- All water-related policy for the UK should be assessed together to streamline regulations and controls.[170]
- One fully connected uniform system is needed for regulatory controls of water supply and waste water services. Current arrangements which are very different for control of private and public water supplies are not ensuring compliance with EU requirements and UK water supply quality regulations.
- Aligned to this, a consistent view by regulators is also needed of the regulatory obligations for public and private sewerage and waste water treatment systems.
- More stability from government is needed in terms of environmental policies and taxes to enable companies to plan and invest for the future.

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[170] This has now been done as part of the Red Tape Challenge Water and Marine Theme.

2.11.4 Guidance

Interviewees used a range of sources of information and guidance including:

- Government websites – e.g. Defra, DECC, Environment Agency and legislation.gov.uk
- Industry networks
- Consultants – e.g. templates and newsletters

The DECC website was felt to be generally good, while some interviewees commented that it was sometimes difficult to find relevant documents on the Defra and Environment Agency websites and *"You have to know what you are looking for"*. For example, one interviewee commented that it was not always easy to find the latest GHG factors on the Defra website. One respondent commented that: *"Government websites are generally well constructed, being easy to navigate and easy to assess."*

Several interviewees commented on the extensive amount of guidance in some areas, such as in relation to the implementation of and compliance with the Environmental Permitting Regulations and the H4 Guidance on Odour Management. One interviewee felt that there was not only a significant amount of guidance on CRC but it was not always easy to understand. As a consequence, he often used the CRC Help Desk instead.

One interviewee felt that the status of guidance was not always clear and, particularly, whether the requirements set out in the guidance were mandatory or not.

Two interviewees commented that while they were generally made aware of changes by Defra or the Environment Agency (e.g. through emails, meetings, etc.), sometimes they could be caught unawares. For example, the point was made that the Environmental Permitting Regulations rely heavily on guidance but this was sometimes changed at short notice, undermining efficient planning of improvements.

Two interviewees commented on the time needed to keep up to date with environmental regulatory obligations, with one indicating that it takes around 0.5 FTE/week and another that approximately three working days per month are required spread across several disciplines and departments in the company.

Several ideas were suggested for improving the design and communication of environmental regulatory obligations, including:

- A one-stop shop for all relevant information.
- An email alert system for changes to legislation and guidance.
- More explanation about the reasons why changes are made/not made to proposals following a consultation.
- The status of guidance should be more clearly set out (i.e. mandatory or good practice advice) and generally it should be less prescriptive as this stifles innovation.
- Named contacts in government departments and agencies for help with queries.

2.11.5 Information obligations

Key reporting obligations to the Environment Agency include those relating to environmental permits, water abstraction licence conditions and urban waste water treatment thresholds under which water companies are required to provide operational compliance data.   Water companies are also required to notify the Environment Agency of any significant breaches of compliance conditions. In addition, water companies are required to provide drinking water quality and raw water quality data to the Drinking Water Inspectorate and waste water operational information relating to odour and noise to local authorities. Some water companies are also covered by CRC EES and so report carbon dioxide emissions on an annual basis.

Water companies are also required to develop, consult and maintain a Water Resources Management Plan. In addition, the WFD requires the Environment Agency to develop River Basin Management Plans and water companies will be required, amongst other things, to consult and supply a range of data during this process.   In addition to this, water companies are required to produce drought plans, which should be constantly reviewed and any changes reported to the Environment Agency.

Some interviewees expressed concern about the amount and frequency of data required by the Environment Agency, noting that despite the water industry having the accreditation required and an excellent compliance record this had not always resulted in a lighter regulatory touch. Some examples of duplicative reporting were also given such as raw water quality information which is provided to both the Drinking Water Inspectorate for onward transmission to the Environment Agency and also directly to the relevant Environment Agency regional office.
There was also concern about the costs and burden associated with CRC EES reporting. For one company, the costs are around £20-25k per annum (£10k pa in direct administrative costs and £10-15k to prepare the data for reporting purposes) and a CRC module has had to be purchased to deal with the reporting requirement.   The point was made that if the key objective of GHG, carbon and energy efficiency reporting is simply to reduce GHG emissions then this could be achieved by one form of reporting alone.

Two ideas were suggested for improving the reporting of regulatory information to government including:

- An agreed format for data reporting, with only essential data (e.g. required by legislation) being required.[171]
- Rationalisation of GHG, carbon and energy efficiency reporting.

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[171] The Environment Agency's General Operator Returns go some way to address this.

2.11.6 Compliance assurance

Compliance assurance is achieved through a combination of self-monitoring, reporting to the Environment Agency and the Drinking Water Inspectorate and inspection (annually by the Environment Agency and on an exception basis by the Drinking Water Inspectorate).

Some interviewees questioned the need for the Environment Agency to continue carrying out an annual inspection despite MCerts-accreditation being required for operator self-monitoring for discharges to the environment and the industry compliance rate as a whole being over 90%. As noted previously, interviewees felt that the Environment Agency did not always appear to be taking a risk-based lighter touch approach, with a subsequent reduction in charges.

A number of ideas were suggested for improving government compliance assurance activities including:

- A more risk-based and proportionate regulatory approach, where effort is focused on the higher risk activities and on the poorer performing operators.
- Self regulation backed up by automated secure recording and audit systems, the latter only being accessible to government and its agencies, as has worked successfully for drinking water regulatory compliance.
- More account taken by regulators of external accreditation and third party audits.

2.12 Case study 11: Dairy product manufacturing

2.12.1 Industry characteristics

The term 'dairy' is used to describe milk-based or milk-related products and includes cheese, yoghurt, butter and creams.[172] Of the 13,732 million litres of raw milk produced in the UK in 2011-12, more than half (51%) went into the production of liquid milk, and 27% into cheese.[173] Virtually everyone (99%) in the UK regularly eats or drinks dairy products and 96% of people regularly consume fresh milk.[174]

Milk production accounts for 18% of the UK's total agricultural output.[175] The UK remains the ninth largest milk producer in the world.[176] The value of UK exports of milk products is significantly lower than the value of imports and in 2010 the UK had a trade deficit of about £1,219 million in dairy products.[177]

In the UK 87% of milk is purchased by just 5% of the processors. The remaining 13% of milk is purchased by the remaining 440 or so medium or small UK processors, which account for the majority of the processors in the UK.[178]

The UK dairy industry employs more than 23,800 people, of which 87% are involved in the operation of dairies. Overall, the industry represents 6% of those employed in Britain's food and drink manufacturing sector.[179]

2.12.2 Environmental regulatory framework

Figure A11 provides a summary of the environmental regulatory framework for the sector. The core environmental management objectives for the dairy manufacturing sector are prevention of pollution to land, water and air, management and minimisation of waste, including that from packaging, and the efficient use of raw materials and water, including through abstraction.[180]

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[172] http://www.milk.co.uk/page.aspx?intPageID=40
[173] http://www.dairyco.org.uk/resources-library/market-information/dairy-statistics/dairy-statistics-an-insider's-guide-2012/
[174] http://www.dairyuk.org/images/stories/the_white_paper_2012.pdf-
[175] http://publications.environment-agency.gov.uk/PDF/GEHO0906BLDH-E-E.pdf
[176] http://www.dairyco.org.uk/resources-library/market-information/dairy-statistics/dairy-statistics-an-insider's-guide-2012/
[177] http://www.defra.gov.uk/food-farm/food/food-industry/milk-industry/
[178] http://www.defra.gov.uk/food-farm/food/food-industry/milk-industry/
[179] https://nationalcareersservice.direct.gov.uk/advice/planning/LMI/Pages/dairy.aspx
[180] http://publications.environment-agency.gov.uk/PDF/GEHO0209BPIX-E-E.pdf

The composition of effluent within the dairy industry is highly variable, being dependent on the activity, working patterns, product wastage and cleaning systems. However, it is likely to have high levels of organic loading and strict discharge conditions are applied from either the sewerage undertaker or the environmental regulator.

All types of milk, cream and most other dairy products have a very high oxygen demand, and releases into the water environment (receiving waters or municipal water treatment systems) are serious events. This can happen as a result of spills, process leaks, vessels being overfilled, containment failing, wrong drainage connections and equipment cleaning processes. Therefore, milk product spillage control, secondary containment provision and sump systems failure emergency response arrangements are essential. In addition, the sector consumes a large amount of water for moving, cleaning, and processing materials and consumption of raw materials and packaging materials can also be problematic.

Various wastes are handled and disposed of by the sector including out-of-date products, peelings, animal by-products, food packaging, food manufacturing equipment and effluent plant sludge. These parameters are also key pollution prevention issues, as product loss accounts for a significant proportion of the sector's environmental impact.

The industry is also a major energy user and refrigeration and cooling systems (HFCs, HCFCs) also contribute to global warming and climate change. Dairy Energy Savings Ltd (DES) is a company set up by Dairy UK (sector trade association) to operate the dairy sector Climate Change Agreement (CCA). This levy adds approximately 15% to a company's energy bill per annum and milk processing companies can save 65% of this tax on gas and 90% on electricity by joining the DES scheme and agreeing to reduce their relative energy consumption over time.[181]

Reduction of noise pollution from manufacturing equipment (in particular from compressors and powder drying towers), packaging lines, and transport and shipping operations are also environmental objectives, as is controlling odour related issues which may arise from baking processes, sterilisation and poor equipment management practices.

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[181] http://www.dairyenergysavings.co.uk/

Fig A11: Summary of environmental regulatory framework for the dairy product manufacturing sector.
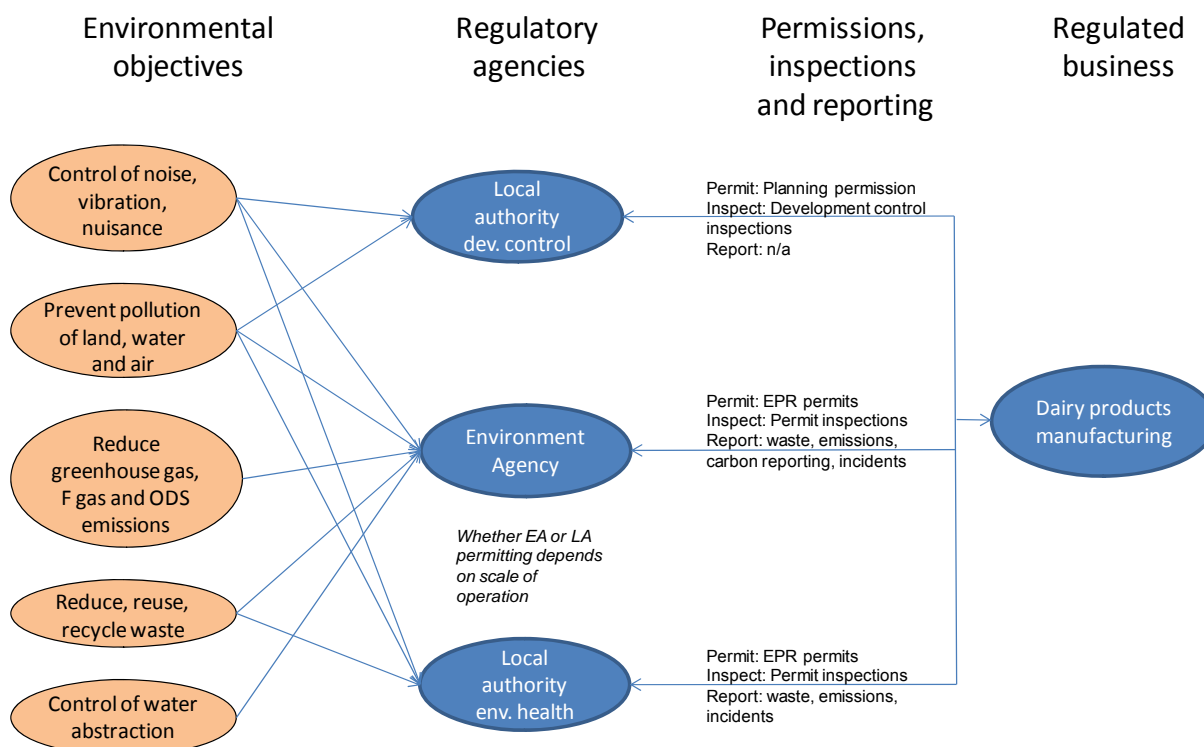
Most interviewees felt that although environmental obligations had some effect on the strategic decisions made by businesses in their sector, there were also financial or other drivers. For example, one business had invested significantly in ways to reduce energy consumption and manage waste and effluent, but this was in large part because of the cost savings involved. Another commented: *"Where it makes financial sense and fits with our strategy it will be done."*

Other factors such as customer satisfaction also affected strategic decisions: *"We could recycle more water, but our customers don't like it."*

2.12.3 Legislation

The most important pieces of legislation which regulate the sector include:

- Environmental Permitting Regulations (EPR) 2010;
- Water Resources Act 1991 and Trade Effluent (Prescribed Substances and Processes) Regulations 1992 (relating to discharge consents);
- Water Industry Act 1991 and the Water Resources (Abstraction and Impoundment) Regulations 2006 (relating to water abstraction);
- Waste (England and Wales) Regulations 2011,

- Packaging (Essential Requirements) Regulations 2003 and the Producer Responsibility Obligations (Packaging Waste) Regulations 2007 (relating to waste and packaging waste);
- Ozone Depleting Substances Regulations (Qualifications) Regulations 2009 and the Fluorinated Greenhouse Gas Regulations 2009; and
- Climate Change Levy (CCL) Regulations 2001.

Other regulations mentioned by some interviewees related to the Carbon Reduction Commitment Energy Efficiency Scheme (CRC EES), vehicle emissions (for companies using their own fleet), and Nitrate Vulnerable Zones (NVZs) in relation to spreading dairy processing waste.

Of these, the EPR[182] were considered the most onerous in terms of workload and cost. This is partly because there is no standard reporting template for compliance returns as all sites are different and are therefore reported on separately. There are also different reporting frequencies, with some being annual and some quarterly. Carbon reporting, particularly in relation to the CRC EES, was also felt to be overly complex and time consuming.

Interviewees commented that some regulations are very clear, particularly where there are standards. Others obligations such as packaging waste are well defined but appear overly complicated. However, overall, interviewees felt that the legislative landscape is very complex, resulting in the need for both internal and external resources to deal with the complexity and compliance assurance.

Specific concerns were raised in relation to:

- Animal by-product and waste regulations – it was felt that the regulations did not join up and resulted in differences in interpretation between the Animal Health and Veterinary Laboratories Agency (AHVLA), which deals with animal by-products and the Environment Agency which deals with waste.
- CCA and CRC EES– it was unclear to interviewees why both were in operation when there were clear overlaps between them.
- Renewable energy –the situation on Feed-in Tariffs (FIT) was now felt to be less clear resulting in reduced investment.

Suggestions for how to improve the legislative aspects of the regulatory framework included:

- Consolidating legislation by area, e.g. waste and nuisance.
- Resolving inconsistencies in the definitions of "waste".

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[182] The EPR (IPPC Directive) only applies to the largest (highest risk) milk, cheese and dairy product processors that handle more than 200 tonnes of milk per day. Currently there are 47 installations permitted under EPR in England & Wales.

- Improving alignment between planning and environmental permitting.

2.12.4 Guidance

The businesses we consulted use a range of sources of information, including:

- **Former Netregs/Business Link websites** [183]– there were mixed views, with some commenting that they were very good and others that they were useful in providing top level guidance but that there was too much detail.
- **Environment Agency website** – the website includes some sector-specific guidance on environmental permitting for the dairy and milk processing industry [184] and is well-used. However, one interviewee commented that: *"The site is relatively logical but if you follow the path you can't always find the relevant document"*.
- **Defra website** – several interviewees commented that it was sometimes difficult to find the relevant document.
- Other government websites such as **DECC** (for information on CRC EES, CCAs etc.), **legislation.gov.uk.**
- **Trade and professional bodies** such as IEMA, Dairy UK and FDF.
- **Environmental summaries and updates**, e.g. iCroner.
- **External consultants –** some use consultants for packaging waste and carbon reporting (CRC and CCA), while some use ISO 14001 accreditors to provide updates on legislation.
- **Meetings and networks**, e.g. regional meetings with EA, lawyers' breakfast clubs and M&S supplier exchange.

Interviewees also received email updates from the Environment Agency and DECC. However, several commented that finding out about new requirements which had arisen from amendments or small changes to existing legislation and guidance could sometimes be a problem.

On guidance, several interviewees stated that the Environment Agency's Pollution Prevention Guidance Notes (PPGs) were very good, providing a short summary supported by more detailed guidance, and commented that: *"It's a shame we don't have one for every area"*. However, one interviewee felt that the resources provided on-line were complex and open to interpretation.

One interviewee provided an estimate of the time taken find out about and understand their environmental obligations, as well as to demonstrate compliance: *"It takes about a day (possibly 2 at reporting dates) per month spread across various people"*.

There was strong support for the development of a single website providing a summary of all relevant information and guidance for the sector.

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[183] Information on environmental regulation was migrated to www.gov.uk in October 2012 and is currently being restructured.
[184] http://publications.environment-agency.gov.uk/PDF/GEHO0209BPIX-E-E.pdf).

2.12.5 Information obligations

Any site above medium size (production capacity in excess of 200 tonnes per day of milk processing) needs to report the following operational monitoring data for water and energy use, air emissions and waste to the Environment Agency under the EPR:

- Pollution Inventory – data on energy, water use and waste provided annually to the Environment Agency (some overlap with environmental permitting). One interviewee commented; *"PI is a chore every year"*.
- EP OPRA – which is provided to support to the Operational Risk Assessment (OPRA) and duplicates other information submitted to the Environment Agency.
- Environmental Performance Indicators and improvement targets such as the Resource Efficiency Physical Index (REPI),[185] which is required by the Environment Agency (a voluntary reporting requirement for EPR installations only).
- Bi-annual waste and water minimisation studies submitted to the Environment Agency (where required, an integral part of the EPR permit)

In addition, they may need to provide the following data:

- Abstraction data – recorded daily and provided annually to the Environment Agency and monthly to the water supplier.
- CCA and CRC EES – CCA data submitted annually to DECC, while CRC EES data submitted to the Environment Agency.

Unless a site has its own treatment plant, the facility also needs to hold a discharge consent from the relevant water company, and to report effluent quantity and compositional data. Any exceedences or breeches of permit conditions also need to be reported.

Other key reporting burdens are related to producer responsibility regulations. Operators need to report the amount of packaging placed on the market via the National Waste Packaging Database. These regulations also place a requirement on the producer to pay financially for the recovery and recycling of products they place on the market. There are also requirements related to waste management, in particular in relation to any hazardous waste being disposed, such as waste lubricating oils and process chemicals.

As noted above, there is some duplication in the data provided to the Environment Agency. Interviewees also highlighted that there is some duplication in the waste information provided to the Environment Agency and WRAP and in carbon reporting, though it was noted that WRAP reporting and much of the carbon reporting are done on a voluntary basis. One commented that: "*We produce a whole plethora of reports. Customers want the same information as EA but in different formats*".

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[185] The Environment Agency is now running a trial which businesses can opt to join where instead of reporting REPI data they can provide evidence of whether they have met their own resource efficiency performance indicators.

A number of ideas were suggested for improving the reporting of regulatory information to government including:

- Developing a single portal to which reporting information is provided.
- Rationalising the duplicative reporting of carbon emission, waste and other data to Government and industry.
- Developing a single annual monitoring report.
- Developing a Planning Portal style website for environmental permits.

2.12.6 Compliance assurance

All of the businesses we spoke to had a number of sites covered by EPR Part A(1) and so were subject to regular compliance inspections by the Environment Agency, with the frequency of inspection being related to their OPRA scores. A few smaller sites covered by EPR Part A (2) and B were regulated by local authorities and were inspected less frequently. Sites were also visited occasionally by the local water company in relation to discharge consents. In addition, third parties used by companies to manage the packaging waste obligations were subject to review by the Environment Agency.

A number of comments were made about the Environment Agency and its approach to compliance assurance:

- **Lack of consistency** – several interviewees expressed concern about inconsistencies in approach within the organisation. For example, because each site is inspected by a different officer, this can result in variations in approach.[186] Several interviewees also expressed concern about the lack of consistency between the Environment Agency and the Scottish Environmental Protection Agency (SEPA) and between the Agency and some water companies.

- **Lack of expertise** – there was some concern that not all officers understood the dairy industry and that this was not being adequately addressed by training. This was made worse by the turnover of staff, with one interviewee commenting that three different officers had been responsible for one site over a three year period.

- **Complexity of charging system** – several interviewees expressed concern about the way in which the OPRA system was applied to the dairy sector and, in particular, about its classification as a heavy process industry, which resulted in high charges and long lead-in times over permits and permit variations. There was a general feeling that the system was unnecessarily complicated.

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[186] The Environment Agency's Future Approach to Regulation project and the national sector group should help to ensure a more consistent approach to regulation.

- **Approach to Best Available Technology (BAT)**[187] – there was concern that because of the need to demonstrate continual improvement, what was regarded as 'BAT' was also changing, which was difficult for companies to deal with.

- **Length of time and effort required for permit variations** – the comment was made that it should take four months for the Environment Agency to issue a permit variation but it was now taking up to seven months. [188] It was felt that the whole process was *"tortuous"*, with too much information being required, some of which seemed to be irrelevant.

One interviewee provided information on the cost of compliance, noting that 0.25 FTE was employed internally to "*keep track of carbon, liaise with consultants and produce reports*" and a further £20-30k per annum was incurred for consultancy services on an ongoing basis. However, the benefits were an increased energy focus and resulting longer term savings. Two others commented that the costs of ISO accreditation for their sites were £8-9k and £6-16k respectively but resulted in a discount in their annual charges from the Environment Agency.

Two general comments were made: *"Compliance is about form filling. The costs are massive; benefits are feeling good about contributing to society"* and *"The complexity of systems has made environmental compliance a business risk in itself"*.

A number of ideas were suggested for improving government compliance assurance activities, including:

- More access to advice and guidance not just at inspection.
- A self-assessment approach like the tax system, with a review every 3 to 5 years.
- A single system in which all data reporting requirements were replaced by a single metric (e.g. carbon).

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[187] The IPPC Directive states that "*Best available techniques will change with time, particularly in the light of technical advances, the competent authorities should monitor or be informed of such progress.*"
[188] This may be addressed by the Penfold review.

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