Carbon Accounting Programme

CATAPULT Energy Systems

Making Carbon Count

Setting up a new Carbon Regulator

March 2025



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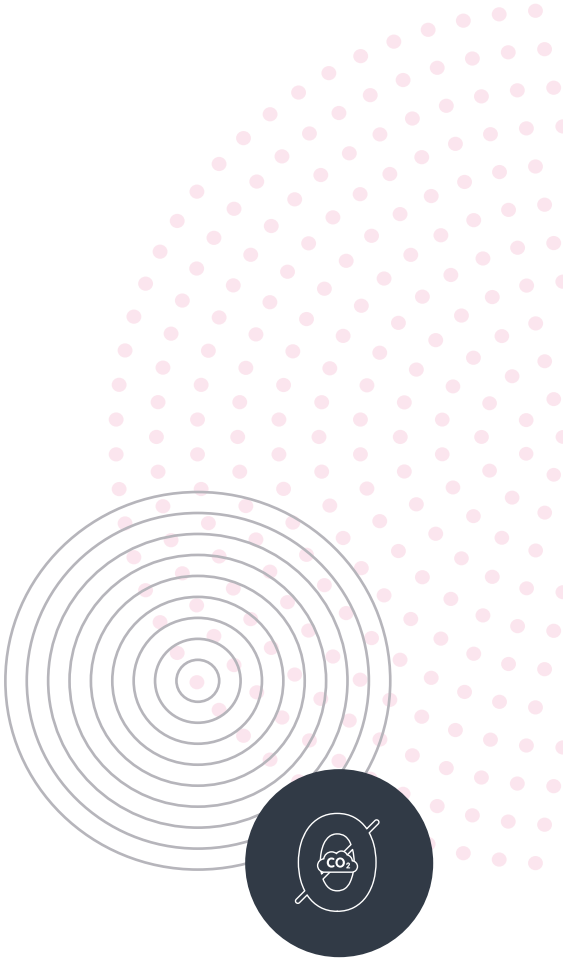
About Energy Systems Catapult

Energy Systems Catapult was set up to accelerate the transformation of the UK's energy system and ensure UK businesses and consumers capture the opportunities of clean growth. The Catapult is an independent, not-for-profit centre of excellence that bridges the gap between industry, government, academia, and research. We take a whole systems view of the energy sector, helping us to identify and address innovation priorities and market barriers in order to decarbonise the energy system at the lowest cost.



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Acronyms

ALB	Arm's Length Body
ARGA	Audit, Reporting and Governance Authority
ASA	Advertising Standards Authority
CBAM	Carbon Border Adjustment Mechanism
CCC	Climate Change Committee
CCA	Climate Change Agreements
COP29	29th Conference of Parties to the UN Framework Convention on Climate Change (also serving as a meeting for parties to the Kyoto Protocol and the Paris Agreement)
Defra	Department for Environment, Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
EA	Environment Agency
FRC	Financial Reporting Council
GHG	Greenhouse gases
SECR	Streamlined Energy and Carbon Reporting
UK ETS	UK Emissions Trading Scheme

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Executive Summary

Carbon accounting – the processes by which greenhouse gas emissions are monitored and assessed – is central to efforts to achieve decarbonisation of the economy, and to deliver the Net Zero target. It is, however, often poorly understood by the users of emissions data, and can be based on methodologies and assumptions that are in conflict.

We argue in this report that establishing a UK-wide Carbon Regulator would simplify and clarify approaches to measuring carbon emissions and removals, to support growth and innovation. The benefits would include:

- A better understanding of the overall picture of UK emissions and – crucially – of how individual decarbonisation decisions can help to reduce the total.
- Clarity for businesses on the expectations for their carbon accounting, and a simplification of reporting requirements, through a single point of disclosure.
- Helping to identify opportunities for investment in low carbon growth.

There will continue to be a need for a range of approaches to carbon accounting, based on the different business and policy needs for data – from direct measurement of emissions for carbon market purposes, to standardised use of emissions factors to help businesses and other organisations understand their climate impacts. A Carbon Regulator would help to ensure that there is a clear understanding of how these different methodologies interact, and that conflicts between approaches are avoided as far as possible.

The interactions between Net Zero efforts in different parts of the global economy are increasing in importance, both through the crediting and cooperation mechanisms envisaged by the Paris Agreement and as a result of the introduction of Carbon Border Adjustment Mechanisms. A more coherent approach in the UK can help to give UK businesses a competitive advantage in navigating the resulting challenges. The UK can also play a leadership role in establishing a more coherent global approach to carbon accounting.

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This report focuses on moving from the identification of a need for improved regulation of carbon accounting towards a better understanding of what that regulation would involve, and detailed recommendations for implementation. This involves answering key questions on the nature of regulation, before deciding on who should carry out that function:

- **What should be the balance between mandatory and voluntary approaches; and who should be the target of mandatory requirements?** We suggest that the most efficient focus initially of regulatory requirements would be organisations providing carbon accounting services in the UK market, with similar in-house teams initially facing largely voluntary constraints. Carbon accounting providers would be expected to follow any methodologies indicated by the Carbon Regulator (particularly standardised emissions factors), or to report exceptions.
- **What enforcement action should be taken where regulatory requirements are infringed?** Relying on users of carbon accounting information to report any breaches is unlikely to be effective. Focusing regulation instead on carbon accounting service providers and applying random audits to the organisations to whom they provide services would help to ensure compliance.
- **How could voluntary carbon reporting be improved?** Ensuring a similar level of scrutiny for in-house teams providing carbon accounts may be more challenging; however, a requirement that any "carbon neutral" or similar claims follow methodologies identified by the Carbon Regulator would provide an initial incentive.

A Carbon Regulator could either be a wholly new public body, or could be an existing body with additional relevant duties. Introducing a wholly new body would be likely to be more costly, and would require more time and legislative effort to implement. We recommend focusing instead on existing public bodies which could take on this additional role. This report investigates several options, including the Environment Agency (consistent with its existing responsibility for the UK Emissions Trading Scheme), and the Department for Energy Security and Net Zero. Ultimately, our recommendation is to add the role to the remit of the new Audit, Reporting and Governance Authority (currently the Financial Reporting Council), given its broader responsibility for corporate reporting.



A new Carbon Regulator set up on this basis could also help significantly to address some of the key gaps we have identified in earlier reports, particularly:

- The need for improved third-party verification of emissions data, and a rapid increase in professionalisation in the delivery of carbon accounting services.
- Greater use of standardised emissions factors, to simplify reporting for businesses, while allowing for innovative new approaches in response to changing market realities.
- Ensuring better public understanding of carbon marketing claims and clamping down on inaccuracies and abuses.

A Carbon Regulator would simplify and clarify approaches to measuring greenhouse gas emissions for businesses and other organisations. This would provide a better picture of the opportunities for mitigation and low carbon growth, both at the economy-wide level and for individual businesses.

We recommend broadening regulatory coverage to include economy-wide oversight, to ensure that a single body has a clear overview of the accounting mechanisms used, how their coverage intersects, and the scope for increased accuracy, simplification, and clarification.



Summary of recommendations

- **The Audit, Reporting and Governance Authority (currently the Financial Reporting Council) should be given the remit of economy-wide Carbon Regulator**, as opposed to creating a new body. Given the economy-wide coverage of carbon accounting and its increasing relevance to broader reporting and governance requirements, ARGA will be well-placed to adopt these additional responsibilities. There is an opportunity to act now, to ensure these functions are embedded into ARGA's remit under the Audit Reform and Corporate Governance Bill.
- **The Carbon Regulator should initially focus on carbon accounting firms, to ensure they meet appropriate standards for professionalism and accuracy, and to encourage them to use standardised approaches.** This can be supported through the development of professional qualifications for carbon accountants, led by industry bodies and overseen by the Carbon Regulator.
- **The approach adopted by in-house carbon reporting functions should be proportionate.** Where firms are of a size where mandatory sustainability reporting is required, or in cases where businesses make "carbon neutrality" or similar claims, they should be required to ensure that their carbon reporting meets the same standards as are applied to external providers.
- **Over time, the Carbon Regulator will need to develop a consistent approach to mapping emissions across the economy.** This will involve developing the use of standardised emissions factors where possible and working with businesses to understand how best to ensure accuracy while reducing administrative burdens they face.
- **As international efforts to reduce emissions accelerate, the Carbon Regulator should play a key role in developing agreed solutions.** In doing so, the Carbon Regulator can safeguard the competitiveness of UK businesses and ensure that they are well-placed to play their part in the race to Net Zero.

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1. Operationalising a Carbon Regulator – Project context

The Carbon Accounting programme is funded by Innovate UK and led by High Value Manufacturing Catapult, in collaboration with Connected Places Catapult, Digital Catapult, Satellite Applications Catapult, and Energy Systems Catapult.

The programme makes the case for a policy and regulatory environment that:

- Supports creating a comprehensive UK framework for greenhouse gas (GHG) emissions, with agreed standards and tools for accounting, tracking, and reporting GHG emissions through supply chains to accelerate industrial decarbonisation.
- Unlocks investment and creates an environment where UK industry excels on the global stage as a destination for low carbon manufacturing.

As part of this programme, an Energy Systems Catapult project has reviewed the policy and regulatory environment needed to support a data-driven Net Zero Economy.[1] Trustworthy, science-based emissions data is used to inform investment and innovation decisions for industry and the wider economy. Regulation is an important part of the policy toolkit to help standardise reporting practices and increase the credibility of emissions data.

Our Spring 2023 report on Carbon Accounting and Standards in Industry summarised the role that standardisation of carbon accounting can have in facilitating a policy environment that helps industry make investment decisions for long-dated assets, innovate to reduce emissions, and compete on a level playing field both domestically and internationally.[2]

This built on our earlier work with the South Wales Industrial Cluster, which reviewed the carbon accounting mechanisms and methodologies relevant to UK industry, and made proposals to move towards a more consistent and coherent approach to disclosing emissions.[3]

[1] The project website, which includes links to previous reports in this series, can be found here: https://es.catapult.org.uk/project/operationalising-a-carbon-regulator/

[2] Energy Systems Catapult (2023). Carbon Accounting and Standards in Industry: A Framework for Innovation and Growth. https://es.catapult.org.uk/report/carbon-accounting-and-standards-in-industry-a-framework-for-innovation-and-growth/

[3] Energy Systems Catapult (2022). Carbon Accounting in Industry: Learning from the South Wales Industrial Cluster. https://es.catapult.org.uk/report/carbon-accounting-in-industry/. In this report, we use the term 'industry' to refer to both foundation industries (e.g. metals, ceramics, glass, chemicals, paper, and cement) and manufacturing industries (e.g. automotive, aerospace, pharmaceuticals, etc.).

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Net Zero Carbon Policy

This project sits within Energy Systems Catapult's wider Net Zero Carbon Policy thought leadership programme, building on a foundation of high impact industrial decarbonisation reports.[4] Throughout our work we promote an economy-wide, whole systems approach to carbon policy design, highlighting opportunities for innovation and low carbon growth, while recognising the specific needs of different sectors and energy consumers.

We adopt the following principles to guide our approach to research, analysis, and the development of policy recommendations:

- Encourage innovation with policies that enable open and competitive markets that reveal the value of clean energy resources and technologies.
- Understand business needs with an emphasis on reducing the administrative burden of carbon policies where possible to ensure industry, particularly small and medium-sized enterprises (SMEs), can thrive in a Net Zero economy.
- Adopt a whole systems approach to policy design using industry expertise to support economy-wide decarbonisation, facilitate regional partnerships, promote international best practice, and encourage reshoring of industry (while preventing further offshoring).

Within an economy-wide framework, we recognise that carbon policy should be tailored to the unique opportunities and challenges that individual sectors face.

[4] Energy Systems Catapult's back catalogue of Net Zero Carbon Policy work can be found here: https://es.catapult.org.uk/project/net-zero-carbon-policy/



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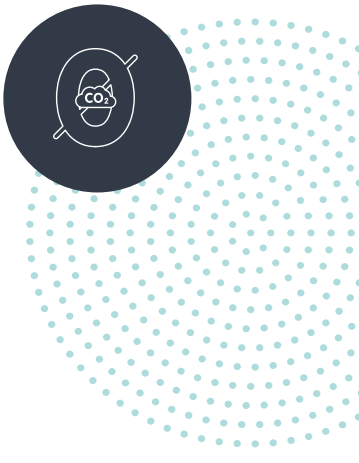
1.1 Our proposal for a Carbon Regulator

Carbon accounting refers to the processes used to measure and allocate GHGs emitted within a set of parameters for the purposes of maintaining GHG inventories, producing corporate environmental reports, or calculating the carbon footprint of a product or service. In addition to these uses within and between businesses, carbon accounting mechanisms are crucial for the operation of many policy mechanisms that incentivise decarbonisation, including market-based mechanisms (such as the UK Emissions Trading Scheme (UK ETS)). To date, the application of carbon accounting across these different uses has not led to the development of consistent definitions, protocols, or approaches. The complexity that exists in carbon accounting results from a range of frameworks and methodologies across different operational levels (e.g. corporate and national) and from a mix of compliance and voluntary based mechanisms.

A more coordinated and standardised approach to carbon accounting in industry could:

- Build a more complete and accurate picture of emissions, by giving better information on policies and measures that government or individual businesses may adopt to reduce emissions, thereby helping industry and government to track progress towards the UK's Net Zero target.
- Reduce the administrative burden for industry by simplifying reporting requirements for policy mechanisms such as Streamlined Energy and Carbon Reporting (SECR), and clarifying how claims on low carbon products and services should be assessed.
- Improve the transparency and comparability of emissions data, revealing opportunities for investment in low carbon market growth and areas requiring more targeted policy interventions.



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The UK is not addressing the challenges of carbon accounting alone. The patchwork of different approaches is common to economies addressing climate mitigation and delivering on Paris Agreement targets. The potential for conflicts between approaches – both between government-mandated and voluntary reporting standards, and between different approaches in different economies – will increase as the pressure of mitigation targets increases, and as cross-border approaches such as Carbon Border Adjustment Mechanisms (CBAMs) are developed. There is significant scope for first-mover advantage for the UK in developing a more standardised and coherent approach.

Our view is that a Carbon Regulator is required to:

- Standardise approaches to carbon reporting across business sectors and supply chains.
- Use emissions data to build a more complete picture of UK emissions and to track progress towards Carbon Budgets and Net Zero targets.
- Provide greater clarity on how businesses and other actors can both compete and collaborate in a swifter and surer transition towards a low carbon economy.

We envisage the Carbon Regulator as a body taking a strategic overview of the different mechanisms for tracking GHG emissions across the UK economy, and emissions associated with UK imports and exports. Such a body would develop a regulatory system for carbon accounting in the UK which is appropriate to the needs of different organisational users; and would work with business sectors and carbon accounting firms to encourage improvements and simplification of approaches to emissions data. The regulator's objective would be the standardisation of approaches to carbon reporting across business sectors and supply chains, providing effective coordination through a carbon accounting framework.

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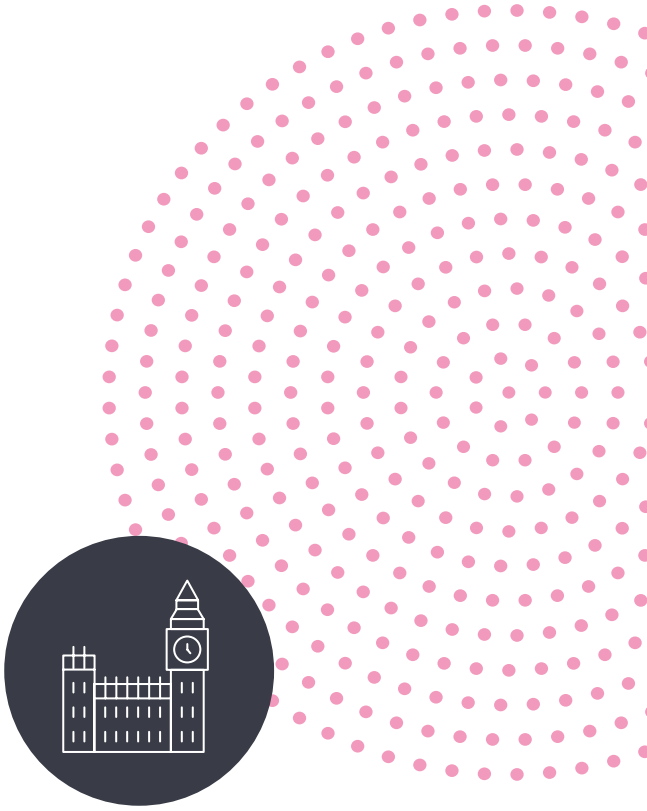
Figure 1 illustrates the priority functions of the Carbon Regulator, and summarises the impacts of these functions on three key groups: producers of emissions data, users of emissions data, and government and regulators. As it indicates, economy-wide regulatory oversight could support:

- Streamlined reporting – by reducing the administrative burden of reporting emissions and promoting a single point of emissions disclosure.
- Improved credibility of emissions data – by developing and maintaining the integrity of data collection systems, while driving demand for credible, scientifically-backed methods for measuring emissions.
- A level playing field for competition – by mitigating conflicting or misleading carbon intensity claims not only within sectors, but also between sectors which provide different products that serve the same function.[5]

Carbon accounting is already regulated to a considerable extent – through the Environment Agency's oversight of monitoring, reporting, and verification (MRV) of emissions data in the UK ETS, and the requirement on larger businesses to provide SECR. However, the coverage of regulation varies, and there are inconsistencies in the approaches adopted. We recommend broadening regulatory coverage to include economy-wide oversight, to ensure that a single body has a clear overview of the accounting mechanisms used, how their coverage intersects, and the scope for increased accuracy, simplification and clarification.

[5] Industrial sectors often find themselves competing against different materials that provide a similar function (for example, timber, steel, and cement for construction of low carbon homes). It is therefore important to ensure comparability of carbon data between the competing alternatives.



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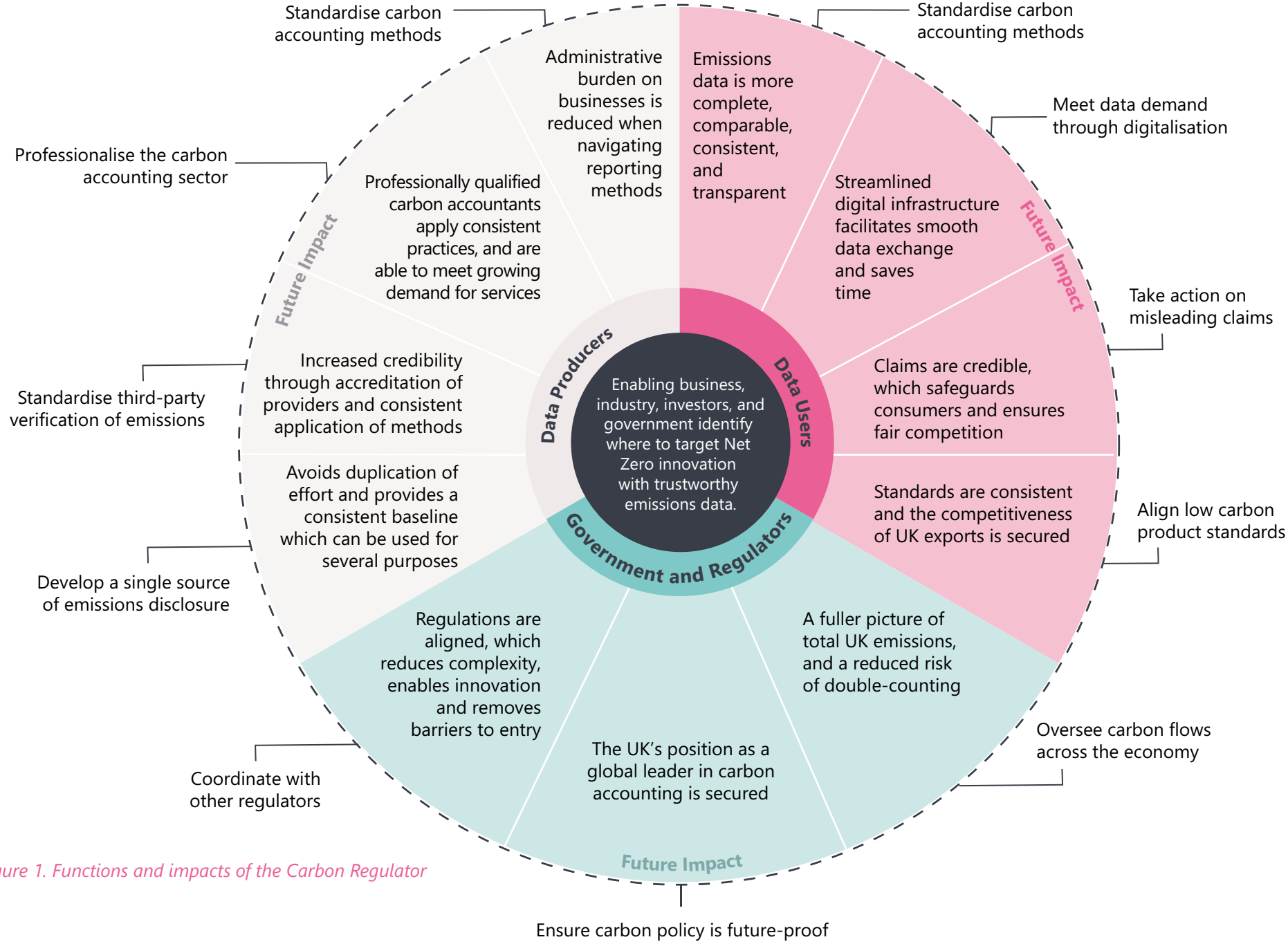

Figure 1. Functions and impacts of the Carbon Regulator

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1.2 Research approach to operationalising a Carbon Regulator

Earlier reports in this project proposed that a Carbon Regulator should be an independent body, either set up as a new institution, or by extending the mandate of an existing organisation, or that it could be a group of bodies working together in a more coherent way. This report looks in more detail at the organisational options for improving the regulation of carbon accounting, and the impacts on a range of policy objectives. In developing the proposals in this report, we started by fitting the existing approaches to carbon regulation into a broad typology, and assessing the potential benefits that improved regulation could have for each of them.

The development of options for setting up a carbon regulator addresses some of the challenges identified in our May 2024 report, "Learning from Other Sectors".[6] Introducing new regulation, and indeed a new regulator, must overcome significant hurdles in order to convince government to devote the necessary political and financial resources. We have therefore tried to identify the most efficient approaches, maximising the leverage from administrative resources on delivery of improved outcomes. Based on this assessment, we have then developed a number of models for regulation, and – critically – identified how a new regulatory role could develop over time.

Our July 2024 report "Review of the Existing Regulatory Landscape" identified a number of gaps in regulation that a Carbon Regulator could fill.[7] We outline the nature of some of the key gaps in Section 4 and assess how our proposals could help to address them, with further analysis set out in the Annexes to this report. These gaps are:

- The need for improved third-party verification of data.
- Encouraging greater use of standardised emissions factors.
- The need to take action on misleading claims.

[6] Energy Systems Catapult (2024). Operationalising a Carbon Regulator - Learning from Other Sectors. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-learning-from-other-sectors/

[7] Energy Systems Catapult (2024). Operationalising a Carbon Regular - Review of Existing Regulatory Landscape. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-review-of-existing-regulatory-landscape/

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2. A summary of the approaches to carbon accounting in the existing regulatory landscape

As earlier reports in this project have explained, the UK's current regulation of carbon accounting covers a range of approaches, reflecting the extent of the public regulatory interest in the emissions covered. Table 1 outlines the broad hierarchy of carbon accounting in the UK.

Table 1: Hierarchy of carbon accounting in the UK

	Coverage (Scope)	Reporting Entities	Mandatory/Voluntary
UK Inventory	All territorial emissions; no extra-territorial emissions under Scope 3	UK Government	Mandatory under international law
UK ETS	Scope 1	Main GHG emitting installations	Mandatory
SECR	Scope 1 and 2	Quoted companies and other large businesses	UK requirement, but mandatory for relevant firms
Voluntary Reporting	At least Scope 1 and 2, ideally also Scope 3	Any business or organisation; in practice, usually those with a public profile or commitment to environmental objectives	Voluntary
UK CBAM (as currently proposed)	Scope 1 and 2, and selected precursor product emissions	Importers of relevant products, relying on data provided by manufacturers	UK requirement; mandatory for importers of relevant products

At the highest level is the government's duty under the Climate Change Act 2008 to report annually on emissions; a duty which government combines with its reporting obligations under the UN Framework Convention on Climate Change (UNFCC). The approach adopted here is high-level, and largely based not on point-source measurement of emissions, but on estimations based on a range of statistical information about the UK economy and environment. While the requirement to report is laid down in UK legislation in the Climate Change Act,[8] in reality the nature of the carbon accounting involved is regulated at international level through the UNFCCC requirements for national inventories.[9]

8 Climate Change Act 2008. Article 16. https://www.legislation.gov.uk/ukpga/2008/27/section/16

9 Intergovernmental Panel on Climate Change (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. https://www.ipcc-nggip.iges.or.jp/public/2006gl/

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At the next level, government requires some businesses and industrial installations to report on emissions for regulatory purposes. The UK ETS inherited most of its structure from the EU Emissions Trading System, which covered the relevant installations and other emitters until the UK's departure from the EU. Entities which are subject to the UK ETS are required to have an approved plan for monitoring and reporting annual emissions, as part of the permit to operate required for industrial and fossil fuel power generation installations. Operators must submit an emissions report, setting out their emissions for the previous year; emissions must be verified by an accredited verifier.

Similar requirements apply to some installations or other operators outside the UK ETS. For example, ships calling at UK ports have to provide MRV of their emissions. Businesses in certain energy-intensive sectors which rely on Climate Change Agreements (CCA) to access a reduced rate of Climate Change Levy (CCL) are required to measure and report on their energy-related emissions and any direct emissions in order to demonstrate compliance with the terms of their CCA.

At a third level, quoted companies and large businesses are required to report on their carbon emissions, including both Scope 1 (direct emissions) and Scope 2 (emissions from energy use), under the SECR. These requirements will be reinforced by the expected introduction of the UK Sustainability Standards, which will make it mandatory for listed companies to disclose sustainability and climate-related information in alignment with standards produced by the International Financial Reporting Standards Foundation.[10]

And finally, at the purely voluntary level, other companies and organisations may choose to report their carbon emissions, or may make claims about the carbon content or carbon neutrality of their products and services. Organisations covered by the SECR requirements may additionally choose to report their Scope 3 emissions (embedded emissions from their upstream and downstream supply chains), although approaches to this vary significantly, based on issues like the salience of carbon reporting for consumers, and the availability of adequate data from third parties. At a similar, voluntary level, landowners and others can monitor the net sequestration of carbon in woodland under the Woodland Carbon Code, which is managed across the UK by Scottish Forestry.

[10] Department for Business and Trade (2024). UK Sustainability Reporting Standards – Guidance. https://www.gov.uk/guidance/uk-sustainability-reporting-standards

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The emissions covered by these different approaches overlap considerably (for example, direct emissions from electricity generation will be reported by installations under the UK ETS, but the same emissions will also be reflected in the Scope 2 emissions of businesses reporting under the SECR requirements). They also have different geographical scope – for example, Scope 3 emissions reported voluntarily by businesses will include supply chain emissions from installations and processes in other economies, and thus would not be covered in the UK inventory. A key requirement for a Carbon Regulator would be to maintain a clear understanding of these overlaps and differences in scope, and to ensure, for example, that emissions data used when a UK CBAM is introduced are consistent, credible, and robust to challenge under trade agreements.

Similarly, there is potential for confusion over approaches to carbon credits domestically, and the approach adopted by other countries under the crediting and cooperative action mechanisms of the Paris Agreement (Article 6). The agreement reached at the Conference of the Parties (COP) 29 on the implementation of Article 6 creates significant flexibility for how parties use the "Decentralised Mechanism for Cooperation" under Article 6.2, and for how carbon removals credits are generated under Article 6.4.[11] As the Climate Change Committee (CCC) has noted, "robust standards and monitoring of the use of the flexibilities … will be needed to ensure environmental integrity of credits transferred".[12] A Carbon Regulator would have an important role in monitoring developments and proposing adjustments to UK policy where necessary to ensure the integrity of the UK's Net Zero goal.

2.1 The difference between consequential and attributional approaches

A further distinction in carbon accounting methodologies is the difference between attributional approaches (allocating emissions to a particular entity – country, business, installation) and consequential (identifying the consequences of particular decisions or policies, usually against a baseline where those decisions or policies are not adopted). This was highlighted in our October 2022 report on Carbon Accounting in Industry,[13] and explained in more detail by Matthew Brander in an article for the GHG Management Institute.[14]

[11] For a helpful summary of the outcomes of the COP29 discussion on Article 6, see: University of Oxford, Smith School of Enterprise & Environment (2024). Article 6 in focus: Outcomes from COP29. https://www.smithschool.ox.ac.uk/news/article-6-focus-outcomes-cop29

[12] Climate Change Committee (2024). COP29: Key outcomes and next steps for the UK. https://www.theccc.org.uk/publication/cop29-key-outcomes-and-next-steps-for-the-uk/

[13] Energy Systems Catapult (2022). Carbon Accounting in Industry: Learning from the South Wales Industrial Cluster. https://es.catapult.org.uk/report/carbon-accounting-in-industry/

[14] GHG Management Institute (2021). The most important GHG accounting concept you may not have heard of: The attributional-consequential distinction. https://ghginstitute.org/2021/04/21/the-most-important-ghg-accounting-concept-you-may-not-have-heard-of-the-attributional-consequential-distinction/

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A key problem here is that actions taken by one entity which reduce the emissions for which it is deemed responsible (for example, sourcing electricity exclusively from renewable energy) may not reduce emissions across a wider perspective. Unless the total renewable energy production is increased by an equivalent amount, and fossil fuel consumption reduced in consequence, the change simply shifts ownership of emissions, rather than reducing them in total.

The primary role of a Carbon Regulator will be in ensuring greater standardisation of attributional approaches. However, the underlying purpose of improved carbon accounting is precisely to encourage and facilitate decision-making which reduces net emissions in line with Net Zero objectives. A Carbon Regulator would therefore also need a role in recommending and, in some cases mandating, the appropriate use of consequential methodologies that articulate well with attributional approaches. This would help to ensure that organisations have a clear understanding both of the emissions for which they are responsible, and the options available to them for reducing emissions in ways which contribute to the economy-wide journey towards Net Zero.



Actions taken by one entity which reduce the emissions for which it is deemed responsible (for example, sourcing electricity exclusively from renewable energy) may not reduce emissions across a wider perspective.



3 How to set up a new Carbon Regulator

The objective of our work on carbon accounting is to make it easier to produce and access reliable carbon accounts, thus creating more favourable conditions for low carbon products and services, and for innovations that drive down emissions. The conclusion reached by earlier reports is that enhanced regulation of carbon accounting is needed, which would also aim to reduce burdens on business by providing greater clarity on the applicable standards, and developing standardised emissions factors where possible. At present, only MRV of emissions covered by the UK ETS is fully regulated. While there are requirements for other businesses to report carbon emissions, the approach to be adopted in doing so is loosely specified and open to different interpretations. This will change to some extent when the UK introduces its proposed Sustainability Reporting Standards, which are expected to require reporting on climate change information in line with the recommendations of the International Financial Reporting Standards Foundation.[15] A Carbon Regulator could help to ensure that disclosures made under these standards are robust.

Our May 2024 report on learning from other sectors looked in detail at the challenges involved in introducing regulation and establishing regulators.[16] Key insights included that a reliance on industry self-regulation is unlikely to provide effective coordination and accurate data on business carbon emissions across the economy. Crucially, a regulator needs to work with the grain of business needs in order to instil the right cultures and reporting methodologies, which are appropriate to individual sectors and help to ensure comparability for competing products and services. The Institute for Government has also focused in recent reports on the challenges of setting up new public bodies, partly in response to the arrival of a new government with manifesto commitments in respect of several new agencies.[17]

[15] Department for Business and Trade (2024). Framework and Terms of Reference for the Development of UK Sustainability Reporting Standards. https://www.gov.uk/government/publications/framework-for-developing-uk-sustainability-reporting-standards/framework-and-terms-of-reference-for-the-development-of-uk-sustainability-reporting-standards

[16] Energy Systems Catapult (2024). Operationalising a Carbon Regulator - Learning from Other Sectors. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-learning-from-other-sectors/

[17] See in particular two reports: Institute for Government (2023). When should public bodies exist? Rewriting the 'three tests' for when government does things at arm's length. https://www.instituteforgovernment.org.uk/sites/default/files/2023-07/when-should-public-bodies-exist.pdf and Institute for Government (2024). How to set up a public body. https://www.instituteforgovernment.org.uk/sites/default/files/2024-11/How-to-set-up-a-public-body_0.pdf

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3.1 Key questions guiding implementation options

Based on that understanding, this report looks at the main options for designing improved carbon accounting regulation, and the structures required to enforce it. This requires clarity on a number of questions about implementation:

- To what extent will carbon accounting requirements and methodologies be mandatory?
- Which actors will be required to comply with the new requirements?
- What enforcement action will be needed to ensure compliance with any mandatory requirements?
- How will a Carbon Regulator encourage the uptake of voluntary approaches which are robust, high quality, and based on the standardisation and clarification of methodologies?
- What is the geographical scope of regulation, and will devolved approaches apply in different parts of the UK?
- How will the new Carbon Regulator contribute to the development of wider international approaches to carbon accounting?

Mandatory or voluntary requirements?

Drawing on earlier work in this project, we recommend an approach based on both mandatory requirements and voluntary recommendations. Depending on the turnover of a business or the nature of its activity (for example, if it is part of a sector which is carbon-intensive, or where there is a wide range of emissions intensities), regulation could aim at ensuring that certain businesses adopt designated, standardised methods for measuring their carbon emissions. Other businesses and organisations could be encouraged to adopt specific approaches, or required to do so if they make particular kinds of claims about their products or services (for example, "zero carbon emissions", "carbon neutral" or "climate friendly").



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Which actors will face new regulatory obligations?

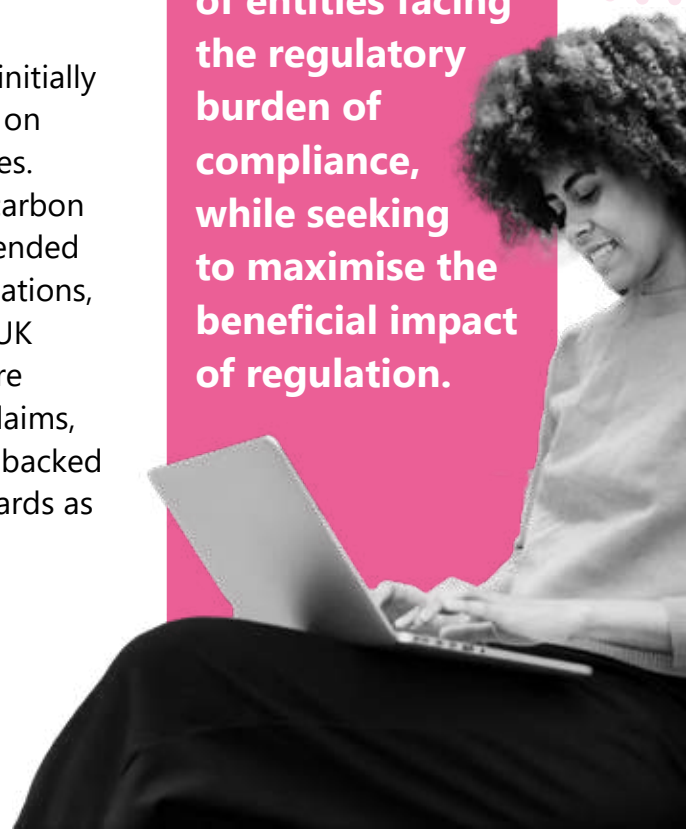
Regulation requires clarity on who is required to take what action. A Carbon Regulator would need to set out and provide clarity about what types of organisations are subject to its regulations, and on what basis their coverage is assessed (this might include factors such as turnover; whether they are engaged in delivering specific products or services; or whether they own or operate particular kinds of installation).[18] Ideally, we should aim to limit the number of entities facing the regulatory burden of compliance, while seeking to maximise the beneficial impact of regulation by ensuring a sufficiently wide application of a standardised approach to carbon reporting.

To achieve this, a Carbon Regulator could initially introduce an obligation primarily on businesses offering carbon accounting services in the UK market. This would ensure that all carbon reporting which is outsourced to third parties would be covered. As carbon disclosure and sustainability reporting requirements progressively apply to more businesses, it would ensure growing coverage of standardised approaches to emissions data. The businesses facing the burden of understanding the detail of the new regulatory requirements would be relatively few, and they would have a good professional understanding of the relevant issues. The vast majority of businesses outside of the carbon accounting sector would not have to invest significant management time in understanding the new requirements.

For businesses which carry out carbon accounting in-house, a different approach may be needed, based initially on encouragement to adopt standardised approaches on a voluntary basis, and signposting to available resources. Over the longer term, as experience in implementing carbon reporting standards develops, regulation could be extended to in-house carbon accounting teams in larger organisations, particularly those businesses subject to the proposed UK Sustainability Reporting Requirements and SERC. Where businesses make "carbon neutrality" or similar green claims, they would be required to demonstrate that these are backed up by carbon accounting which meets the same standards as the regulated carbon accounting providers.

[18] For example, the businesses covered by the SERC regulations are defined according to the thresholds set out in the Companies Act 2006. These include all quoted companies as well as unquoted companies and Limited Liability Partnerships which are "large" according to the Act, in that they have two or more of: annual turnover above £36 million, balance sheet total above £18 million, and over 250 employees.

Ideally, we should aim to limit the number of entities facing the regulatory burden of compliance, while seeking to maximise the beneficial impact of regulation.



What enforcement action will be taken?

The effectiveness of regulation depends on an understanding by those regulated that consequences will follow in the event of a failure of compliance. If emissions are not reported, or not reported correctly in accordance with the new carbon accounting regulation, what action will be taken, by whom, to correct the situation?

In some cases, reliance is placed on third parties affected by a failure of compliance; for example, in the case of inaccurate advertising, the Advertising Standards Authority (ASA) largely relies on reporting by members of the public to identify where enforcement action is needed. Members of the public, however, would find it challenging to examine the detail of how carbon accounts for each business are prepared. Investors and environmental groups may have greater capacity to do so, but would struggle to police the corporate landscape effectively. While a mechanism for third parties to flag failure of compliance should be provided, we should not rely on its effectiveness.

In other cases, there is a much tighter relationship between regulator and regulated entities; for example, in the case of the environmental regulation of emissions, the Environment Agency (and equivalent bodies) provides permits, then monitors compliance by installations. However, issuing permits and then policing compliance with them requires significant administrative work on both sides for each regulated entity. For a carbon accounting regime which will apply to all large firms, a different model is clearly needed.

This, again, points to the potential benefits of a system where regulation applies to those carrying out carbon accounting activities, rather than to those facing carbon reporting requirements. A requirement for accredited carbon accounting bodies to provide information on the organisations to whom they provide services, with the Carbon Regulator carrying out random audits, would help to ensure compliance. In addition, the regulator could use a suitably adapted version of the FRC's annual review of company reports and accounts to address any commonly occurring challenges with reporting, as well as the extent to which businesses are using external carbon accounting services and ensuring that in-house reporting is aligned with recommended standardised approaches.[19]

[19] The Financial Reporting Council produces an annual review which is based on a random sample of company reports and accounts. This enables it to identify any common strengths and weaknesses, and to take action where necessary against any businesses which are in breach of their reporting obligations. See for example: Financial Reporting Council (2024). Annual Review of Corporate Reporting 2023/24. https://media.frc.org.uk/documents/Annual_Review_of_Corporate_Reporting_2023-2024.pdf Making use of this annual report would be significantly easier if, as we argue below, the Financial Reporting Council 's successor - the Audit, Reporting and Governance Authority – were to take on the Carbon Regulator role.

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How will uptake of voluntary approaches be encouraged?

The approach to improved carbon regulation is likely to be based on a mix of mandatory measures, and guidance on approaches to be adopted voluntarily. An important additional element will be the development of mechanisms – such as standardised emissions factors and greater digitisation of reporting – which will facilitate and encourage adoption of best practice.

Where reliance is placed on voluntary approaches, the regulator could monitor uptake, indicating how it would make decisions on any potentially mandatory measures in future, and identifying any need for accompanying measures (information, availability of training) to support businesses which face specific difficulties in making use of the recommended approaches. Providing clarity on the timescale for the development of new standards, and their application to different sectors and sizes of organisation, would also help to ensure that businesses had an incentive to be ahead of the regulatory curve (as is the case for the development of broader sustainability standards, such as the UK Sustainability Reporting Standards). As we note in Annex C below (Action on misleading claims), ensuring that businesses which make "carbon neutral" or equivalent claims are required to use regulated carbon accounting practitioners to measure their emissions and assess the benefit of any offsets used, could increase the number of firms using the recommended approaches.

How will devolution of policy responsibilities apply to the chosen approach?

The devolution settlement broadly provides for each of the devolved administrations (in Scotland, Wales, and Northern Ireland) to have responsibility for environmental policy, although in some cases this can be delivered through their participation in the development and implementation of UK-wide policies. For example, each of the devolved administrations has supported the development of the UK ETS and administers it within its own territory, but with a "UK ETS Authority", representing all four governments, responsible for ensuring coherent collective decisions. The UK government, however, has responsibility for core economic policy functions, including trade and corporate governance.

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As action against climate change becomes increasingly central to economic oversight, the challenges in developing a separate policy approach in the devolved administrations becomes greater. For example, the government's approach on the development of UK CBAM has been firmly in line with the UK responsibility for tariffs and trade, but with a nod to devolution via a commitment to consultation, which aims to ensure the wider coherence of future carbon policy.[20] A Carbon Regulator would need to develop coherent approaches across all of the UK's territories, particularly given the international trade issues identified below. As such, we are in favour of a single, UK-wide approach, with any specific issues relevant to one of the four parts of the UK to be addressed in consultation with the relevant devolved administration.

How will the challenge of international cooperation on carbon accounting be addressed?

The UK is not alone in facing challenges associated with producing an improved understanding of carbon flows through the country's economy. Not only is there an active process of negotiation on Article 6 of the Paris Agreement, which envisages the introduction of a carbon crediting mechanism, but international businesses with complex supply chains are themselves cooperating to find solutions to the challenge of carbon reporting. The introduction of CBAMs, in the UK and the EU, is likely to be controversial, with the potential for challenges to be brought against them at the World Trade Organisation, particularly in a world facing new pressures on international trade.

The Carbon Regulator would therefore need to work cooperatively both with UK and international negotiators on Article 6, and with businesses focused on cross-border carbon reporting.[21] This would require sufficient resource, expertise, and a willingness to think beyond systems which only work effectively in a UK context. This is particularly important given the likelihood of needing to make adjustments to UK carbon accounting regulations and guidance, as global approaches continue to develop. There is scope for a UK Carbon Regulator with a clear focus to lead the international response to the challenge of carbon accounting. A Carbon Regulator could accelerate the development of effective solutions, improve the interoperability of systems for collecting, storing, and sharing

[20] Department for Energy Security and Net Zero and HM Treasury (2023). Addressing carbon leakage risk to support decarbonisation: Summary of consultation responses and government response. https://assets.publishing.service.gov.uk/media/657c7fbd95bf65000d7190cb/2023_Government_Response_-_Addressing_Carbon_Leakage_Risk.pdf

[21] See, as an example of peer-to-peer learning on cross-border accounting: Environmental Defense Fund (2023). Supplier Transformation Framework. https://netzeroaction.org/app/uploads/2023/07/TONZ-Supplier-Transformation-Framework-Transformation-Guide-July-2023-pages.pdf This is a framework developed by Transform to Net Zero, a cross-sector initiative made up of companies including Danone, Maersk, Microsoft, GSK, Unilever, and many more, of which the Environmental Defense Fund is the founding member.

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emissions data, and ensure that UK businesses are well-placed to respond. In particular, supporting UK exporters to meet requirements for emissions data, and that UK policies are aligned with international low carbon product standards, will help businesses in navigating the risks identified in our November 2024 report on international considerations.[22]

3.2 The main options for implementation

Our May 2024 report on "Learning from Other Sectors" noted the constraints on establishing new Arm's Length Bodies (ALBs), with the government's presumption being that the relevant core Department should perform the required functions except in exceptional cases.[23] We therefore use this as a baseline against which to assess other options. This baseline would see the Department for Energy Security and Net Zero (DESNZ) develop standards, regulations, and guidance, and rely on other bodies and third parties for effective enforcement.

Another option is to set up a new stand-alone body with the new regulatory function. This would have some advantages, in particular clarity of purpose and focus, and the new body could also take on some of the existing responsibilities of the Environment Agency, particularly UK ETS implementation and any successor policy to the current CCAs. Disadvantages would be cost, and the presumption against the proliferation of ALBs.

As the main alternative, we look at housing the Carbon Regulator function in an existing ALB, alongside related regulatory functions. Two sub-options are possible here:

(i) the Environment Agency (EA) is currently responsible for implementation of the UK ETS, and could take on this additional role, subject to adequate resources being provided. The primary sponsor of the Environment Agency is the Department for Environment, Food and Rural Affairs (Defra) rather than DESNZ, but existing governance arrangements are adequate to ensure that it is responsive to the needs of DESNZ.

(ii) The Financial Reporting Council (FRC) which will become the Audit, Reporting and Governance Authority (ARGA), assuming the current Audit Reform and Corporate Governance Bill becomes law. The new body's remit will give it wider scope to strengthen audit and corporate governance, which could be extended to include carbon accounting.

[22] Energy Systems Catapult (2024). Operationalising a Carbon Regulator - International Considerations for a Carbon Regulator. https://es.catapult.org.uk/report/international-considerations-for-a-carbon-regulator/

[23] Energy Systems Catapult (2024). Operationalising a Carbon Regulator - Learning from Other Sectors. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-learning-from-other-sectors/

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In all of these options, a key element of the regulator's responsibilities will include coordination with other bodies with linked remits; thus, if the EA were to become the Carbon Regulator, it would need to coordinate closely with the FRC/ARGA, and vice versa. We look below at the potential benefits and disadvantages of these options against a range of success criteria, as summarised in Table 2.

Whichever organisational model is adopted, we recommend – based on the arguments outlined in Section 3.1 above – that the Carbon Regulator should focus initially on developing regulation of bodies which provide carbon accounting services. Where carbon accounting is carried out in-house (which is likely to be the case for many businesses in respect of their SECR obligations), consideration could be given to imposing an obligation to note whether disclosures have been produced by a third-party compliant with the regulatory standards, whether they have been produced in-house by a team which complies with the regulatory standards, or whether they have not complied with those standards. In due course, and based on the evidence of voluntary compliance or a lack thereof, a decision could be taken as to whether or not to extend compulsory standards to in-house teams. Smaller businesses not subject to the SERC or the proposed UK Sustainability Reporting Standards are unlikely to have responsibility for emissions at a level which justifies detailed regulatory intervention, except where they make carbon neutrality or other emissions-based claims.

The multi-faceted nature of the role envisaged for a Carbon Regulator means that it will have a wide range of activities, working with a range of stakeholders and other official bodies. Its role would include designing, implementing, and enforcing standards for carbon accounting services, and developing a good understanding of how carbon accounting fits within other reporting and audit requirements in businesses and other organisations. In addition, it would also need to have a strategic oversight of carbon flows through the economy – working in partnership with the CCC.

A key element of the regulator's responsibilities will include coordination with other bodies with linked remits.



Table 2. Assessing the key options for implementing a Carbon Regulator.

	Core DESNZ function	New ALB	EA	ARGA
Clarity of purpose	Weak – large, high-profile department already working with fifteen other public bodies and agencies, whose work is subject to governmental timetables and resourcing	Strong – established for, and dedicated to, a sole purpose	Average – expertise in environmental issues and the UK ETS, which could inform Carbon Regulator functions, although has many other responsibilities	Average – expertise in accounting and audit, which could feed into work on carbon accounting
Cost	Relatively inexpensive – government presumption for Departments to take on core functions	Relatively costly – high barrier for establishing new bodies	Relatively inexpensive – although would need some additional resources to match new responsibilities	Relatively inexpensive – particularly if the role is designed as a part of ARGA's remit at an early stage
Synergies with other regulators, and with its own existing regulatory roles	Weak – difficult to maintain resourcing for ongoing monitoring and oversight	Average – would be designed to fit the role, but adds to an already complex regulatory landscape	Strong – familiarity with MRV of emissions under the UK ETS	Strong – many similar functions, although would need to develop new channels to DESNZ and CCC
Engagement with target businesses	Weak – unlikely to be able to prioritise ongoing engagement	Average – would add to the number of interlocutors that businesses need to engage with, so may find it harder to attract attention	Weak – would require new relationships	Strong – would build on existing economy-wide relationships focussed on corporate reporting and audit requirements
Future proofing policy (CBAM etc.)	Strong – overview of entire policy landscape, although several competing priorities	Strong – a dedicated focus on understanding and shaping carbon policy across the economy	Average – expertise in environmental concerns	Average – would need to work closely with others and develop expertise
Compatibility with devolution of powers	Strong – UK-wide	Average – would need devolved powers to agree to a clear remit	Weak – would require separate arrangements	Strong – corporate governance is administered UK-wide

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3.2.1 Core function of the Department for Energy Security and Net Zero

Under this option, DESNZ would have the principal role in developing new standards across the wide range of carbon accounting uses. This would include its existing role in commissioning the UK's national GHG inventory, and overseeing the MRV requirements under the UK ETS (although in practice these are largely inherited from EU regulation, and administered by the Environment Agency). In addition, it would develop an enhanced role in ensuring that SECR requirements on large businesses are consistent, and make good use of standardised emissions factors. It would develop requirements and legislation for regulation of those providing carbon accounting services, and would oversee the use of voluntary carbon accounting approaches. Finally, it would work with ASA to tackle misleading carbon-related claims.

The requirements for the Carbon Regulator role involve a mix of the initial introduction of standards or legislation, the continuing oversight and development of those policies, and a broader oversight function for monitoring the use of standards and voluntary approaches and addressing any inconsistencies. While core government departments have strengths in the first of these tasks, they often struggle with the fluctuating demands of monitoring and oversight roles, as resources are diverted to more immediate political priorities. If decisions on standards or their application are made under the authority of the relevant Secretary of State, this could add a political level to decision-making, potentially leading to delays or reducing the independence of the Carbon Regulator. This could also significantly impact the necessary engagement with businesses targeted by regulation. Moreover, it would be difficult to ensure that devolved administrations are adequately bought in to decisions which potentially affect their devolved responsibilities.

[24] We have also previously considered the options of including the role within the remit of the Climate Change Committee and the Office for Environmental Protection, but in both cases these are relatively small bodies focused on providing advice to government, and the addition of the new role would significantly weaken their focus on their existing functions.

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3.2.2 Creating a new Arm's Length Body

Another option would be to introduce a wholly new ALB taking on the Carbon Regulator role.[24] This would have the advantage of allowing the goals and strategic direction of the new body to be unambiguously focused on carbon accounting, rather than having to jostle for attention with other statutory responsibilities. It would also be well suited to take a future-facing approach, encouraging innovation and responsiveness to changing supply chains.

However, there are high hurdles to gaining cross-government support, particularly from HM Treasury, for setting up a wholly new body, as well as legislative challenges. This option would also potentially add significantly to costs. A new body would also need to develop a new set of institutional relations with industry stakeholders, and may struggle to get sufficient airtime in competition with other regulators. From the point of view of stakeholders and businesses falling under the Carbon Regulator's purview, it would add to the complexity of their policy advocacy.

3.2.3 Added to functions of the Environment Agency

This option would see responsibility for oversight of carbon accounting added to the remit of the EA, alongside its existing regulatory responsibility for the accounting rules in the UK ETS. While this suggests some synergies with existing responsibilities, in practice the EA has largely adopted the MRV requirements from EU legislation in establishing the UK ETS, and accreditation of third-party verifiers is managed by the UK Accreditation Service. However, it has familiarity with MRV requirements under the UK ETS, which would not be as readily available in other potential ALBs.

The EA would also have a strong understanding of carbon and environment issues, and would find it easier than other potential ALBs to build up its oversight of carbon flows throughout the UK economy (although it would also need to draw on support from the CCC in order to improve its understanding). It would find it more challenging to develop good stakeholder relations with businesses outside its core regulatory remit, particularly those engaged in SECR or the voluntary reporting of carbon emissions. Finally, its suitability to a function which would ideally be UK-wide in nature is poor; its regulatory functions are currently focused on England, and giving oversight of carbon accounting to an England-focused body would raise concerns in devolved administrations.



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3.2.4 Added to functions of the new Audit, Reporting and Governance Authority

The government announced in the Kings Speech 2024 that it would bring forward legislation to improve the remit of the FRC, making it more responsive to the needs of the users of company reporting, and transforming it into a new Audit, Reporting and Governance Authority (ARGA). Bringing responsibility for carbon accounting into the remit of the new body has potential benefits; it would ensure that carbon accounting is addressed as a core part of the reporting responsibilities of businesses – particularly those with significant carbon emissions, or a significant role in the broader economy. It would also ensure that the relevant legislation to introduce the carbon accounting role would be based firmly in corporate reporting and audit powers, where the argument for UK-wide legislation is more likely to be accepted than in the case of environmental legislation. In addition, the FRC already undertakes work on streamlining digital reporting processes and on making data included in company reports more interoperable and comparable for users, in particular through its work on taxonomies.[25] This work links to the Carbon Regulator's role in overseeing the development of digital infrastructure to facilitate the smooth exchange of emissions data and promoting a single source of disclosure for companies.

Action would be needed at an early stage to ensure that either carbon accounting responsibilities are included in the proposed legislation to create ARGA, or, at a minimum, that introduction of such responsibilities is explicitly envisaged as part of the trajectory of the new body in its early years.

A disadvantage of this approach would be that, unless care it taken in the design of ARGA, it would struggle to develop an institutional capacity for understanding the broad range of approaches to carbon accounting, and of the economy-wide oversight role envisaged for a Carbon Regulator. At present, carbon issues are only a limited element of the remit of FRC (via the SECR), and ensuring adequate expertise would need to be a priority.

Given the relative merits and drawbacks of each option, our recommendation is that ARGA – currently the FRC – take on the functions of the Carbon Regulator. These functions make a natural addition to its oversight of corporate governance and reporting, as Figure 2 illustrates. While ARGA will not have

[25] Financial Reporting Council (2023). About the FRC Taxonomies Project. https://www.frc.org.uk/library/standards-codes-policy/accounting-and-reporting/frc-taxonomies/frc-taxonomies-about/



Our recommendation is that ARGA – currently the FRC – take on the functions of the Carbon Regulator.

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the in-depth knowledge of environmental matters of the EA, its expertise in standardising and overseeing reporting responsibilities could be straightforwardly translated to standardising carbon accounting. Its oversight of audit requirements would also link to requirements for the third-party verification of emissions. In the following section, we set out three priority areas for the Carbon Regulator to work on, and examine the relative strengths of different regulatory bodies in tackling these. ARGA's remit makes it a suitable fit for adopting regulatory oversight of these three areas.



Figure 2. Connecting the Carbon Regulator's role to the FRC's (and in future, ARGA's) role.

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4 Addressing key gaps in regulation

Our July 2024 report "Review of the Existing Regulatory Landscape" identified a number of gaps in regulation that a Carbon Regulator could fill.[26] In order to examine the potential benefits of different organisational models for delivery of
a Carbon Regulator, this report focuses on the following key areas which are in need of improvement:

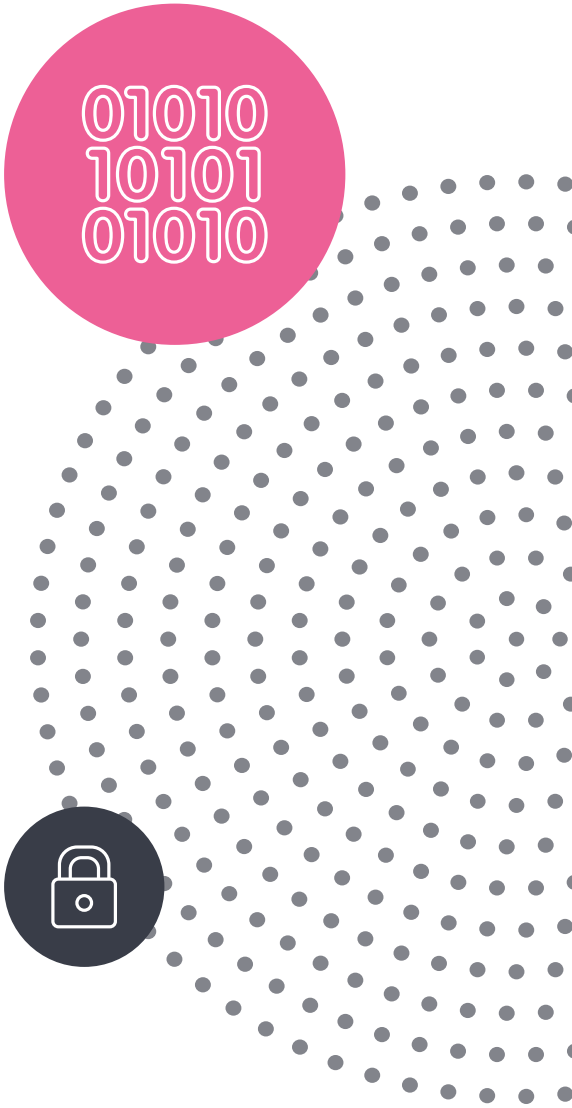
- Third-party verification of data and professionalisation of carbon accounting.
- Standardised emissions factors.
- Action on misleading claims.

Annexes A, B and C look at the impact of the different options for carbon accounting regulation on each of these gaps. Here we look in more detail at the nature of the regulatory gaps identified, and the potential benefits of addressing them.

[26] Energy Systems Catapult (2024). Operationalising a Carbon Regular - Review of Existing Regulatory Landscape. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-review-of-existing-regulatory-landscape/

4.1 Improving third-party verification and professionalising carbon accounting

Third-party verification of emissions is a key mechanism for ensuring that regulators and consumers have access to consistent, trustworthy data, but in turn demands professionalism and credibility from the businesses offering verification services. To support rigour, the Carbon Regulator could establish an accreditation mechanism for providers, as indicated in Figure 3. Annex A looks in detail at the challenge of ensuring more widespread adoption of third-party verification in reporting on carbon emissions, including through action to ensure improvements in supply.



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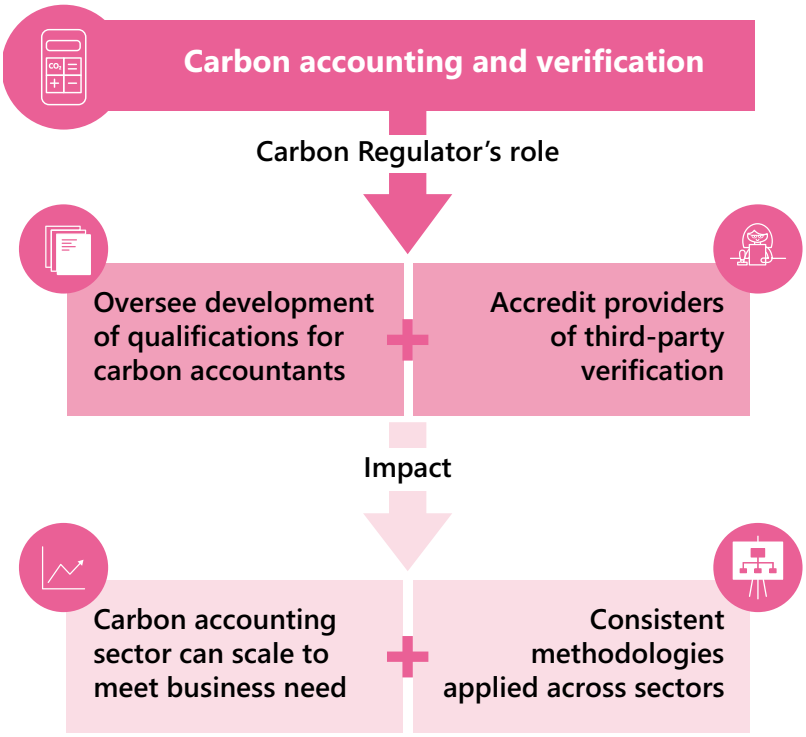

Figure 3. The Carbon Regulator's role in carbon accounting and verification.

A key issue in third-party verification and in the integrity of carbon accounting more generally, is the lack of a clear framework of qualifications for carbon accounting. This leads to an unjustified degree of variation in the approaches adopted. Focusing on the professionalism and consistency of businesses providing carbon accounting services (and on units within larger businesses providing such services) would create an opportunity for greater professionalisation. As Figure 3 illustrates, it would also allow the carbon accounting sector to scale to meet the rapidly growing demand for its services. Regulatory requirements on such organisations could develop in step with the development of professional qualifications, a process which is likely to be welcomed by industry bodies. Annex A looks in more detail at the challenges involved, and at the extent to which our delivery options would be able to meet those challenges.

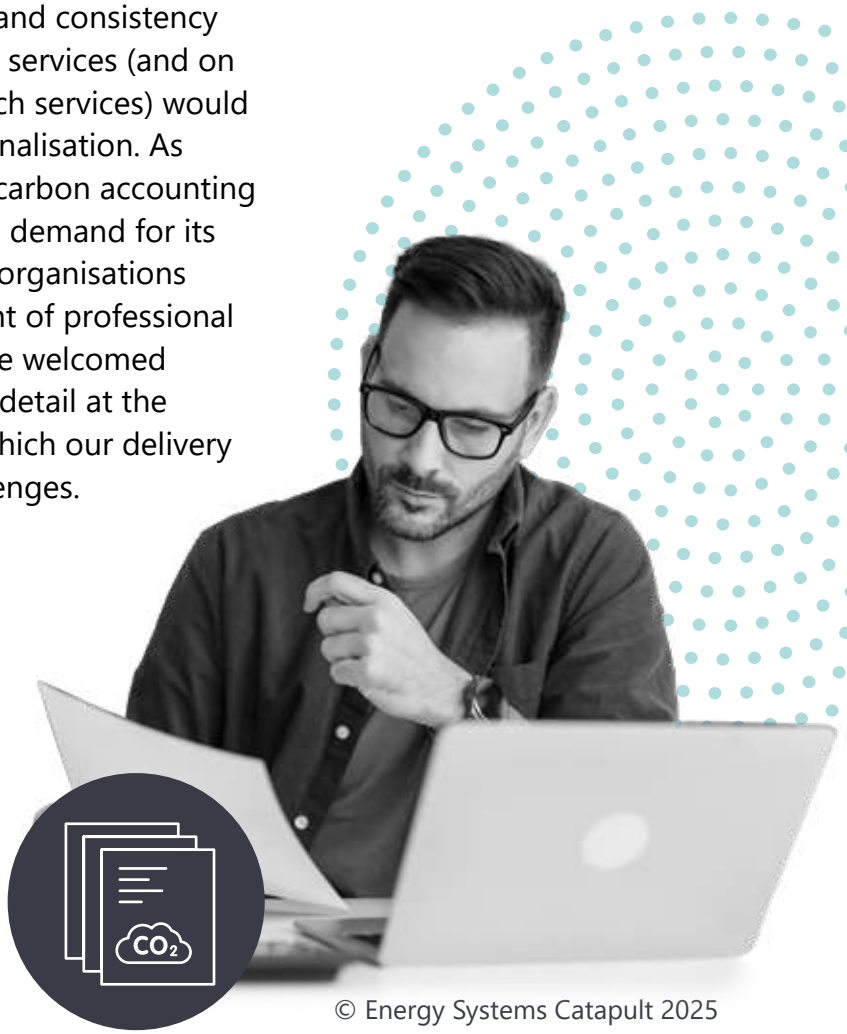

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Table 3. Comparing the capacity of implementation options to improve third-party verification.

	Core DESNZ function	New ALB	EA	ARGA
Extending accreditation mechanisms to third-party verifiers	Average – might find it difficult to effectively monitor and enforce the new requirements	Strong – in principle could be designed to focus on this key initial task, but would need to work hard to compete with other regulators for attention	Strong – although would need to develop a clearer understanding of broader audit and governance regimes	Strong – clear links to professional auditing requirements
Working with industry and education sectors to encourage increased professionalisation	Weak – unlikely to be able to adequately resource ongoing engagement with industry	Strong – could build out relationships as a matter of priority	Weak – not a core strength of the EA	Strong – improving understanding of audit requirements is a core part of its existing remit

4.2 Greater use of standardised emissions factors

Emissions factors are coefficients which are used to calculate and describe the rate at which a given activity releases GHGs, so it can then be compared to other activities. A range of different emissions factors have been developed and are used; the current approach to methodologies is largely voluntary. Even within mandatory MRV requirements for the UK ETS and other regulatory regimes, there remains scope for different approaches. This scope for flexibility has the benefit that it allows for innovation, and for adaptation to the rapidly developing economic circumstances we can expect from increased progress towards Net Zero. However, it also means that comparisons between different sectors and different decarbonisation options are made more complex. Additionally, it has a significant impact on the time and resource needed for businesses to identify and develop or source the relevant emissions factors for their activities.

Annex B sets out some of the issues that need to be addressed, and envisages a role for the Carbon Regulator in working with key sectors to develop standardised emissions factors - thereby simplifying the burden of carbon accounting. This is summarised by Figure 4. The Carbon Regulator should also remain alert to the risks of individual

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sector approaches cutting across each other, or providing incompatible answers. There would also be a need for flexibility – while accredited carbon accountants would be encouraged to work with standard factors where they had been agreed, they could also have the option of developing innovative individual approaches (subject to a requirement to report them to the regulator). Similarly, there may be a need to allow flexibility for businesses applying an ambitious approach to their carbon emissions across global supply chains.

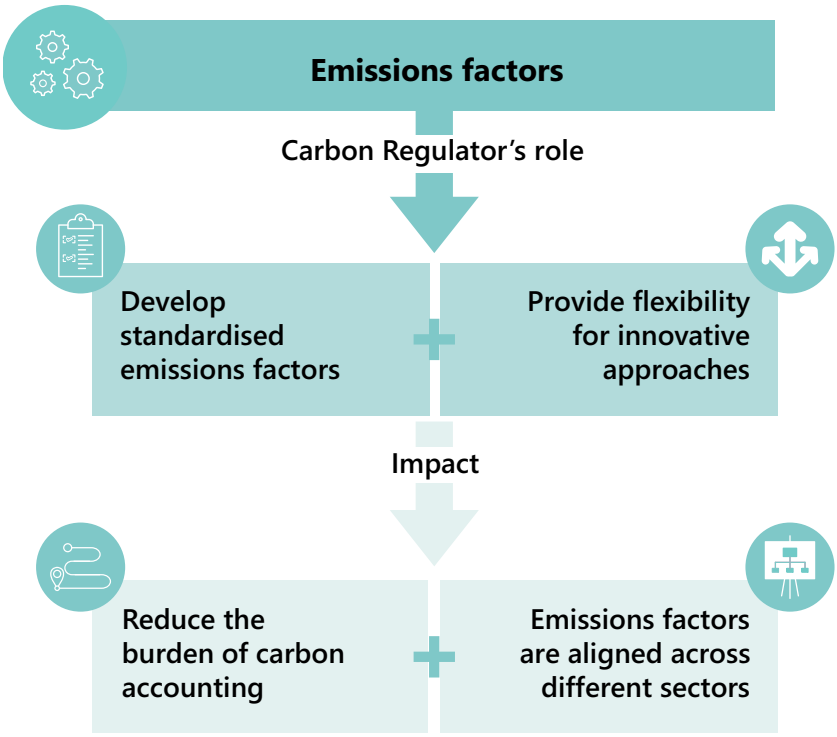

Figure 4. The Carbon Regulator's role in standardising emissions factors.



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Table 4. Comparing the capacity of implementation options to deliver standardised emissions factors.

	Core DESNZ function	New ALB	EA	ARGA
Working with industry to develop standard emissions factors	Weak – challenging for a policy department to maintain the necessary focus on cooperative working	Average – would need to build relationships across industry from scratch, and may add to business perceptions of a complex regulatory framework	Average – a good understanding of sectors with which it has an existing regulatory function; less experience of wider business users	Average – Less understanding of the physical operational needs of specific sectors; wider understanding of business accounting and audit approaches
Maintaining strategic oversight to ensure standard factors do not conflict	Strong – in theory, has a strong understanding of future carbon policy challenges and the need for forward-focused approaches	Strong – as a more targeted option, could be set up with a clear focus on future challenges	Average – should have a good understanding of carbon emissions processes, but would need to work with others (e.g. CCC) to identify potential future conflicts	Average – links to existing work to ensure interoperability across company reports, although less in-house expertise in carbon emissions processes

4.3 Action on misleading claims

In theory, consumer protection legislation can be used to take action on misleading claims about emissions reductions or carbon neutrality. For example, if inaccurate information is used by a business in its advertising and publicity, ASA can press for the advert to be withdrawn or changed. If products or services are purchased on the basis of inaccurate or misleading information, consumers could, in theory, take action against those selling them. The Competition and Markets Authority (CMA) leads sector-specific investigations into misleading environmental claims, and has produced a Green Claims Code, which states that in order to be lawful, any environmental claims about a product or service must: be truthful and accurate; not omit important information; consider the product's full lifecycle; and be substantiated with robust, credible and up-to-date evidence.

However, the current broad licence for different approaches to carbon accounting makes action difficult. A business may have significant scope for claiming that its statements were made in good faith, and consumers might find it hard to demonstrate a specific economic loss they have faced as a result of their purchases.

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However, the CCC, in its 2024 progress report to Parliament, has encouraged government to provide guidance on the use of carbon offsets by businesses.[27] This is a task that could be included in a broader range of rules and guidance on carbon claims, either in relation to individual products and services, or for businesses and other entities.

Figure 5 provides an overview of how the Carbon Regulator could take a role in regulating carbon-related claims. Annex C sets out a more detailed explanation of the problem of misleading claims, and the potential for a Carbon Regulator to make progress in addressing them, by:

- Providing clearer guidance on what role offsets should play, and how to ensure that they genuinely reduce emissions or (ideally) genuinely lead to carbon removals.
- Ensuring that green claims are backed up by analysis by regulated, and therefore reputable, carbon accounting operators.
- Working with ASA to ensure that action is taken on any non-compliant claims about carbon.

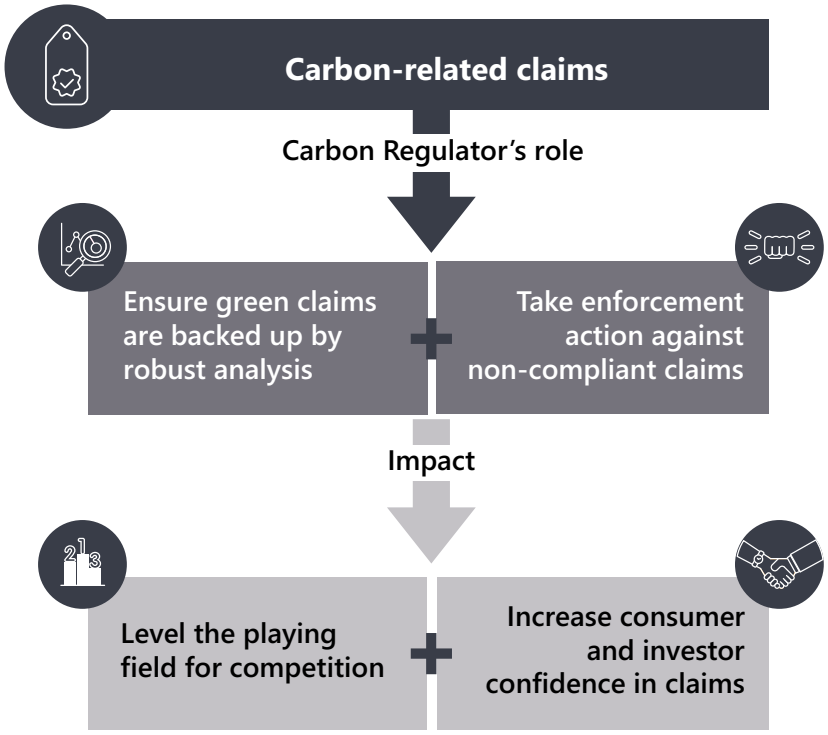

Figure 5. The Carbon Regulator's role in tackling misleading claims.

[27] Climate Change Committee (2024). 2024 Progress Report to Parliament. https://www.theccc.org.uk/publication/progress-in-reducing-emissions-2024-report-to-parliament/

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Table 5. Comparing the capacity of implementation options to tackle misleading claims.

	Core DESNZ function	New ALB	EA	ARGA
Encouraging good quality carbon measurement	Average – generally fair, although follow-up may be challenging	Strong – would be a core responsibility, so could dedicate time and resource	Average – strong understanding of wider sustainability issues, although has not previously covered green claims	Strong – extensive experience of similar professional integrity and data reliability issues from its wider accounting and audit focus
Enforcement action	Weak – would require close collaboration with ASA, which is not a natural interlocutor for DESNZ	Strong – could develop cooperation with ASA as a matter of priority	Weak – would need to develop new relationships with ASA	Strong – ARGA focus on the users of company reports, data and audits makes collaboration with ASA a more natural fit



5 Conclusions and recommendations

As the UK economy becomes increasingly focused on the challenges of Net Zero, there is a strong case for the introduction of a body with regulatory oversight for carbon accounting. Such a Carbon Regulator should be capable of addressing the full range of carbon accounting functions, from detailed measurement of direct emissions; through mandatory requirements for reporting corporate emissions and voluntary approaches to carbon accounting; to the policing of carbon neutrality claims.

There are a number of potential functions that will be required, or which may be valuable, in improving the regulation of carbon accounting. In summary, these are:

- Setting out mandatory requirements for those providing carbon accounting services.
- Putting in place mechanisms to facilitate improved reporting, including digitisation platforms.
- Setting out standardised and default emissions factors.
- Monitoring compliance, and encouraging uptake of best practice on a voluntary basis.

Our assessment is that these require a degree of continued engagement with business sectors at differing levels of intensity - from close engagement in the case of businesses selling carbon accounting services and high-emitting industry, to a more distant monitoring and guidance role in the case of other businesses and organisations. This ongoing, long-term engagement is inconsistent with the flexible resourcing expected of central government departments. The introduction of a wholly new Arm's Length Body would involve additional costs, and would add to a complex institutional landscape.

The most attractive option is therefore to focus on adding to the role of existing bodies. There is some overlap with the existing regulatory functions of the Environment Agency (in England), and equivalent bodies in other parts of the UK. The introduction of the new Audit, Reporting and Governance Authority (ARGA) offers additional synergies, however.

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Summary of recommendations

- **The Audit, Reporting and Governance Authority (currently the Financial Reporting Council) should be given the remit of economy-wide Carbon Regulator**, as opposed to creating a new body. Given the economy-wide coverage of carbon accounting and its increasing relevance to broader reporting and governance requirements, ARGA will be well-placed to adopt these additional responsibilities. There is an opportunity to act now, to ensure these functions are embedded into ARGA's remit under the Audit Reform and Corporate Governance Bill.
- **The Carbon Regulator should initially focus on carbon accounting firms, to ensure they meet appropriate standards for professionalism and accuracy, and to encourage them to use standardised approaches.** This can be supported through the development of professional qualifications for carbon accountants, led by industry bodies and overseen by the Carbon Regulator.
- **The approach adopted by in-house carbon reporting functions should be proportionate.** Where firms are of a size where mandatory sustainability reporting is required, or in cases where businesses make "carbon neutrality" or similar claims, they should be required to ensure that their carbon reporting meets the same standards as are applied to external providers.
- **Over time, the Carbon Regulator will need to develop a consistent approach to mapping emissions across the economy.** This will involve developing the use of standardised emissions factors where possible and working with businesses to understand how best to ensure accuracy while reducing administrative burdens they face.
- **As international efforts to reduce emissions accelerate, the Carbon Regulator should play a key role in developing agreed solutions.** In doing so, the Carbon Regulator can safeguard the competitiveness of UK businesses and ensure that they are well-placed to play their part in the race to Net Zero.

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Annex A: Improving third-party verification and professionalising carbon accounting

Improving third-party verification

Third-party verification of emissions is a key mechanism for ensuring consistency of data, but in turn demands a high level of professionalism and credibility from the businesses offering verification services. It is mandatory in the case of the UK ETS (and in the EU ETS from which the UK system is derived). Many businesses reporting emissions on a voluntary basis, or as a contribution to SECR and CCAs, also make use of similar services. The nature of third-party verification differs between these regimes (with MRV in the UK ETS depending much more on physical assessment of emissions data), but the value and importance of ensuring a separation between the business reporting emissions and the provider of verification is universally accepted. The Carbon Regulator could play a key role in helping the expansion of the sector, including through setting out the requirements for third-party verifiers to be accredited for delivering services in the UK.

Professionalising carbon accounting

The Carbon Regulator should also work with industry, professional bodies, and higher education establishments to map out the development of professional qualifications for carbon accountants. The urgency of this challenge is increasingly stark. As reporting mandates are extended to more organisations, a rapid upscaling of the availability and credibility of carbon accounting services is needed. As Andrew Griffiths of the Carbon Accounting Alliance has commented:

"We will see at least 120,000-150,000 businesses legally mandated to provide carbon emissions data, in many instances including gathering data from their supply chains, which magnifies the impact at least hundred-fold. This strongly indicates that the carbon accounting sector could need to scale from a current position of measuring tens of thousands of companies to millions, in the next three to five years. While experiencing this exponential growth we must simultaneously ensure that the industry scales in a robust and controlled way that continues to develop and enforce best practices."[28]

[28] As quoted on pp23-24 of: Energy Systems Catapult (2024). Operationalising a Carbon Regular - Review of Existing Regulatory Landscape. https://es.catapult.org.uk/report/operationalising-a-carbon-regulator-review-of-existing-regulatory-landscape/



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A major challenge for regulators is ensuring that this controlled development is supported. The Carbon Regulator can play a leading role in this process by setting out clear requirements for businesses offering carbon accounting services – and in our central model for implementation, this would include setting out criteria which firms would need to meet in order to market their services in the UK.

Our proposed focus on carbon accounting and third-party verification providers would work with the grain of existing initiatives in the industry, an example of which is included below.

Register of Carbon Accountants

The Institute of Environmental Management and Assessment (IEMA) – soon to be known as The Institute of Sustainability and Environmental Professionals (ISEP) – is developing a Register of Carbon Accountants.

The Register of Carbon Accountants will promote the effective practice of carbon accounting by setting quality standards based on the knowledge and experience of those involved in the process. IEMA and Carbon Accounting Alliance members are working on matching the appropriate competencies to grades prior to launch. Registration will provide an efficient and effective means by which individuals and consultancies can demonstrate to interested parties (including clients, regulatory bodies, and voluntary reporting schemes) that their individual staff are adequately qualified, trained, and experienced in carbon accounting. The Register will also establish a career path for those involved in the carbon accounting process.

The Carbon Accounting Register will be managed as part of the portfolio of Specialist Registers overseen by IEMA's Professional Standards Committee.

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Future market developments

The markets for both carbon accounting and third-party verification will face a number of pressures over the coming decade and beyond. Downward pressures on cost will come from:

- Increased use of AI, which can provide benefits particularly in navigating the challenges of comparability of data for global businesses dealing with a variety of compliance regimes.
- Increased standardisation of methodologies, including from the Carbon Regulator's role in endorsing standard emissions factors (see Annex B).

Constraints on cost and availability could arise from:

- The lack of a sufficient pipeline of qualified carbon accountants, which is linked to a lack of clarity on what a "qualified carbon accountant" is, and what professional standards should apply.
- The risk that introducing regulatory requirements for those providing carbon accounting services discourages some businesses, at the lower end of the market, from entering it or continuing in it. While this has advantages in terms of data quality, it will place upward pressure on price.

Ensuring that the supply of high-quality third-party providers can match rapidly increasing demand will be crucial to the success of the regulatory approach we outline in this project, and should be a focus of the Carbon Regulator. Existing carbon accounting businesses, such as those represented by the Carbon Accounting Alliance, have indicated a strong interest in improving standards, and in particular in developing qualifications for the growing number of carbon accounting professionals who will be needed to provide the increased services necessary. The Carbon Regulator would need to work with professional bodies and with higher education providers in the UK and beyond to map out existing professional qualifications, and ensure that new curricula are robust.



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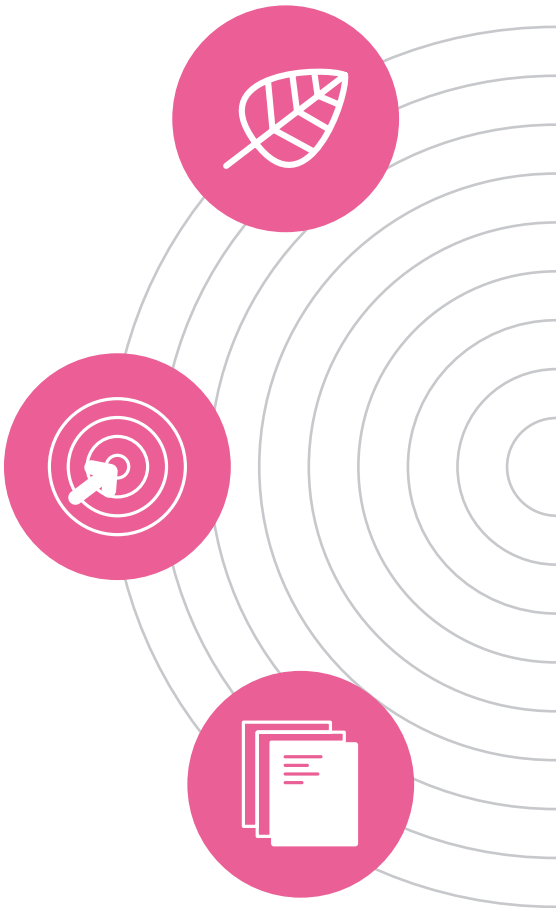
Table 6. Comparing the capacity of implementation options to improve third-party verification.

	Core DESNZ function	New ALB	EA	ARGA
Extending accreditation mechanisms to third-party verifiers	Average – might find it difficult to effectively monitor and enforce the new requirements	Strong – in principle could be designed to focus on this key initial task, but would need to work hard to compete with other regulators for attention	Strong – although would need to develop a clearer understanding of broader audit and governance regimes	Strong – clear links to professional auditing requirements
Working with industry and education sectors to encourage increased professionalisation	Weak – unlikely to be able to adequately resource ongoing engagement with industry	Strong – could build out relationships as a matter of priority	Weak – not a core strength of the EA	Strong – improving understanding of audit requirements is a core part of its existing remit



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Annex B: Greater use of standardised emissions factors

One of the problems of the current approach to carbon accounting in SECR and in purely voluntary approaches is that there is a variety of potential options to address emissions under Scope 2 (energy emissions) and Scope 3 (indirect emissions). In principle, clear standards exist at international level through the development of ISO 14046-1, although in practice this provides broad guidance on organisational approaches to monitoring emissions, rather than detailed guidance on how to calculate emissions factors.[29] Moreover, carbon emissions, particularly for energy use, will vary significantly between economies depending on their energy mix.

Agreeing standardised emissions factors

There is therefore potential for the Carbon Regulator to play a role in helping to develop, and encouraging the use of, standardised emissions factors, to enable a simpler and less ambiguous assessment of emissions. This could focus initially on sectors with an appetite for increased standardisation, including potentially those sectors where representative bodies already have a role in negotiating CCAs. Where standardised factors are agreed, their use could be encouraged – or even mandated – through the accreditation process for third-party verifiers. Verifiers could be required to use the factors where relevant, or – to ensure that innovation and the potential for development of factors is allowed – to report to the Carbon Regulator when they use alternative approaches.

A key benefit of the Carbon Regulator taking on this role is that it should have the capacity to ensure compatibility between emissions factors across different sectors of the economy. The risk of individual sectors deciding on emissions factors on their own is that, while their choices may be appropriate for their own purposes, they could conflict with choices in other sectors, or even cut across the potential for accurately assessing emissions in other sectors (for example, food processors taking an approach to the calculation of transport emissions which makes it more complex for food retailers to assess emissions across their supply chain).

[29] International Organization for Standardization (2018). ISO 14064-1:2018. Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals. https://www.iso.org/standard/66453.html

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Positive impacts of standardised factors

The Carbon Regulator would also be well-placed to ensure that standardised emissions factors are developed in a way that encourages businesses to focus on opportunities for reducing emissions – bearing in mind the distinction between attributional and consequential approaches set out in Section 2.1. It will be important to ensure that approaches which help to assess the current state of responsibility for emissions do not get in the way of identifying opportunities for reducing emissions.

This approach to standardised factors could also address the challenge of Scope 3 emissions in imported goods, or at least provide businesses with a default approach which they could adopt if they do not have complete data available across their supply chains. Where multi-national businesses with an established or transformative approach to addressing carbon emissions are present in the UK (as defined in the Transform to Net Zero guidance referred to in Footnote 21 above), it will be important to ensure that UK-specific requirements do not limit their flexibility.

Table 7. Comparing the capacity of implementation options to deliver standardised emissions factors.

	Core DESNZ function	New ALB	EA	ARGA
Working with industry to develop standard emissions factors	Weak – challenging for a policy department to maintain the necessary focus on cooperative working	Average –would need to build relationships across industry from scratch, and may add to business perceptions of a complex regulatory framework	Average – a good understanding of sectors with which it has an existing regulatory function; less experience of wider business users	Average – Less understanding of the physical operational needs of specific sectors; wider understanding of business accounting and audit approaches
Maintaining strategic oversight to ensure standard factors do not conflict	Strong – in theory, has a strong understanding of future carbon policy challenges and the need for forward-focused approaches	Strong –as a more targeted option, could be set up with a clear focus on future challenges	Average – should have a good understanding of carbon emissions processes, but would need to work with others (e.g. CCC) to identify potential future conflicts	Average – links to existing work to ensure interoperability across company reports, although less in-house expertise in carbon emissions processes

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Annex C: Action on misleading claims

The current range of options available for carbon accounting, particularly for businesses adopting purely voluntary approaches, mean that it can be hard for consumers to understand claims on the carbon content of products and services (such as "carbon free" or "Net Zero emissions" claims). It can also be hard for businesses to understand how they can legitimately make such claims – for example, some businesses may have limited understanding of the real value of the offsets that they are sold in order to justify "carbon neutral" claims. One of the potential benefits of introducing a Carbon Regulator function would be that it could:

- Clarify the meaning of a variety of potential claims.
- Ensure that those responsible for carbon accounting in businesses have clear guidance.
- Work with ASA to take action on misleading claims.

Claims which relate to, or rely on, carbon offsets

Research by ASA identified that "carbon neutral" and "Net Zero" were the most commonly encountered green claims, but that they were used with little clarity on their meaning.[30] There was a range in awareness of green issues amongst consumers, however, even the most engaged consumers tended to assume that "carbon neutral" claims referred to an absolute level of emissions reduction, rather than to the use of offsets. Updated guidance on green claims by ASA provides some clarity on how firms should ensure that full information is provided to back up claims, including, for example, information on the extent to which offsets are used, and the nature of those offsets.[31]

However, ensuring that there is a greater level of public understanding of green claims, while important, is only part of the solution; businesses' own understanding of carbon neutrality and Net Zero needs to be improved. It is genuinely difficult for businesses, which may not have a detailed understanding of carbon regulation or climate science, to decide on how to offset their emissions. There are a range of ways in which offsets can fail to adequately address carbon emissions, particularly through a failure to ensure

[30] Advertising Standards Authority (2022). Environmental Claims in Advertising: Qualitative Research Report. https://www.asa.org.uk/static/6830187f-cc56-4433-b53a4ab0fa8770fc/CCE-Consumer-Understanding-Research-2022Final-090922.pdf

[31] Advertising Standards Authority (2023). Advertising Guidance - misleading environmental claims and social responsibility. https://www.asa.org.uk/resource/advertising-guidance-misleading-environmental-claims-and-social-responsibility.html

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that emissions reductions or carbon removals are genuinely additional to what would have been available in the absence of funding. The increased global coverage of efforts to reduce emissions means that this has become more challenging: while protecting forests or enabling emissions reductions in developing countries may look plausible as a carbon credit, it is now important to ensure that such projects are genuinely additional to the Paris Agreement commitments entered into by countries.[32] The revised "Oxford Principles for Net Zero Aligned Carbon Offsetting" make it clear that:

"Credits must be measured, reported, verified, and correctly accounted for. Credit-generating investments must yield results that are demonstrably additional to what would otherwise have occurred, have a low risk of reversal, and avoid negative impacts on people and the environment."[33]

In addition, it emphasises that credits which are based on reduced or avoided emissions are increasingly problematic, and that those using credits need to significantly increase the proportion of their credits derived from carbon removals. Ensuring that these principles are adequately understood by those making "carbon neutral" claims, let alone those to whom these claims are marketed, will not be simple.

Tackling misleading claims

The Carbon Regulator role can make a significant contribution in a number of ways. The most important contribution would be to ensure that carbon-related claims could only be put forward if they are backed up by data which has been produced by using regulated carbon accounting services. This would ensure that the analysis of product lifecycle emissions was robust. It would also mean that Scope 3 emissions (particularly upstream emissions from inputs to products and services) were adequately measured. Critically, it would ensure that any use of carbon credits was fully in line with best practice, as defined by the Oxford Principles or alternative, similarly robust, approaches.

Secondly, the Carbon Regulator would be encouraged to work with ASA on enforcement. Ensuring that the new standards are effectively communicated to the business sector would be an important step in reducing the number of good faith operators inadvertently in breach. Increasing the voluntary use of regulated carbon accounting providers would have

[32] Given the US announcement in January 2025 of withdrawal from the Paris Agreement, there is also a need to ensure that credits from economies which are not part of the global effort to reduce emissions do not simply create opportunities for other emitting firms to increase their polluting activities.

[33] University of Oxford, Smith School of Enterprise & Environment (revised 2024). Oxford Principles for Net Zero Aligned Carbon Offsetting. https://www.smithschool.ox.ac.uk/sites/default/files/2024-02/Oxford-Principles-for-Net-Zero-Aligned-Carbon-Offsetting-revised-2024.pdf

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the additional benefit of ensuring that more businesses have a clear understanding of their own carbon footprint, how to reduce it, and their potential role in a green transition. Some businesses currently making "carbon neutral" claims might simply withdraw them if they were unable or unwilling to adequately substantiate them. Overall, this would have benefits in reducing the number of confusing or misleading claims.

Table 8. Comparing the capacity of implementation options to tackle misleading claims.

	Core DESNZ function	New ALB	EA	ARGA
Encouraging good quality carbon measurement	Average – generally fair, although follow-up may be challenging	Strong – would be a core responsibility, so could dedicate time and resource	Average – strong understanding of wider sustainability issues, although has not previously covered green claims	Strong – extensive experience of similar professional integrity and data reliability issues from its wider accounting and audit focus
Enforcement action	Weak – would require close collaboration with ASA, which is not a natural interlocutor for DESNZ	Strong – could develop cooperation with ASA as a matter of priority	Weak – would need to develop new relationships with ASA	Strong – ARGA focus on the users of company reports, data and audits makes collaboration with ASA a more natural fit

Each of the options we have outlined in the main report would be capable of delivering this benefit of the Carbon Regulator function. However, the focus of the new ARGA body on the users of company reports and audit information, and the potential for enhanced cooperation with ASA, makes it a more natural fit as the implementation body.

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Net Zero Carbon Policy

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