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Driving emission reductions through the public sector supply chain: Scope 3 procurement emissions

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1. Executive summary

1.1 Background and aims

The purchase of goods, services and works can account for more than 70% of a public body's overall greenhouse gas emissions in Scotland. These are referred to as 'indirect scope 3 emissions'. Targeting action to reduce these emissions could result in significant emissions reduction across public bodies.

However, there are many challenges for public bodies in measuring, comparing and reporting indirect scope 3 emissions. The goal of this research is to provide evidence for practical approaches and tools that public bodies can use to better understand and thereby reduce their indirect scope 3 emissions.

The report includes appendices which provide detail and supporting information, including a review of supply chain emissions and related methodologies and tools, interviews with public bodies, case studies and guidance.

1.2 Key findings

We interviewed and surveyed 72 public bodies and 67 suppliers. We also reviewed 75 relevant supply chain emission and related methodologies and tools.

- 52% of the public bodies we surveyed for this research do not yet calculate their supply chain emissions.
- Spend-based methodologies are the most commonly used among public bodies that calculate supply chain emissions. These methodologies estimate emissions based on

the financial value of goods and services. Such methodologies can be useful to identify the areas of spend on procurement that produce the most estimated emissions. However, they only focus on lowering spend, rather than on reducing emissions, and do not provide sufficient detail on emissions throughout the supply chain. They are of limited use in that they can be used to identify emission hotspots but are not suitable for trends. They can also deter a 'spend to save' approach and perversely favour procurement of cheaper, less environmentally friendly options.

- Public bodies rely on spend-based methodologies due to limited availability of supply chain emissions data, and lacking time or resources to implement more sophisticated models.
- Public bodies are increasingly seeking emissions data from suppliers to help with more detailed understanding of emissions.
- Tools which go beyond basic spend-based methodologies include analytical tools and software which improve data accuracy and detail. They may also allow the public bodies to integrate supplier data, where available.
- Public bodies vary in their approach and use of tools, which can range from free to very costly. Some public bodies may seek to offset the cost of tools by using the data to identify cost savings, which may also result in emissions reduction.
- Some public bodies have limited resources or are unclear where to start and would benefit from a better understanding of supply chain emission methodologies and tools, and their limitations.
- Public bodies vary in their confidence in applying relevant climate requirements within contracts, with some uncertainty regarding relevant clauses and limited use of climate related supplier selection requirements.
- Suppliers face their own challenges, including how to assess and reduce their emissions, and public body requirements, which may include reporting of their emissions into multiple portals or systems.

1.3 Options for action

This summary provides key recommendations only. We provide further details in the report, including more detail on suggested responsibilities.

Our research suggests that the Scottish Government could consider the following actions:

- Provide simple guidance for public bodies which should describe:
    - How they can best assess, track and report their supply chain emissions.
    - What emissions assessment methodologies and tools, and relevant emission factors, are available.
    - How public bodies can best evaluate their use of such methodologies and tools, with detail on the limitations of spend based methodologies.
    - A structured and staged route map or improvement programme to drive progress in all public bodies supply chain emissions analysis, highlighting the need to shift from an initial, spend-based screening to prioritised supplier emissions data flows and greater reliability in assessment, tracking and reporting of emissions.

- The guidance should act as a catalyst to enable public bodies to undertake initial screening assessment of their supply chain emissions. Opportunities to facilitate this may be explored, such as through the addition of emissions data to finance systems, which public bodies may potentially use for their assessment.
- Enable more meaningful reporting of supply chain emissions by requiring public bodies to state what proportion, or amount, of emissions reported is spend-based, supplier specific or other.

The Scottish Government, in conjunction with public bodies, the Sustainable Scotland Network, Procurement Centres of Expertise, SDP and Scottish Enterprise, could:

- Facilitate greater collaboration within the public sector through developing community of practice (a group of practitioners who meet regularly to share lessons and concerns). This would help public bodies share good practice examples, and experience of supply chain emissions tools and methodologies and identify opportunities to collaborate on common procurements and supplier emissions data.
- Work collaboratively with suppliers to highlight the growing focus on supply chain emissions. Specific actions could include signposting to available free tools and support, to help suppliers reliably assess and report relevant emissions.
- Develop or improve a central portal (at national or sector level) which would enable suppliers to report relevant scope 1 and 2 emissions and identify which public bodies they supply to. This would ease the flow of emissions data from suppliers, minimising their reporting burden, while enabling access to suppliers' data by all relevant public bodies.

Our suggestions for public bodies, which may be in conjunction with Procurement Centres of Expertise and others, include:

- Public bodies should identify planned procurements which produce the most emissions (known as 'carbon hotspots'). This forward planning would focus effort where the greatest reductions are possible.
- Public bodies should use the carbon hotspot analysis to help identify relevant actions in the procurement cycle which influence the most positive outcomes, using guidance referenced in this report and lessons from public sector collaboration.
- Public bodies should take steps to shift away from solely using spend-based methodologies to assess and report emissions, by exploring the approaches and tools described in this report.
  An increased focus on practical climate contract management, using available guidance and relevant KPIs, according to the availability of data, and development or enhancement of contract management systems to ease the reporting, recording and collation of climate outcomes.

Any system or methodology is not an end in itself, and all recommendations require follow-up action to address reported emissions.

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2. Glossary

Blockchain	A system in which a record of transactions is maintained across computers that are linked in a peer-to-peer network.
Carbon data flows	The flow of data regarding emissions that contribute to climate change through a supply chain or value chain.
Carbon hotspots	The areas of spend on procurement of goods, services and works which produce the most emissions that contribute to climate change, sometimes called carbon or climate priorities.
Carbon offsets	Organisations may invest in carbon removal or offset schemes to reach net zero, only after all actions have been taken to mitigate emissions.
Category level	Relates to categories of procurement e.g., construction, medical equipment or others.
Centres of Expertise	There are four Procurement Centres of Expertise in Scotland, which between them, provide support and guidance to all public sector bodies. They are: Central Government Procurement, Advanced Procurement for Universities and Colleges (APUC), NHS National Procurement and Scotland Excel (local authorities).
Circular economy	A sustainable system designed to eliminate waste and keep resources in use, creating economic, environmental, and social benefits.
CivTech	A Scottish Government programme to create digital solutions to public sector problems as quickly and effectively as possible.
EAUC	Environmental Association for Universities and Colleges.
EEIO	Environmentally extended input-output (EEIO) tables based on economic transactions between different sectors in an economy, 'extended' with environment-related information.
ESG	Environmental, social and governance (ESG) is used to assess an organisation's practices on various sustainability and ethical issues.
Forward Plan	This provides details of planned procurements of contracts or frameworks over a future period e.g., 2 years, by public bodies or Procurement Centres of Expertise.
GHG Protocol	The Greenhouse Gas Protocol provides standards, guidance, tools and training for business and government to measure and manage climate-warming emissions.
Just Transition	A set of policies and practices which ensures the transition to net zero and climate resilient society is managed in a way that delivers fairness and tackles inequality and injustice.
Net Zero	The amount of greenhouse gas emissions put into the atmosphere and the amount removed will add up to zero.
Primary data	Emissions data based on a supplier's energy and material flows.

Procurement Cycle	Part of strategic commissioning, which includes reviewing the need for procurement, identifying a need, through to managing contracts.
Purchase ledger	This is an account of suppliers of an organisation, documenting from whom the organisation has made purchases, what has been paid for, how much has been paid and how much is still owing.
Recursive	Involving the repeated application of a process to successive results.
Science Based Targets	These show organisations how much and how quickly they need to reduce their greenhouse gas (GHG) emissions to prevent the worst effects of climate change, in line with climate science and to limit warming to 1.5 degrees over pre-industrial levels.
Scope 1	Direct emissions from owned or controlled sources.
Scope 2	Indirect emissions from the generation of purchased energy.
Scope 3	All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, including upstream and downstream.
Secondary data	Model-based data derived from material-based emission factors.
Spend-based supply chain emissions	This estimates emissions for goods, services and works by multiplying procurement spend on these by relevant secondary emission factors (e.g., average emissions per monetary value of goods).
Supply chain	Network of all individuals, organisations, resources, activities and technology involved in the creation and sale of a product or service.
Value chain	All activities which bring a product or service from conception, through the different phases of production, delivery to final consumers, and final disposal after use.

3. Introduction

3.1 Overview of report

This report presents evidence to the Scottish Government on improving the ways in which public bodies and other relevant institutions within NHS Scotland, higher and further education, local authorities, central government family and others, can estimate and target their scope 3 carbon emissions from purchased goods, services and works.

Scope 3 emissions are defined as indirect emissions that occur in the value chain of the reporting public body, of which the purchase of goods, services and works is typically the major source.

The research was commissioned by ClimateXChange on behalf of the Scottish Government and carried out between June and October 2023.

The report begins by briefly discussing background, research aims and outputs and methodology, before setting out findings. We then discuss available tools and methodologies and how these are used in the public sector, before moving to provide climate and procurement support and guidance. We also provide the supply chain and supplier perspective. We conclude by setting out different options for the Scottish Government, public bodies and partners to respond to the challenges highlighted in the research. Our appendices contain information which may be of use to public bodies, such as case studies and examples, and a compendium of tools and resources.

3.2 Background and context

Indirect emissions from procurement of goods, services and works – known as 'scope 3 emissions' - can account for more than 70% of a public body's overall emissions (SSN, 2022). It is therefore important that public bodies target these scope 3 emissions, to reduce their contribution to climate change and contribute to Scotland's overall climate goals of net zero by 2045 (Scottish Government, 2022).

Public bodies are required to report annually on compliance with climate change duties, including how they align spending plans and use of resources to reducing emissions and delivering reduction targets (Climate Change, 2020). They are also required to comply with the Sustainable Procurement Duty (Procurement Reform (Scotland) Act 2014), which requires public bodies to secure relevant economic, social and environmental improvement through planned procurements, including the need to consider and act on opportunities to reduce emissions. These actions should be balanced with the simultaneous duty to facilitate access to procurement for SMEs, the third sector and supported businesses.

There is increasing scrutiny on how public bodies measure, manage and reduce the climate impacts of procurement, such as by Audit Scotland, Environmental Standards Scotland, and the Scottish Parliament.

However, there are many challenges involved in public bodies measuring scope 3 emissions, targeting their reduction, and reporting change. There are many current evidence gaps for the best ways to address these challenges, including:

- What different methodologies and tools are available, what are they useful for, and what new approaches are available?
- What are public bodies currently doing regarding their scope 3 emissions, and what challenges are they facing, considering their resources and other constraints?
- What primary or secondary financial and emission data is needed and available from buyers and suppliers in, sometimes complex, supply chains?
- How can suppliers understand and best respond to customers' requirements on data on climate emissions?
- What is needed to consolidate approaches and learning to enable all public bodies to practically measure, target and report supply chain emissions?

On its own, a focus on measuring and reporting supply chain emissions will not necessarily deliver emission reductions. It is essential that relevant and proportionate requirements are included in contracts and frameworks developed and awarded by public bodies and Centres of Expertise. Identifying whether and how to reduce emissions that arise from within the procurement of contracts and frameworks, is part of the Sustainable Procurement Duty (Procurement Reform (Scotland) Act 2014).

Public bodies may apply actions at relevant stages of the procurement cycle (Procurement Journey 2023). Understanding what public bodies are doing and able to do should help speed up positive change.

Suppliers also face their own uncertainties, especially around calculating their own emissions, making emissions data clear to customers, and understanding the most efficient ways to calculate and report emissions.

3.3 Research aims and output

The research provides evidence to support the Scottish Government in strengthening and extending its guidance for public bodies. Our research aims are:

- To assess different methodologies and tools to help public bodies better calculate the carbon impact of procured goods, services and works, and how these are being used currently in public bodies;
- To assess actions in the procurement cycle that help public bodies better manage contracts in relevant and proportionate ways that actively reduce carbon emissions;
- To provide evidence which supports public bodies to cost effectively meet climate change duties reporting requirements on supply chain emissions from purchased goods, services and works.

The outputs of our research include a compendium of tools and techniques (available in the appendices of this report) which public bodies can use to calculate and report on scope 3 supply chain emissions, many of which are more effective than basic spend-based models. We also considered tools and techniques that can be used to drive meaningful reduction of

supply chain emissions within the procurement and contract cycle, including contract and supplier management. The report aims to avoid tools and techniques that place an unnecessary burden on public bodies and suppliers. This report also identifies examples of actions regarding climate and procurement within procurements by public bodies.

3.4 Methodology

The following is a short summary of the research approach and an overview of the sources that we consulted; see Appendix 1 for detail.

Our methodology was based on interviews with stakeholders, plus review and assessment of available tools. We used desk-based research (including websites, journals, publications, guidance, and standards), attendance at public sector and other webinars, and review of annual procurement reports to develop our understanding of relevant guidance and existing options for calculating and reporting on scope 3 emissions, and related carbon accounting and reporting, supplier assessment and reporting tools.

As well as interviews with public bodies (including those who have evaluated relevant emissions methodologies or tools), we engaged with public bodies through networks (Sustainable Scotland Network, Environmental Managers Forum, Climate and Procurement Forum), and with suppliers of relevant tools. We also conducted two surveys, one with public bodies and one with suppliers, in order to understand public bodies' use of tools, methodologies, application through the procurement cycle, published and other case studies and challenges, and suppliers' carbon accounting and reporting, their use of tools and challenges. Finally, we were also able to draw on evidence from previous related work undertaken by the research team and SSN to provide additional insights in this research.

As part of our research, we reviewed:

- 75 tools and methodologies which enable public bodies to assess and report their supply chain emissions or enable suppliers to identify and report their emissions to public bodies. This is not an exhaustive list; we focused on identifying types of approaches available, with examples, including those used in Scotland.
- Feedback from interviews and discussion with 72 public bodies (approximately 36% of Scottish public bodies), and 50 responses to the survey.
- 67 responses from the supplier survey, together with 30 sources of guidance regarding climate and procurement and over 100 relevant publications.
- All published 2021/22 Annual Procurement Reports (Scottish Government, 2022a).

When we discuss commercial tools, these are only intended as a sample of those available or used by public bodies in Scotland. We are not recommending or endorsing any one tool over another, and this should not be inferred. We are, rather, using them as examples to illustrate possible options.

3.5 The audience for this report

This report provides evidence to the Scottish Government, which will help inform policy decisions and the development of statutory and non-statutory guidance. Readers of this

report may also be public body stakeholders involved in influencing the commissioning and procurement of goods and services, and those responsible for public body climate change activities including reporting on emissions. Readers may also include suppliers involved in business planning, customer relationship, tender and contract management, and sustainability. Public bodies and others outside of Scotland, who may also be grappling with this issue, may find this of interest.

Public bodies are responsible for considering the suitability of the tools, guidance or support referenced to their own needs.

4. Supply chain emissions methodologies and tools

4.1 Background and reporting requirements

The Climate and Procurement Forum is a cross-public sector group of procurement specialists. It was established by the Scottish Government to prioritise climate mitigation effort on planned procurements. To assist public bodies apply the Sustainable Procurement Duty, the Forum has developed a suite of tools and guidance together with e-learning and case studies (Scottish Government 2023a).

Policy note SPPN 3/2022 states: “a mixture of data and narrative reporting in Public Bodies Climate Change Duties (PBCCD) Annual Reports is encouraged, with an increasing emphasis on data over time, and with the opportunity to streamline reporting by using or signposting content in annual procurement reports for Annual Reports” (Scottish Government 2022).

In the 2021/22 Public Bodies Climate Change Duties Analysis 188 public bodies submitted reports, but just 17 reported emissions from procurement (SSN 2022a). 15 of these were from the higher and further education sector using the sector specific HESCET tool.

Within supply chains, there is increasing focus on carbon emission calculation and science-based targets. This is being led by larger organisations in sectors including construction, finance, food and drink, and Information and Communication Technology (ICT). This focus is being driven by the inclusion of scope 3 in environmental disclosure standards, such as the Taskforce for Climate-related Financial Disclosures (TCFD 2023), Sustainability Accounting Standards Board (SASB 2023) and others (Young Seo Jung, 2023). It is usually voluntary for public bodies to report scope 3 emissions under such frameworks, however TCFD recommends they should be disclosed if they are more than 40% of overall emissions (TCFD 2023). Along with public sector requirements, this is driving a developing market for supply chain emissions tools.

In addition, the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard provides: “requirements and guidance for organisations to prepare and publicly report a GHG emissions inventory that includes indirect emissions resulting from value chain activities” (GHG 2023, page 4). The technical guidance supporting this standard sets out methods for calculating scope 3 emissions from purchased goods, services and works,

described and considered in Table 1: (1) Supplier-specific (2) Hybrid (3) Average data (4) Spend-based, in order of how specific the emissions data is (GHG 2023). A public survey by GHG Protocol took place in early 2023 regarding the need, or otherwise, for updates (GHG 2023a) to standards and guidance, including Scope 3. Subject to review by the GHG Protocol secretariat revised standards and guidance may be issued in 2025.

In the market for supply chain emission tools from providers, spend-based methodologies dominate at present, due to challenges with calculating and collecting carbon data across potentially complex supply chains.

Spend-based estimates can help identify so-called 'carbon hotspots', which refer to areas of spend on procurement of goods, services and works which produce the most emissions that contribute to climate change, sometimes called carbon or climate priorities. They can also help identify a focus for internal priorities, markets and suppliers. However, they are of limited value for driving emission reduction, target setting and tracking of supply chain emissions. Increasing availability of supplier emissions data, will help provide a more accurate picture.

4.2 Types of supply chain emissions tools identified by the research

This section briefly defines the types of tools that we evaluated in this research. Readers should note that we did not evaluate every tool or methodology available on the market. We have focused on examples of types of tools, including those being used by Scottish public bodies, which helps public bodies understand how these may help with calculating and targeting supply chain emissions. The types of tools we evaluated for this research are:

- **Supply chain emissions tools:** These are used to calculate emissions from procurement of goods, services and works by public bodies, mainly based on GHG protocol methodologies, described in Table 1.
- **Carbon assessment tools:** These are used to calculate and sometimes report the emissions of suppliers. These tools may be **supplier driven** (those that help suppliers, for example, determine their scope 1 and 2 emissions, for free or at a cost) or **buyer driven** – buyer requests supplier emissions data to be reported to a portal or tool (this may also be used by buyers to help determine overall supply chain emissions).
- **Category specific:** These are tools that assess supply chain emissions for procurement categories. These may reflect 'carbon hotspots' e.g., ICT, waste, textiles, food and drink. It includes the construction and infrastructure sector, which is the most advanced regarding carbon assessment.

We have provided further detail in Table 1.

Supply chain emissions tools evaluated include so-called **'enhanced spend-based'** tools, which try to increase granularity in spend data. Examples include:

- Use of blockchain or artificial intelligence to map detailed carbon factors to any spend data, at category, sub-category or purchase ledger level, as closely as possible.
- Use of life cycle analysis data and average emission factors where available.

- Assigning suppliers an emissions figure (this may be potentially replaced as suppliers provide their own data, enabling comparison with the assigned benchmark).

For example, the E-liability approach proposes tracking emissions through supply chains, in the same way that audited financial costs are, embracing blockchain technologies and recursive methods, tracking details of all transactions within a supply chain. This may bring greater traceability, transparency and efficiency to supply chains while potentially filling data gaps (E-liability 2023a). This approach is being used in beta software developed by a business start-up participant in the Scottish Government CivTech 6 Challenge (CivTech 2021).

Figure 1 below demonstrates how specific the supply chain emissions data may be, according to the availability of supplier emissions data. A calculation method that is more specific is based on data relating directly to supplier activity, rather than using data that is not directly related to their activity (such as spend-based or industry averages). Supplier emissions data may be determined by suppliers (for example using business carbon emissions assessment tools) and buyers using supplier assessment and reporting tools.

The extent to which a greater reliance on supplier data results in improved accuracy in public bodies' supply chain emissions depends on the accuracy of supplier data obtained.

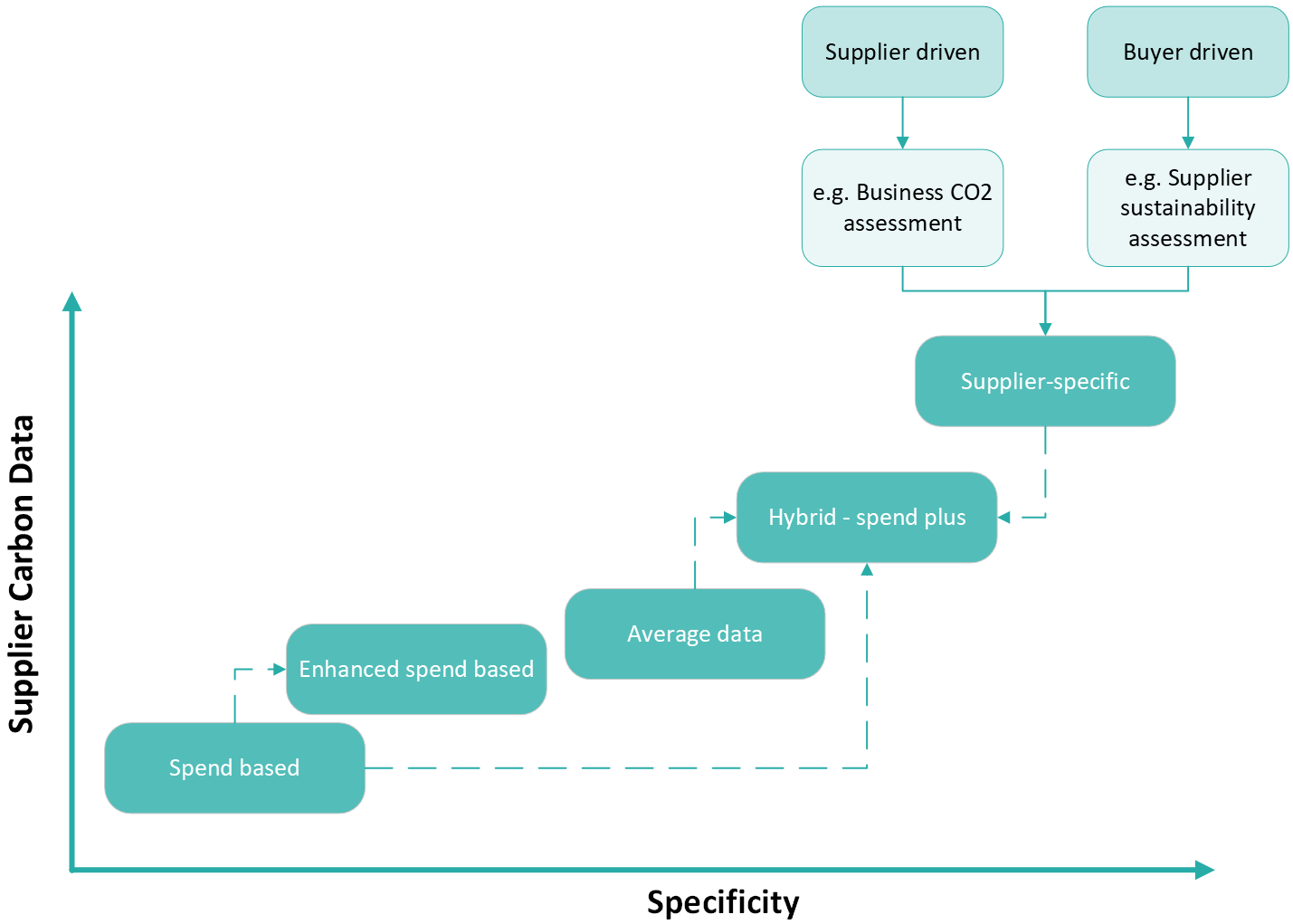

Figure 1 - Shows how tools with greater supplier carbon data are more specific. The dashed arrows show how information may flow from one methodology to another. The image begins with spend-based information, flowing into average data and 'spend plus' data, then moving to supplier-specific data. This then has two down arrows showing that supplier driven and buyer driven data are provide the most specific data.

While Figure 1 shows how emissions data can become more specific as a result of greater reliance on available supplier data, Table 1 provides a summary of supply chain emissions methodologies and carbon assessment tools referenced in Figure 1, including their benefits and limitations, as well as category specific tools, to help public bodies understand how these may be used to make data more specific. A more detailed compendium of tools is available in Appendix 2[1].

Table 1 Details of tool types with descriptions, benefits and limitations and examples (sample only)

Type	Description	Benefits	Limitations	Examples
Supply chain emissions tools				
Supplier-specific data	a. Where available, these tools take data from suppliers to calculate supplier or product-specific emission factor, *OR,* where this is not available: b. Public bodies may obtain scope 1 and 2 emissions from supplier and pro-rata this based on their spend with supplier (turnover/ carbon intensity).	✓ Potentially most accurate method. ✓ Allows tracking of emissions reduction in the supply chain. ✓ Provide good baseline data for emissions management. ✓ Data obtained from suppliers, so evidence of reduction is available. Data may be available from: Supplier sustainability assessment portal (Buyer driven). These seek to obtain primary sustainability information from suppliers, which may be shared across users. They are often free for suppliers to use.	x High effort is required for data collection from many suppliers. x High quality of primary data not always guaranteed. x Is not always integrated with an overall supply chain emissions calculation. x May be significant cost.	EcoVadis Sustain-IQ CDP Supply pilot
Hybrid	Combines the supplier-specific method (data	✓ Pragmatic middle ground.	x May be significant cost.	Ecometrica

[1] **Note:** It is not possible to detail precise costs relating to alternative methodologies and tools. Table 1 sets out an indication of costs as: limited, medium or significant. Commercial tools mentioned are a sample only and no recommendation or endorsement should be inferred.

Type	Description	Benefits	Limitations	Examples
	available from suppliers), with the average-data or spend-based methods, to fill data gaps.	✓ Where data comes from suppliers the benefits reflect the supplier-specific method. ✓ Tracking of progress is possible, in some cases. ✓ Good baseline for emissions management (where primary data shared). ✓ Represents a shift from spend-based estimations to more specific data, improving reliability.	x Where emissions obtained include some from suppliers the limitations set out for supplier-specific data apply. x Where emissions obtained include those based on average data the limitations set out for Average data apply.	Neoni CO_2Analysis
Average data	Emissions are estimated by multiplying quantity, weight or other unit of purchased goods, services and works by emission factors that reflect emissions arising from raw materials extraction until a product leaves the supplier factory ('cradle-to-gate' emissions) (e.g., kilogram of carbon dioxide equivalent emissions (CO_2e) per kg of product) from industry average product and materials lifecycle databases.	✓ Limited effort is involved if emissions are based on industry-average values multiplied by relevant weights. ✓ Can help differentiate between products, unlike spend-based estimates which often reflect broad categories.	x There is limited accuracy when using generic averages e.g., it does not differentiate between a supplier's use of electricity from renewable or fossil fuel sources. x Limited use as an appropriate baseline for supply chain emissions tracking. x Medium cost for the public sector. x Emissions reductions can only be driven by lower unit purchase.	Ecometrica

Type	Description	Benefits	Limitations	Examples
'Basic' spend-based	Supply chain emissions are estimated by multiplying spend on goods, services and works by emission factors from environmentally extended input output (EEIO) databases that reflect 'cradle-to-gate' emissions (e.g., kilogram of carbon dioxide equivalent emissions (kg CO_2e) per £ purchase value). Public bodies may calculate supply chain emissions using the EEIO factors, or they are included in available tools.	✓ Limited effort and cost (depending on the method, tool or support obtained). ✓ Useful for initial screening of carbon hotspots to help with supplier engagement and internal focus. Public bodies may use hotspot results to then obtain scope 1 and 2 data from priority suppliers, to effectively create a hybrid approach.	x Public bodies may need to spend time mapping procurement spend to emission factors, if doing this themselves. x Limited accuracy – usually based on limited spend categories. x Not a useful baseline for emissions management. x Not effective at driving real emissions reduction. x New tool may be required if and when moving away from spend-based estimates.	Use of EEIO databases e.g., DEFRA, EXIOBASE
Enhanced spend-based	Spend-based supply chain analysis using more granular spend-based emission factors that can be more region specific and from more sources. May be a tool or software, potentially using AI to map carbon emissions factors to any spend data.	✓ Provides more specific spend-based emissions estimates at category, sub-category, purchase ledger line or supplier level. ✓ At supplier level this creates a benchmark for supplier categories, sub-categories and sectors. ✓ Provides ability to interrogate data to identify potential cost and carbon savings.	x May be significant cost for public sector e.g., from c£6,000 to £20,000 per annum. x May require greater internal resource than alternative methodologies to use them effectively.	CO_2 Analysis Avarni Neoni

Type	Description	Benefits	Limitations	Examples
Category specific carbon analysis				
Category CO_2 tools	These often use average material emission factors (construction) or EEIO spend-based, for different sectors e.g. ICT, highways, construction, infrastructure, woodlands, waste, textiles, furniture, food and drink.	✓ Provide a lot more detail for a specific category than a supply chain tools (that do not use supplier specific information). ✓ Generally, there is no cost, but these will require time and people resources to use.	x Recommended for use after a carbon hotspot analysis, so will also require the use of other tools and guidance. x Not as accurate as tools which obtain data directly from suppliers.	WRAP Food and drink carbon calculator
Category CO_2 tools	Within the construction and infrastructure sectors there has been significant work on enabling carbon assessment. For example, the PAS2080 standard.	✓ This specifies requirements for the management of whole-life carbon (emissions resulting from the design, materials, construction methods, and operation of a building over its entire life, including its demolition and disposal) in new buildings and infrastructure or management or retrofit. It was a requirement within the Perth and Kinross Council case study (Cross Tay Link Road) - see Appendix 5.	x More suitable for major projects. x Generally free to use but requires internal resources and understanding of buyers and suppliers regarding scope of assessment and good practice.	PAS 2080
Carbon assessment				
Public sector CO_2 assessment	Organisational calculators covering scope 1, 2 and 3. Scope 3 coverage for purchased goods, services	✓ Generally, there is no cost. ✓ A good starting point for an initial organisational estimate. ✓ Tools are usually updated regularly.	x Tools are used independently by public bodies (e.g., written guidance provided).	Those developed by public bodies.

Type	Description	Benefits	Limitations	Examples
	and works is usually spend-based or based on average data (for construction).		x Often spend-based estimates with no integrated path towards more accurate estimates. x Although they may be free, they require time and people resource to use.	GHG Accounting Tool - Local Partnerships
Business CO_2 assessment	Organisational carbon calculators covering scope 1, 2 and some scope 3.	✓ Tools may be free. ✓ Tools are usually updated regularly. ✓ Useful for suppliers to determine their scope 1 and 2 emissions, and to initiate a Carbon Reduction Plan, to potentially provide to buyers. ✓ Data could be reported into buyer driven Supplier sustainability assessment portal or tool.	x There are many such tools or services. x May be fees – which may vary, as may carbon factors used and data from carbon sources. x Doesn't link directly to public body supplier reporting portal or tool.	Examples of free tools: Net Zero Toolkit (Edinburgh Science) SME Climate Hub (UK Business Climate Hub)

4.3 Section summary

To sum up this section, we have described the types of available methodologies and tools that public bodies can use to calculate the carbon impact of procured goods, services and works. There are multiple different tools available, but they can broadly be categorised into supply chain emissions tools, supplier carbon assessment tools, and category-specific tools. There are many different examples of each type of tool available on the market. However, each has specific considerations in terms of pros and cons, and cost, which public bodies should assess for themselves depending on their particular needs, resources and capacity. We now turn to discussing our findings in relation to current challenges faced by public bodies, and how they could use current guidance and resources to intervene in the procurement cycle to reduce emissions.

5. Public sector - use of supply chain emissions methodologies and tools, procurement cycle actions and guidance

Public bodies vary in their approach to, and progress in, assessing supply chain emissions, including the use of methodologies and tools. In this section we set out the key findings from our research with public bodies, including current practices regarding supply chain emissions data and actions in the procurement cycle, and available guidance. As part of our research, we surveyed 48 public bodies.

5.1 Methodologies and tools survey and interview responses

The responses suggest that under half of the public bodies responding have at any time calculated their supply chain emissions. Public bodies who have not yet assessed supply chain emissions cited uncertainty of suitable methodologies and tools and lack of internal resources as key barriers. Of those that have calculated their supply chain emissions, many of these are universities who used the APUC version of the HESCET tool, while other approaches include use of a commercial tool or the application of available emissions factors to procurement spend, and consultancy support. The APUC version of the HESCET tool applies carbon factors which are education specific. The University of Edinburgh has been working with APUC to try to get CO_2 intensity per turnover from suppliers which is then applied to spend by the University, representing a shift to a hybrid approach.

SSN also conducted a survey of local authorities in 2022, which gathered 15 responses. Three local authorities had assessed supply chain emissions themselves, while six commissioned external support or the use of carbon emission impact assessments. Main reasons given for not taking action reinforced those identified during this research, namely a lack of guidance on what is required and how to measure emissions, and limited resources.

Other public bodies which have determined supply chain emissions have used consultancy support, including from the Carbon Trust and others. The Scottish Parliament has, for example, received support to establish a wide base of emission factors beyond basic ones routinely available and has started to work with prioritised suppliers to obtain supplier specific data, such as with their catering contractor.

Three NHS Boards are using a commercial tool, as are Aberdeenshire, Aberdeen City and Highland Councils. The councils stated in discussion that while analytical tools may: “not be cheap, but if a public body has the appetite for using resources and time to interrogate the system, perhaps as part of a change programme, the cost may potentially be offset by analysing line level of data, to identify cost savings, which may also result in carbon savings” (interview with local authority stakeholder). Public bodies that do not have a change programme as described in this quotation may struggle to devote sufficient resources. This is backed up by other public bodies which stated they have concerns about the resources needed to be able to use the outputs from such tools effectively. For example, one stakeholder commented in interview that: “Public bodies need to be clear about what it

(and spend-based methods), does not do as well as what it does" (interview with local authority stakeholder). A few public bodies were aware of software, which applies the E-liability principle (described in 3.2) and had been in discussion regarding a potential pilot.

There is some regional and sector collaboration (e.g., between Ayrshire public bodies). However, some public bodies stated a need for collaboration at national, regional and local level to reduce effort and cost and to maximise engagement and influence with suppliers. For example, one stakeholder suggested that: "Current spend-based analysis is helpful as a proxy for supply chain emissions, but only really rewards reduced spend rather than better spend. Given capacity issues across the sector, wherever possible a sector-wide approach, including training and support, would be welcomed rather than seeing multiple teams take different approaches and duplicate effort" (interview with university respondent).

Where spend data is needed to determine an initial, indicative, analysis of emissions better use could be made of the data flow from finance systems, including that within the Scottish Procurement Information Hub. This allows over 100 public bodies to determine how much they are spending on goods, services and works from suppliers, who key suppliers are, where suppliers are used in common and therefore where collaborative opportunities exist.

Any finance system requires inputted data to be as accurate and consistent as possible, addressing issues with the consistency of coding of spend within finance systems (SPL 2023). A number of public bodies also focused on the need for consistency in datasets for tools and how data is managed across Scotland.

The survey responses and interviews suggest a mixed picture in terms of current awareness and use of supply chain emissions methodologies and tools. 25 (52%) of the 48 public bodies we surveyed do not yet calculate their supply chain emissions. As stated in 3.1, only 17 organisations reported supply chain emissions in 2021/22 as part of the Climate Change Reporting Duties. The research suggests that this number may be higher for 2022/23, but this will be clear when this year's reports are submitted and reviewed. For those public bodies who do calculate scope 3 supply chain emissions, spend-based methods are typically used. There are emerging examples of use of more complex tools and collaborations, however. See Appendix 3 for more details on the survey of public bodies.

5.2 Climate and procurement cycle actions

We now explore the evidence for relevant actions regarding climate in the procurement cycle among public bodies.

Our evidence suggests a mixed picture regarding the application of climate requirements in the procurement cycle. While it is routinely considered as part of a sustainable procurement focus by public bodies, some appear to have limited confidence in applying relevant climate requirements.

There also appears to be limited use of Single Procurement Document Question 4C7, which establishes minimum selection requirements for new contracts where climate change has been determined as a 'Priority' or 'Relevant' for the contract (SPD 2023).

5.2.1 Contract management

The term contract management includes use of key performance indicators (KPIs), collecting specific data on climate outcomes from suppliers, and other activities to manage the contracts to reduce emissions from suppliers.

The Public Procurement Strategy for Scotland states the importance of: "carrying out ongoing proportional contract management to ensure the right outcomes are delivered and the performance of contracts is maximised" (Scottish Government 2023b, page 6). This includes obtaining evidence from suppliers demonstrating compliance with agreed contract conditions, including any related to climate emissions.

It also identifies supplier development as a key enabler, "underpinning successful delivery of strategic objectives and broadening good practice". It encourages public bodies to broaden their response to the climate emergency by: "undertaking early engagement with suppliers in order to support the creation of innovative solutions capable of positively responding to the climate crises" (Scottish Government 2023b).

In general, our research found that many public bodies do not currently apply contract management to reduce scope 3 emissions. The overall impression is that contract management is used inconsistently. For example, a local authority stakeholder said: "sometimes contract management regarding climate emissions is included but not often. We are unclear how to measure emissions; we don't have a centralised way of capturing this, nor a standard methodology."

Turning to KPIs, the evidence from stakeholders confirms that, while some public bodies have set appropriate climate KPIs in contracts, this is not always the case and there is general uncertainty regarding these. For example, one University stakeholder said: "contract and supplier management is poor. It might be helpful to have a set of Key Performance Indicators (KPIs) with guidance. We do ask bidders in tenders to say what they can report on." This was reinforced by a Scottish Government agency who observed that: "we have developed KPIs to be used in contracts but may have to pull back from that as the majority of suppliers cannot provide the data". Overall, the evidence suggests that public bodies face challenges in applying, or tailoring, relevant KPIs due to lack of knowledge on what they can expect of suppliers, and lack of supplier data.[2]

In relation to climate outcomes, a stakeholder commented that outcomes are not routinely collated in dashboard or equivalent. Only one respondent stated they were collating and reporting reductions in supply chain emissions. This can sometimes be due to the responsibility for contract management being dispersed across different stakeholders, for example, this may be within a central procurement team or, alternatively, with devolved procurers, who may have limited knowledge regarding climate and procurement (SPL 2023a). It can also be due to a lack of simplicity in systems to report and collect contract management data and information, for buyers and suppliers.

[2] Appendix 4 provides example climate KPIs that public bodies may want to review for use, where relevant and proportionate, in their contract management.

Stakeholders also identified challenges with data, both in establishing baseline emissions data and in obtaining information about actual emissions arising from delivery of the relevant contract.

These challenges may be due to a contract being a new requirement, with no established baseline, or difficulties in identifying and obtaining emissions data from suppliers that specifically relates to the contract, ensuring that contract management requirements do not place an unnecessary burden on suppliers. These data challenges mean it can be difficult to quantify the impact of relevant actions regarding climate in contracts and therefore show how procurement is supporting emissions reduction goals.

Later in this section, we provide guidance which includes contract management examples.

5.2.2 Supplier management

Our research emphasises that working with suppliers collaboratively is important to promote and enable the most positive outcomes. This includes working positively with incumbent suppliers to discuss whether they may be able to support the public body's climate objectives. It is also important for the public body to be able to highlight available support if it is needed.

Where the contract represents a climate priority the contract may require continual improvement and keeping up to date with best practice in the suppliers' sector. It may also require suppliers to focus on upskilling and on specific climate actions within their own supply chains.

Appendix 4 provides guidance on the application of relevant climate actions through the procurement cycle. This highlights the importance of making the right decisions early. It includes suggestions regarding contract and supplier management.

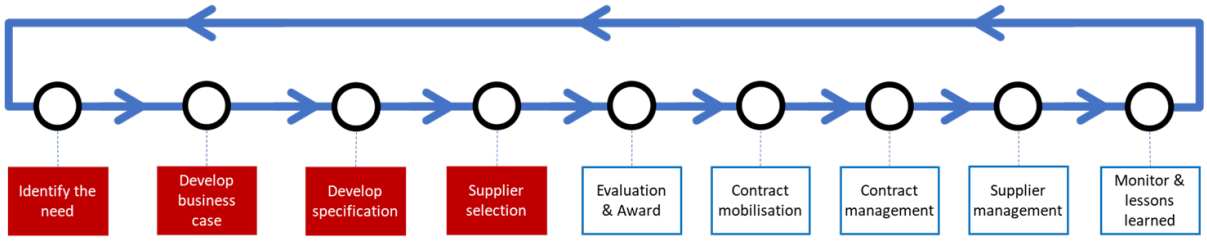

Figure 2: Procurement cycle used in Appendix 4 to highlight relevant climate actions. The red shading highlights critical stages, when making the right decisions early can result in the most positive, and relevant and proportionate, requirements and outcomes.

5.3 Climate and procurement case studies and examples

There are several published and unpublished case studies or examples of public bodies managing contracts for climate goals, but these are not extensive, and some just reflect short references within, for example, Annual Procurement Reports. The published case studies identified highlight the processes the public body went through to enable a positive outcome, together with lessons others can learn from. Other examples focus on outcomes only without providing this level of detail.

Published case studies are mainly those available from the Sustainable Procurement Tools platform (Scottish Government 2023a) and the Interreg North Sea Region ProCirc circular procurement project (ProCirc 2023).

Appendix 5 provides details, including how these relate to the procurement cycle.

Others identified during the research, which may be developed in due course include: Heat in Buildings Scotland National Scheme (Scottish Government 2023c); Strathclyde University rebuild of existing infrastructure rather than new build, saving lots of embodied carbon; and NHS Assure heat pumps and power purchase agreement.

5.4 Climate and procurement guidance

Tools and guidance exist to help public bodies regarding climate and procurement. The research has focused on publicly available resources, while also recognising that public bodies may have produced internal guidance.

Public bodies can find guidance in various locations online, such as the Scottish Government Sustainable Procurement Tools platform, Zero Waste Scotland and APUC. Public bodies have stated a preference for relevant guidance to be easily accessible from one source.

The available guidance can help public bodies focus on how to identify carbon hotspots, and how to address specific climate change topics within procurement (e.g. energy, vehicles, embodied carbon, climate change adaptation, waste and resources) or for specific procurement categories.

The Scottish Government Sustainable Procurement Tools platform includes a suite of tools and guidance (Scottish Government 2023a), with 2,500 registered users across 360 organisations within Scotland and elsewhere. This includes:

Prioritisation Tool: designed to assist public bodies with early-stage strategic planning, and bring a standard, structured approach to the assessment of procurement spend categories or planned contracts within a Forward Plan. The Prioritisation Tool, while not putting an emissions number against spend categories or planned contracts, may be used to identify carbon hotspots. This has, for example, been used by the Scottish Government and others to focus effort on climate change and procurement.

The Sustainability Test (and Life Cycle Impact Mapping): these can be used by public bodies to identify where in the life cycle of a planned contract or framework, sustainability, including climate change, risks and opportunities occur, with subsequent proposals to address these in the procurement. Help is available for public bodies with model sustainability tests within the platform, including for: Facilities Management, Laboratories including equipment, consumables and maintenance, Vehicle maintenance and repair, Tyres, Cleaning Products and Services, and Buildings Retrofit, with more to follow.

Sustainable Procurement Guidance: this helps public bodies understand how to address specific topics through the procurement cycle, such as that which is directly or indirectly related to climate change: Climate Change (energy, vehicles, embodied carbon, adaptation),

Materials scarcity and security, Waste and efficient resource consumption, including links to the circular economy, Biodiversity, Employment, skills and training. The guidance includes some example procurement clauses and KPIs.

e-learning: the platform also includes 'Climate Literacy' and 'Circular Procurement and Supply' e-learning, designed to help all public body stakeholders involved in procurement understand the role of procurement in enabling climate and circular economy objectives.

Other relevant guidance includes:

- GHG Protocol Technical Guidance for Calculating Scope 3 Emissions
- Guidance for public bodies on use of standardised statement 4C7 in Single Procurement Document (Procurement Journey 2023a).
- Category specific guidance from Zero Waste Scotland regarding procuring resource efficient construction projects and procuring for a circular economy.
- Category specific guidance from APUC.

Appendix 6 provides further details on these and other guidance.

6. Supply chain perspective

6.1 Supplier survey

We received 67 survey responses, the majority being SMEs, from suppliers to the public sector from a broad range of sectors including architecture, laboratory equipment, taxi services, engineering, waste, healthcare, and others. This is a very small sample (approximately 0.5%) of the suppliers registered on Public Contracts Scotland (PCS 2023), so cannot be said to be representative. However, it still provides some useful insight.

We were interested in finding out about suppliers' experiences in dealing with their own emissions, how they record and monitor data from emissions, and what kind of guidance they may need in working more effectively with public sector buyers. Of those businesses who responded, 22 (33%) indicated that they have calculated their business scope 1 and 2 emissions. 19 (28%) stated that they have calculated emissions from their purchase of goods and services using a spend-based approach. Only three applied industry averages, with two using the Business Carbon Calculator, linked from the SME Climate Hub (SME Climate Hub 2023). Four had support from consultancies. 40 (60%) of the suppliers state they have a Carbon Reduction Action Plan or similar in place.

Given that public bodies are increasingly looking for supplier emissions data to replace spend-based estimates, the survey results indicate this is constrained by data gaps, with the potential need to help suppliers understand how to assess and regularly report emissions.

Appendix 7 provides further supplier survey details.

6.2 Supplier carbon accounting and support

As shown in Table 1, there are many tools, consultancies and business support organisations available to help suppliers determine scope 1 and 2 emissions. One example is the Net Zero Toolkit, developed by Edinburgh Science. This is a free resource to help SMEs build a carbon reduction strategy (NZT 2023). It is being promoted by some public bodies, by the Supplier Development Programme, in the Supplier Journey, with support from Zero Waste Scotland and Sustainable Scotland Network (SDP 2023, Supplier Journey 2023). The SME Climate Hub also provides a free resource, which was referenced by a few suppliers, and which includes the Business Carbon Calculator (SME Climate Hub 2023).

In addition, there is consultancy support and tools, providing support to suppliers regarding net zero. This includes the Net Zero Academy from Scottish Enterprise which can provide Scottish companies with expert advice and guidance on how to develop their own net zero plans. The free to use Net Zero Accelerator tool from Scottish Enterprise also can help the business "work towards a net zero future using practical, inclusive and data-led solutions" (Scottish Enterprise 2023) and aligns with policy asks for 'relevant' procurements that are described in SPPN 3/2022 and described below.

6.3 Supplier assessment and reporting

There are also a number of tools or platforms for public bodies and others to encourage or require data and information from suppliers. These may not be specific to carbon emissions, in the context of increasing amounts of other information also required for broader sustainability assessments. This includes CDP, EcoVadis and others.

Public bodies should ideally not require suppliers to input into various systems or portals. This is because it can create a burden for suppliers as it duplicates required effort. Some sectors are encouraging or requiring the use of a single route for information and data sharing, such as the NHS Evergreen Sustainable Supplier Assessment, enabling suppliers to share sustainability information across the sector (NHS Evergreen 2023).

Public bodies may seek information from businesses interested in bidding for a public body contract regarding their carbon reduction plan. This is typically as part of minimum selection requirements within statement 4C7 in the Single Procurement Document, where climate change has been determined as a 'Priority' or 'Relevant' for the contract. This is designed not to be onerous for buyers or suppliers, but its use so far appears limited (SPD 2023).

6.4 Section summary

While public bodies are increasingly looking to suppliers to provide emissions data, evidence obtained highlights challenges many suppliers can face with providing this data, particularly where they may be required to report emissions across multiple systems or portals. Public bodies may be able to ease supplier burden by help suppliers better understand what they will reasonably require and simplifying reporting processes, while signposting to available support, particularly for SMEs.

7. Recommendations and options for action

Based on our research, we have found evidence for particular courses of action that the Scottish Government, public bodies, and partners could consider improving confidence, reliability, consistency, cost-effectiveness and collaboration in public bodies and supply chains. We have set the below options for consideration out by first explaining the specific challenge that the recommendation could address, then suggesting the responsible body or bodies.

7.1 Supply chain emissions - data reliability

Risk or challenge addressed – the link to findings		
Suppliers and public bodies are uncertain about the best option for them in calculating and monitoring their scope 3 emissions. There are also gaps in available data in the supply chain, and uncertainty in suppliers about what public bodies require.		
Action reference	Recommendations – enabling mechanisms	Responsibility
SC1	Provide simple guidance for public bodies (ensuring that all relevant guidance is easily accessible and searchable) on: • 'Climate and Procurement', which should provide introductory advice on what the focus on climate within procurement means for public bodies. • Supply chain emissions assessment methodologies and tools and emissions factors available, their use and limitations, with key evaluation criteria. • A structured and staged route map or improvement programme, from initial screening to improved prioritised data flows and greater reliability and accuracy in assessment, tracking and reporting, enabling bodies to understand the improvements gained by going through the stages. Figure 3 provides an example. This highlights, under the ACTIONS column, starting with a spend-based analysis to identify carbon hotspots, to prioritise supplier emissions data, enabling more meaningful action and reporting of supply chain emissions. The RESOURCES column identifies relevant sources of information and data (spend data may be at category level or purchase ledger level according to available data and the level of granularity required, as well as tools utilised).	Scottish Government

SC2	Promote knowledge-sharing of methodologies, best practice, experiences and lessons learned to encourage collaboration. This includes experiences of initial screening, use of enhanced analytical tools or software, climate and procurement management and identification and sharing of examples. Collaboration is dealt with in more detail in section 6.4.	Sustainable Scotland Network Procurement Centres of Expertise Public bodies
SC3	The guidance in SC1 should act as a catalyst to enable public bodies (that need it) to undertake initial screening assessment of their supply chain emissions, while ensuring public bodies recognise the aims and limitations of this first step and the need to progress beyond this. Opportunities to facilitate this may be explored, such as through the addition of emissions data to finance systems, which public bodies may potentially use for their assessment.	Public bodies
SC4	Improve the availability, reliability, consistency and ease of reporting supplier specific data through: • Enhanced promotion of free tool(s) and support, such as available from Scottish Enterprise, including in market engagement and contract notices, and highlight the role of suppliers in cascading, collecting and reporting emissions from their supply chain. • Improve supplier data flow, from supplier carbon assessment, 4C7, other tools and supplier engagement, with public body supplier specific emissions data requirements. • Use existing sector specific reporting tools to collect available supplier specific data where possible. • A potential central portal (at national or sector level), complying with data protection requirements, enabling suppliers to, easily and for free, report scope 1 and 2 data, and identify which public bodies they supply to, minimising their reporting burden, while enabling access to a supplier's data by relevant public bodies.	SDP, Scottish Enterprise, public bodies, Scottish Government Procurement, Centres of Expertise
Rationale for recommendations		
The suggestions address a patchwork of inconsistent approaches and duplication of effort and cost. They are intended to cost-effectively support public bodies in assessment, tracking and reporting of meaningful emissions, recognising data gaps and the need to		

speed up the shift from a reliance on spend-based estimates to reliable supplier specific data. The staged approach recognises that public bodies who are uncertain how to progress need guidance and help, while those who are more developed in their approach should not be expected to go back to basics but encouraged and enabled to progress further. It eases the provision of reliable supplier emissions data.

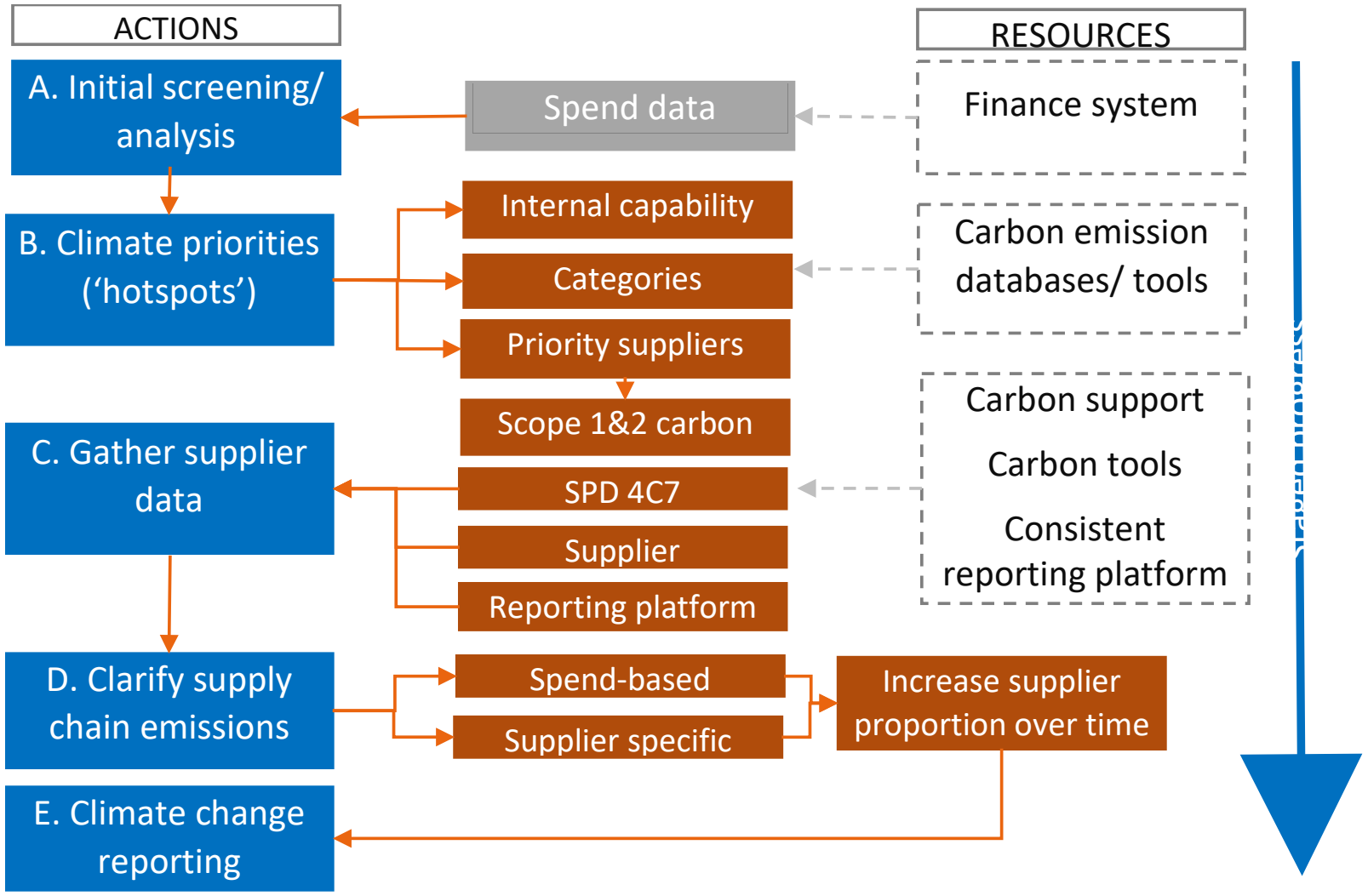

Figure 3: Simplified route map to analyse supply chain emissions. The figure shows in graphic form the steps described in this chapter (Chapter 7).

7.2 Climate change reporting requirements

Risk or challenge addressed – linked to findings		
As evidenced, there is little supply chain emissions reporting by public bodies, reflecting uncertainty, resource constraints and variable approaches within the public sector. An increase in reporting of spend-based emissions on its own is not meaningful. It may be a starting point, as long as public bodies are able to shift to more reliable data over time. There is a need for increased, robust, reporting of climate emissions data.		
Action reference	Recommendations – enabling mechanisms	Responsibility
R1	Enable more meaningful reporting of supply chain emissions by: • Requiring public bodies to state what proportion, or amount, of emissions reported is spend-based, supplier specific or other. • Enabling suppliers to report emissions centrally or identify which public bodies they supply to.	Scottish Government
Rationale for recommendations		
The suggestions seek to improve the quantity and quality of reporting in line with the route map. This allows all public bodies to progress, enabling more transparent and clear internal reporting to, over time, demonstrate real reduction in supply chain emissions. Sharing data, where possible, can fill gaps and improve sector-wide knowledge and skills while minimising the burden on buyers and suppliers. It also enables alignment with continual improvement, and reporting in Annual Procurement Reports and the Procurement & Commercial Improvement Programme (PCIP 2023).		

7.3 Embedding climate action in procurement cycle

Risk or challenge addressed – linked to findings		
The recommendations reflect evidence that public bodies are routinely considering climate as part of sustainable procurement, but with inconsistencies and uncertainties.		
Action reference	Recommendations – enabling mechanisms	Responsibility
PC1	Make the link from identification of carbon hotspots to planned procurements (i.e. within a Forward Plan). The infographic at Appendix 4 sets out how climate actions at key stages in the procurement cycle influence the most positive outcomes.	Public bodies

PC2	Enhance the emphasis on market and supplier development and relationship-building; to include messaging to carbon hotspot markets and suppliers regarding the need for continual improvement, while supporting suppliers who need help.	Procurement Supply Group, public bodies
PC3	A specific focus on climate contract management, with greater understanding of relevant climate KPIs and their use according to availability of data, to ensure relevance and proportionality. Develop capability and adjust contract management systems as necessary to ease reporting, recording, and collating of climate outcomes.	All public bodies
Rationale for recommendations		
The suggestions support the need to ensure the right decisions may be made early, involving all relevant stakeholders. It aligns relevant actions within the procurement cycle with carbon hotspots. They also build confidence in the application of relevant climate requirements. The suggestions are also intended to improve evidence and meaningful reporting, as well as provide increased clarity to key suppliers and markets.		

7.4 Collaboration across public sector and UK

Risk or challenge addressed – linked to findings		
The evidence indicates duplication of effort and cost by public bodies, some good practice examples regarding climate and procurement, but also uncertainty. There is also some sector and cross-sector collaboration, but this may not be consistently applied.		
Action reference	Recommendations – enabling mechanisms	Responsibility
C1	Greater collaboration within the public sector and with supply chains is essential to consolidate learning, data, and systems to move forward efficiently and rapidly. Existing collaboration is valuable, such as within the cross-sector Climate and Procurement Forum, networks such as Heads of Procurement, the SSN, Scottish Local Government Procurement Forum (SLGPF) and public bodies. However, to address duplication and variable approaches, while improving clarity and consistency, a community of practice, reflecting aims agreed by the Forum, may be established. This helps the identification and sharing of local, regional and national good practice examples, and public body experience of supply	Scottish Government SSN Procurement Centres of Expertise

	chain emissions tools and methodologies. This also provides further evidence to inform future policy and process.	
C2	Continue cross-border engagement and sharing of Scotland's plans and measures to set lead and vision for the 4 UK nations and others.	Scottish Government
Rationale for recommendations		
Enhanced collaboration between public bodies is essential promote the wider engagement and involvement of key stakeholders, prevent duplication of effort and costs, and ensuring greater consistency and reliability. Increasing collaboration may also maximise cost effectiveness by identifying and collaborating on commonality of procurements and suppliers, supplier engagement and data capture. It also promotes consistency while a forward vision helps tool developers, public sector and business support organisations and suppliers with greater clarity and enable better services.		

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9. Appendices

9.1 Appendix 1: Research methodology

The methodology for this research was as follows:

1. Development of a research framework.

This was structured based on:

A. Climate and procurement focus – defining 'climate and procurement' as a focus on:

Climate – Energy

Procurement of energy-using equipment or the use of energy in the delivery of a service that is being procured, the aim being to minimise or, where practicable, avoid carbon emissions.

Climate – Vehicles

The use of vehicles in the delivery of products, materials, equipment or services procured, the aim being to minimise or, where practicable, avoid carbon (and other air pollution) emissions.

Climate - Embodied carbon

Procurement of products, materials or assets that are known to be energy/carbon intensive in their production, having high levels of 'embodied carbon', the aim being to minimise or, where practicable, avoid carbon emissions.

Climate – Adaptation

Procurement of supplies and services that may be vulnerable to the effects of known and anticipated climate change, the pace of which is accelerating, and for which climate resilience is important e.g., construction projects, supplies sourced from areas known to be vulnerable to climate change impacts in the lifetime of the contract.

This analysis has also applied criteria which reflect related environmental risks and opportunities that impact on carbon, as well as socio-economic criteria regarding relevant skills needed to address climate change, while ensuring a 'Just Transition' to Net Zero:

Materials – Scarcity and security

Procurement of products or services that contain materials that are known to be scarce or unsustainable, with the opportunity to reduce use of primary materials and utilise sustainable and low carbon materials.

Procurement of products or services from sources that are potentially vulnerable to supply disruption, due to climate change.

Waste and efficient resource consumption

Procurement of products or services that may result in the production of waste and minimising that waste and the use of resources in accordance with the waste hierarchy and legal requirements. This reflects a zero-waste goal of preventing unnecessary resource use

and using resources as efficiently as possible - e.g., carbon impacts of waste and circular approaches.

Biodiversity

Procurement of products or services that have potential negative impacts on biodiversity or there are opportunities to enhance biodiversity - e.g., risks to ecosystems and 'carbon sinks', opportunities to protect or enhance the natural environment to help address the Climate Emergency.

Employment, skills and training

Procurement of goods, services or works where training and skills development relating to climate change mitigation or adaptation is considered to be relevant and proportionate - e.g., enabling a workforce with skills that will be prized for the new economy, through upskilling and cross-skilling, in a fair and effective way.

This includes "going beyond high-emitting industrial sectors to consider all sectors of our economy that will have an important role to play in a transformed, net zero economy[3]."

The involvement and development of SMEs, the third sector, and supported businesses where they have or may develop the skills to support the transition to net zero, including innovative approaches.

B. **Supply chain emissions tools and methodologies and related carbon accounting tools -** to enable an objective assessment of these.

C. **Public bodies and other institutions** – the range of sectors, organisations, defining their 'maturity' in supply chain emissions measuring, monitoring and tracking.

D. **The supply chain** – to reflect the range of suppliers, defining 'maturity' in supply chain emissions management and evaluation criteria.

E. **Climate and procurement actions** – defining the stages to review relevant action on climate.

F. **Climate and procurement case studies** – a focus on published and unpublished case studies and other examples which may include brief mention by public bodies.

2. A desk-based study

To gather data and information on the topic areas featured in the research framework. This includes review of published literature, including academic research, public sector and other relevant documents.

An initial search for secondary sources was conducted using defined search terms.

The study was supplemented by literature provided by public bodies engaged with. The Bibliography provides details of key literature and documents reviewed.

3. Engagement with tools providers

[3] Making the Future

Based on the initial desk-based review, specific tool providers were contacted to obtain or clarify information, as relevant.

4. Engagement with public bodies and others

This was indirect, through public sector networks, specifically Sustainable Scotland Network, Climate and Procurement Forum, EAUC, Environmental Managers Forum, GHG Protocol Scope 3 review.

It was also via a survey. Information was sought from public bodies through a short survey, advertised through the above relevant networks as well as directly to some public bodies.

Direct engagement with public bodies was either in response to information provided in a survey response to obtain further detail, initial findings from desk-based study or to ensure, as much as is possible, a representative sample of public bodies.

5. Supplier perspective

A supplier survey was made available. This was intended to obtain important supplier perspective on climate and procurement. A survey was advertised through the Public Contracts Scotland newsletter.

9.2 Appendix 2: Supply chain emissions, and related, tools and methodologies

The following table provides:

- A summary of some supply chain emissions calculation, supplier assessment, business carbon footprinting and related tools.
- This is not an exhaustive list of all tools available or those evaluated during the research, but focuses on examples of types of tools, as described in 3.2, Table 1, including those being used by Scottish public bodies. **Inclusion of commercial tools does not imply a recommendation or endorsement – potential users should obtain relevant information when evaluating these.**

Table 2 is colour coded as follows:

Tool type	
Basic spend-based supply chain emissions calculation	
Enhanced spend-based supply chain emissions calculation	
Supplier sustainability assessment	
Business carbon footprinting	
Category specific - food and drink, construction and infrastructure	
Digital finance services	
Public sector climate change assessment	

Table 1: Summary of example supply chain emissions and related tools.

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
Defra	Basic spend-based supply chain emissions calculation	Not applicable; solely for initial screening	Provides GHG emissions factors for 108 categories (2020 data). Calculated by University of Leeds.	Free, but time and people resources needed to map to procurement spend.	N/A	Widely used in the UK as screening tool.

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
Defra Table 13	Basic spend-based supply chain emissions calculation	Not applicable; solely for initial screening	Spend-based approach and emission factors for limited range of high-level categories – developed many years ago. **Now not promoted as latest emissions based on consumption analysis.**	Free	N/A	Has been widely used in the UK. Still referenced by some public and private sector organisations.
Quantis	Basic spend-based supply chain emissions calculation - now withdrawn	Not applicable; solely for initial screening.	**This was a free basic screening tool, used by some public and private sector organisations. It was withdrawn from use by GHG Protocol in August 2023.**	N/A	N/A	N/A
APUC version of HESCET	Enhanced spend-based supply chain emissions calculation	May be used in conjunction with EcoVadis to enable HEFE to obtain sustainability information from suppliers (not specifically carbon data).	A spend-based emissions analysis, using sub-categories specific for HEFE, drilling down to suppliers.	Free	Limited support.	Specific to Higher and Further Education (HEFE) institutions. EcoVadis is being used by a few.
Neoni	Enhanced spend-based supply chain emissions calculation	Can invite suppliers (for free) to provide data.	Uses a financial accounting approach which is aligned with the E-Liability Institute method, while seeking to drill down to supplier data.	Free version and paid tiers available.	Software solution.	A Scottish business (https://isum.io/), winner of Scottish Government Civtech 6 Challenge 1 pre-commercial procurement. A start up business that has been in discussion with some public bodies

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
						to pilot the software.
CO_2Analysis	Enhanced spend-based supply chain emissions calculation	Supplier specific data for suppliers using CDP/EcoVadis	Uses artificial intelligence to map purchase order level data to emission factors, down to supplier level.	Fee Range of c£10k-£20k per annum (subject to quotation).	Support for input data and outputs; user analyses outputs to identify potential anomalies/ savings (£ and CO_2).	Use by Scottish Public bodies; a few local authorities and NHS Scotland Boards
Normative	Enhanced spend-based supply chain emissions calculation	New tool called “Engagement" allows organisations to collect data from suppliers. This not currently automatically integrated into overall supply chain emissions analysis but due to in later version.	Spend-based approach, stated to use multi-regional EEIO databases and factors.	Targeted at larger organisations (>200 employees). Fee varies depending on the size, sector, complexity of supply chain.	User support and support for data collection and verification.	Used overseas. Starting to work in the public sector in the UK
Ecometrica	Enhanced spend-based supply chain emissions calculation	Spend data can be supplemented by supplier specific data or average data.	Emission factor database from >100 publicly available sources. More granular than basic tools.	Fees range from £1700 - £2000 per annum for a 3-year agreement to £10,000 - £20,000 pa.	System set up by analyst team and ongoing support provided	Have engaged with a few and have a contract with a public body.

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
Avarni	Enhanced spend-based supply chain emissions calculation	Can invite suppliers (for free) to provide data through Supplier Mobilization	Can be used to determine public sector body's scope 1, 2 and 3 emissions.Uses AI to analyse procurement spend data from user (at whatever level this is; ideally purchase ledger line), potentially drilling down to suppliers. Can invite suppliers to input their emissions data for free.Can be used for net zero modelling.	Fee - range of c£10k-£15k pa	Provides platform support, as well as implementation support, as part of the subscription	Started and used overseas - now starting in UK (e.g., City of London Corporation).An example of spend-based tool that uses AI to analyse data at a granular level - through machine learning to map emission factors to any spend data, as closely as possible
Carbon Trust	Enhanced spend-based supply chain emissions consultancy	Supports supplier specific data - hotspots identified to enable supplier specific data to be obtained.	Wide emission factor base beyond common publicly available sources, so granular data.	Fee is bespoke, according to requirements	Support provided	Used by Scottish Parliament
Sustain-IQ	Supplier sustainability assessment	Designed for supplier specific reporting	Environmental, social, and governance (ESG) reporting solution. Within scope 3 focus on construction materials, some other products (e.g., food) and transportation of procured goods	Fees range from c£10k-£17k plus set up fee	Onboarding process and ongoing support.	Being trialled by Aberdeenshire Council
Ecovadis	Supplier sustainability assessment	Designed for supplier disclosure regarding sustainability - not specific to carbon data.	A long-established system - no direct link to overall supply chain emissions calculation. Rates suppliers for sustainability; may help identify	Fees are based on size of organisation at Basic, Premium and Select.	Various support options available.	Global use - in some cases public body suppliers may have reported into the system. APUC

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
			priority suppliers for decarbonisation.	Ranges from 379Euros to 7149Euros pa. Corporate subscription is 6449Euros pa.		provides link for Scottish HEFE organisations.
CDP	Supplier sustainability assessment	Designed for supplier disclosure regarding environmental management.	Long established systems. A CDP score of A-D provides snapshot of a company's environmental performance. There is no direct link to overall supply chain emissions calculation.	Fee - supply chain membership - suppliers disclosing may pay from £2200-£5400 pa.	Support to suppliers throughout disclosure process	Used primarily by c340 large organisations, with 47,000 suppliers' data.
Ecodesk Horizon	Supplier sustainability assessment	Designed for supplier disclosure regarding sustainability; not specific to carbon data but includes carbon calculator.	A cloud platform for enterprises to gather, verify and report supply chain source data through a survey assessment.	Fee - for users, potentially free for suppliers to provide information (subject to quotation)	Carbon calculator tool	States 150+ business users. One of many supplier assessment, disclosure or footprinting tools
Net Zero Toolkit	Business carbon footprinting	Allows businesses to systematically focus on CO_2 emission reductions - no link to supply chain emissions analysis - but outputs could be disclosed to public bodies to help with supplier specific data.	Developed by Edinburgh Science. This is designed for small-to-medium enterprises (SMEs) to determine their emissions and develop a carbon reduction strategy. User inputs data.	Free for SMEs	Link to Scottish Enterprise business support.	Advertised by Supplier Development Programme (SDP), and Scottish Enterprise and on Supplier Journey as well as some public bodies.

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
SME Climate Hub	Business carbon footprinting	Allows businesses to systematically focus on CO_2 emission reductions - no link to supply chain emissions analysis - but outputs could be disclosed to public bodies to help with supplier specific data.	Business carbon calculator, with link to free Business Carbon Calculator from Normative. https://businesscarboncalculator.normative.io/en/. User inputs data.	Free for SMEs	Provides free course and resources.	Used widely globally. UK arm is UK Business Climate Hub https://businessclimatehub.uk/.
Zellar	Business carbon footprinting	Allows businesses to systematically focus on CO_2 emission reductions - no link to supply chain emissions analysis - but outputs could be disclosed to public bodies to help with supplier specific data.	Organisational carbon calculator and carbon planning	Fee - from £29pm (upwards for multi-site business)	Linked energy advice and resources	Works in the public sector across the UK. One of many commercial business carbon footprinting and planning systems.
Scottish Enterprise	Business carbon management support	Free Net Zero Accelerator tool to help businesses establish a net zero plan.	The tool can assess, among others:Sustainability commitment - Resource use and management - Supply chain and customer expectations - Managing climate change risk.Provides actionable report that benchmarks business performance and suggests areas of improvement.	Free to SMEs	Signposts to support to help implement actions.	Freely available and used by some businesses/ referenced by public bodies

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
WRAP	Category specific - food and drink	May be used by or signposted to suppliers to enable carbon data for specific foods to be available to them or public bodies.	Encompasses food and drinks products commonly purchased and sold in the UK across 122 different product classification headings. The full database contains a collection of embodied emission factors that are used to convert activity data (purchase volumes/ weights) into GHG emissions data to provide total GHG emissions linked to purchases.	Free to use	Scope 3 Measurement & Reporting Protocols for UK Food & Drink businesses - full guidance includes recommended questions for businesses to ask supply chains when requesting data.	World's first methodology to measure and report food and drink greenhouse gas (GHG) emissions along the supply chain (Scope 3).
PAS 2080	Category specific – construction and infrastructure	May be used by or signposted to suppliers to enable carbon assessment of construction and infrastructure projects	PAS 2080 is the world's first specification for decarbonizing buildings and infrastructure systems. Its guidance was revised to set out how the sector can transition to net zero by 2050 by managing and reducing whole life carbon in buildings and infrastructure.	Free to use	Guidance document to support the standard produced by Institution of Civil Engineers providing practical actions and examples to accelerate the decarbonisation of buildings and infrastructure.	Was used by Perth and Kinross Council in the Cross Tay Link Road – see case study in Appendix 5. Also referenced in guidance on Scottish City Region and Growth Deals
Scottish Procurement Information Hub	Digital finance services	Not included – but may help public bodies to analyse spend data as part of systematic focus on key suppliers CO_2 emission reductions.	The Scottish Procurement Information Hub includes data from over 100 public bodies. This does not include carbon analysis but obtains and stores finance data from public bodies	-	-	Scottish Government has a contract with DXC Technology, the provider of the Scottish

Provider	Tool type	Supplier assessment facilitated	Brief description and notes	Fee/Free	Support provided	Use in Scotland
			that may help spend-based supply chain analysis.			Procurement Information Hub.
ZWS Climate Change Assessment Tool (CCAT)	Public sector climate change assessment	N/A	Designed as basic assessment of public bodies' climate management - includes Governance, Emissions, Adaptation, Behaviour and Procurement.	Free to use	Includes guidance	A basic assessment developed some years ago. Many public bodies will have advanced beyond the basic assessment. Procurement questions are not detailed.

The CCS G-Cloud 13 framework is available to all public bodies in the UK and is used by some public bodies in Scotland.

The framework is for a range of digital services. This includes services from a few organisations who provide scope 3 supply chain emissions calculation, such as CO_2Analysis, Ecometrica, Achilles.

9.3 Appendix 3: Public bodies survey and responses, summarised.

Driving emission reduction through the public sector supply chain

Aims:
This research project aims to provide evidence to the Scottish Government on improving the ways in which public bodies can measure and target their scope 3 emissions from purchased goods and services.

Benefits:
The research, undertaken by **Sustainable Procurement Limited,** in conjunction with **Aether Limited** on behalf of **ClimateXchange** (https://www.climatexchange.org.uk/), will help public bodies:

Understand and implement practical steps to examine and mitigate scope 3 procurement emissions, which are a significant part of bodies' overall carbon footprint.

Expand and improve scope 3 reporting to include emissions from procurement.

It will inform development of statutory guidance for public bodies to support them in putting climate change duties into practice.

The research will (summarised):
Evaluate protocols, methodologies and tools for measuring, monitoring and reporting Scope 3 procurement emissions at organisational and contract level, including those used by public bodies in Scotland, which do not place a disproportionate burden on public bodies and supply chains.

Set out practical actions, including use of appropriate tools and techniques, that public bodies can use to drive net zero ambitions through the procurement cycle, and to maximise emission reductions in supply chains.

Identify exemplar climate and procurement projects from within the Scottish public sector.

Next steps:
In order to reflect public sector understanding and application, as part of evidence gathering, the following short survey has been developed. The more public bodies and suppliers that engage as soon as possible with this research the greater the evidence base, to inform practical recommendations.

Participation in this survey is voluntary. The survey should take around **5 minutes** to complete.

We recognise demands on your time so have kept this short - if you would prefer we can alternatively, or in addition, discuss this with you, as your insight on this important topic is vital. Where appropriate, information may be followed up by the research team.

Data processing:
Names, roles and email addresses are the only personal data intended to be collected and will only be used to contact consenting respondents for follow-up information, if relevant. Providing this information is voluntary. All information provided will be managed in accordance with GDPR requirements. If you have any questions or wish to discuss this research please contact Philip Duddell: philip@sustainableprocurement.eu.com.

1	Your organisation
2	Has your organisation calculated Scope 3 **supply chain (procurement)** emissions? (Please note if you are evaluating tools and methodologies, with a view and budget to adopt one, it may benefit you to to defer any final decision regarding these until the research is concluded, as it will be making relevant recommendations).
If your answer to Question 2 was 'Yes':	
3	Was a specific methodology and/ or tool used? Please provide details below (**select all that apply**):
	GHG Protocol Scope 3 Technical Guidance
	Defra/BEIS
	HESCET
	Other spend based methodology
	Using supplier specific data
	Using industry averages/benchmarks
	Using mix of spend based/ supplier specific
	External Scope 3 carbon accounting tools (please provide details)
	Don't know
	Other
4	Please provide any further relevant details in response to Question 3 below. **This includes details of Scope 3 tools used and whether they are free to use or chargeable.**
5	Has your organisation identified climate related procurement priorities or 'hotspots' - which may be at a category/ commodity or framework/ contract level? (**select all that apply**)
	Yes – at category/ commodity level
	Yes – at framework/ contract level, for example using a Forward Plan
	Not yet – but in development
	No

	Don't know
	Other
6	Has your organisation established a framework/ road map or other staged/ progressive approach to identifying and improving data relating to Scope 3 supply chain emissions and implementing carbon assessment and management? (**please provide any further relevant details in the final box at the end of this survey**)
	Yes – framework/ road map or similar in place
	No
	Don't know
	Other
7	Has your organisation established climate/ carbon emission mitigation objectives and is applying relevant measures within stages of the procurement cycle? (**select all that apply - please provide any further relevant details in the final box at the end of this survey**)
	Not yet
	Business case/ options appraisal
	Pre-procurement category/ commodity strategy
	Market engagement
	Specification
	Relevant use of Question 4C7 in the Single Procurement Document
	Evaluation and award
	Contract management and KPIs
	Collation and reporting of contract/ supply chain emissions reduction
	Supplier management
	Don't know
	Other
8	Does your organisation have/ are you aware of case studies/ examples (published or otherwise) of applying relevant climate/ carbon emission mitigation requirements through the procurement cycle (e.g. category or commodity strategy, market engagement, pre-tender planning, specification, contract management etc).?
If your answer to Question 2 was 'No':	
9	Please describe why you have not been able to calculate Scope 3 Supply Chain emissions:
	Uncertain where to start
	Uncertain of suitable methodology/ tools
	Lack of internal resources
	Don't know

	Other
10	Has your organisation identified climate related procurement priorities or 'hotspots' - which may be at a category/ commodity or framework/ contract level? (**select all that apply**)
	Yes – at category/ commodity level
	Yes - at framework/ contract level, for example using a Forward Plan
	Not yet - but in development
	No
	Don't know
	Other
11	Has your organisation established a framework/ road map or other staged/ progressive approach to identifying and improving data relating to Scope 3 supply chain emissions and implementing carbon assessment and management? (**please provide any further relevant details in the final box at the end of this survey**)
	Yes - framework/ road map or similar in place
	No
	Don't know
	Other
12	Has your organisation established climate/ carbon emission mitigation objectives and is applying relevant measures within stages of the procurement cycle? (**select all that apply - please provide any further relevant details in the final box at the end of this survey**)
	Not yet
	Business case/ options appraisal
	Pre-procurement category/commodity strategy
	Market engagement
	Specification
	Relevant use of Question 4C7 in the Single Procurement Document
	Evaluation and award
	Contract management and KPIs
	Collation and reporting of contract/ supply chain emissions reduction
	Supplier management
	Don't know
	Other
13	Does your organisation have/ are you aware of case studies/ examples (published or otherwise) of applying relevant climate/ carbon emission mitigation requirements through

	the procurement cycle (e.g. category or commodity strategy, market engagement, pre-tender planning, specification, contract management etc).?
14	Your name and role:
15	Are you happy to be contacted in response to this survey, if relevant?
	Yes
	No
16	Contacts details
14	Many thanks for completing this short survey. Please use the box below to provide additional information relating to the above questions, if relevant, and for any further information or comments.

Summary of responses to key questions:

1. Respondents to the survey were from 50 individuals from 48 public bodies:

Scottish Government family	18
Higher and Further Education	13
Local authorities	12
NHS Scotland	3
Support organisation	2
Soil Association	1
Housing Association	1

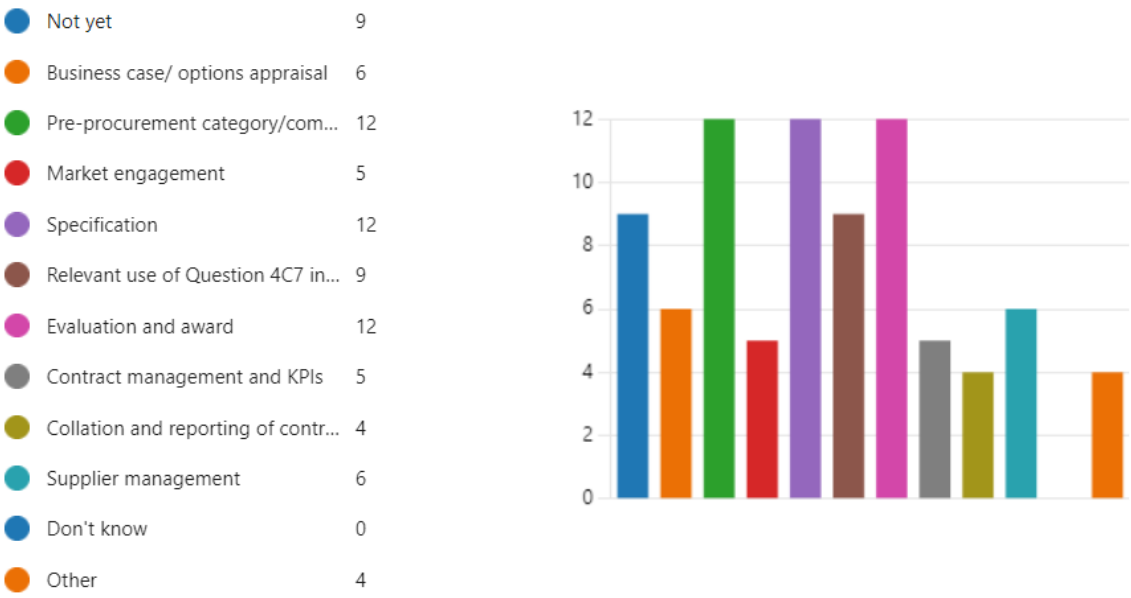
2. 23 organisations had calculated supply chain emissions, using (sometimes combined together):

APUC version of HESCET tool	11
Own calculation using EEIO factors	5
CO_2Analysis	4
Consultancy support	4

3. 12 organisations had identified carbon hotspots or priorities at category or forward plan level. 8 others stated this was in development.

4. 6 stated that they have a framework/ road map or other staged/ progressive approach to identifying and improving data relating to Scope 3 supply chain emissions and implementing carbon assessment and management.

5. Public bodies stated that carbon emission mitigation objectives and relevant measures within stages of the procurement cycle related to:



6. Public bodies who have not yet determined scope 3 procurement emissions cited major reasons as:

Uncertain of relevant methodologies	13
Lack of internal resources	6
Not mandatory at present	1

7. Free text comments from public bodies, which address general issues regarding supply chain emissions, comprised:

Development – "we are currently working with our new head of Estates on all sustainability and environmental issues and looking to what improvements can be made".
Methodologies and collaboration – "It will be interesting to see what emerges. Current spend-based analysis is helpful as a proxy for supply chain emissions, but by its nature only really rewards reduced spend rather than better spend. Given capacity issues across the sector, wherever possible a sector-wide approach, including to training and support, would be welcomed rather than seeing multiple teams take different approaches and duplicate effort".
Climate assessment – "we have an Integrated Impact Assessment which covers Sustainability and Climate Change and should be completed before a project goes through

the Procurement process. I am not fully aware of all the ways we include mitigation and the projects we could provide as examples but happy to go through an interview with a member of the Procurement Service who could provide much more detail. Our Procurement section of the PBCCDR should also contain examples. This section is completed annually by the Procurement service".
Resource limitations – "we have limited resource capacity within our team to focus efforts of gathering scope 3 data, including emission factors or tools, and require a tool to do this for us particularly if additional resource is not forthcoming from the Scottish Government (who wish to have this data)".
Supplier selection – "Scottish Government has introduced a new optional question for the Scottish Procurement Document (SPD) which is the qualification part of any tender. With the climate team we have evaluated the use of this question as an alternative to the standard quality question that has been internally developed. At this stage, with suppliers only just becoming "climate aware" the preference is to continue to use the standard quality question (or develop a tender specific question), applying a weighting where appropriate".
Guidance – "we are very keen on this research. We are currently writing the NHS carbon reporting guidance and the scope 3 area is one which we are looking for greater input on how we can start to collect and report on this data; looking at somewhere between 97 and 90% of our total emissions".
Tools – "I would be very interested in seeing what tools might be available to help with this and to develop our procurement process".
Barriers to progress – "our barrier to getting started with procurement carbon reporting has been working through the different methodologies, having multiple options from different sources has meant time resource of the Sustainability Manager being dedicated to this. We are only at the stage of applying a spend-based approach to our current contracts. Another barrier in terms of progressing carbon reporting with suppliers includes: 1. The internal resource needed in terms of time assigned to advanced planning and market research to allow for sustainable requirements to be embedded. 2. It would also require internal knowledge across the organisation of Scope 3 emissions and reporting requirements to embed this, and colleagues are not at that stage of carbon literacy. 3. It can also be difficult to embed carbon management and data requirements into a contract unless the supplier is already offering this because the contracts are not of a high enough value for the supplier to devote time to it especially anything beyond their immediate carbon production so nothing in terms of supply chain. The contract value will influence Supplier's commitment to carbon emission reporting as it will come at an expense to the Supplier to investigate, track,

manage and provide contracting authorities (combined with the fact that a majority of our suppliers are SME or micro-enterprise) and public orgs like us just don't have the commercial weight to enforce the requirement. We more or less seek to benefit off of what the 'big spenders' push for".
Supply chain emissions route map – "we confirm we have a NetZero plan in place that provides a road map for our actions including Scope 3. We have a procurement From Now to 2030 Action plan which also references the intended actions for Scope 3 emissions Supply chain) once the statutory guidance is available. We have been working on our measures of success which also are poised to accommodate any statutory reporting required".
Development – "we are very keen to begin the journey of assessing and mitigating scope 3 emissions from the procurement of goods and services that we undertake. We will shortly be publishing our Net Zero plan for the management of scopes 1 and 2 emissions. We currently spend c. £12m capital and £9m third party funded projects annually and would welcome the opportunity to share knowledge and buying power with other public sector organisations".
Development, leadership and monitoring – "we are starting to build a reasonable direction in terms of new build estate being designed & constructed reflecting Net Zero principles and objectives - the built estate and its operations being our largest source of TCO_2. However, that direction is very much informed by the architects and construction contractors responding to a broad set of employer requirements which set out a NZ ambition. More general Scope 3 requirements are proving more challenging to address primarily in terms of being able to demonstrate the current and after scenario of tCO_2e improvement. The mechanics of data capture (the suppliers, particularly SMEs often do not know or hold information themselves) and the calculations remains challenging. NZ not yet part of any whole life costs considerations. We extensively use Scottish Government and CCS collaborative contracts for range of Scope 3 purchases. I am not yet seeing a leadership role or examples flowing from there how they approach Scope 3 and what is then expected from users of those contracts. I have also had some mixed messages from senior parties in the SG around measuring Scope 3 tCO_2e and reporting any local outcomes in the Annual Procurement Report - they did not seem that interested in level of detail being included in APRs or providing the tools / guidance across Scottish Government to do so. The lack of a clear mandated tool, any form of buyer training around calculating Scope 3, and worked examples remains a barrier to smaller organisations taking forward Scope 3. We intend to recruit some additional resources corporately into Estates to support the wider business take forward Scope 3 - those will not necessarily be part of the procurement team, but I am hopeful of being able to access / use that knowledge around Scope 3. At the current rate of progress, we may see someone in post in 2024!"

Food and catering – "I work as a Partnerships Manager for the Soil Association's Food for Life Scotland programme which is a Scottish Government funded programme which supports local authorities to serve more sustainable school meals. As a charity we work across the food system and have expertise in the climate impact of food and as a Food for Life Scotland programme we have significant experience working closely with local government. I am very happy to be contacted if the researchers would like to discuss food and catering and scope 3 emissions further".
Supplier selection – "Scottish Government has introduced a new optional question for the Scottish Procurement Document (SPD) which is the qualification part of any tender. With the climate team we have evaluated the use of this question as an alternative to the standard quality question that has been internally developed. At this stage, with suppliers only just becoming "climate aware" the preference is to continue to use the standard quality question (or develop a tender specific question), applying a weighting where appropriate".

SSN local authority survey

The survey of local authorities by SSN in 2022 regarding action on assessing supply chain emissions resulted in 15 of the 32 local authorities responding.

3 local authorities had conducted internal work to measure/ report its scope 3 procurement emissions.

6 had commissioned external support for the measurement and analysis of scope 3 procurement emissions. Most commonly used resources were CO_2Analysis (three councils), consultancy support (two councils), Carbon Emission Impact Assessments (one council) and Sustain IQ (one council).

Main reasons for not taking action were a lack of guidance/capacity of what is required and how to measure and limited resources.

9.4 Appendix 4: Summary of climate procurement cycle actions

9.4.1 Evidence obtained from public bodies regarding climate actions in procurement cycle.

The survey of public bodies provided the following evidence:

6 of the 48 organisations have established a framework/ road map or other staged/ progressive approach to identifying and improving data relating to Scope 3 supply chain emissions and implementing carbon assessment and management.

In response to the question: “Has your organisation established climate/ carbon emission mitigation objectives and is applying relevant measures within stages of the procurement cycle”:

There was some consideration at pre-procurement stage, for example within commodity strategy and within specifications and evaluation;

Some application of climate and procurement contract management, but by few organisations;

There was limited use of Question 4C7, asking bidders about climate capability and climate change plan, in the Single Procurement Document (SPD 2023);

Limited market engagement and supplier management (for example to encourage continual improvement in climate change mitigation).

Only one respondent stated they were collating and reporting reductions in supply chain emissions.

Measures applied in procurement cycle	No.
Not yet	8
Business case/ options appraisal	5
Pre-procurement category/commodity strategy	6
Market engagement	3
Specification	6
Relevant use of Question 4C7 in the Single Procurement Document	4
Evaluation and award	6
Contract management and KPIs	5
Collation and reporting of contract/ supply chain emissions reduction	1
Supplier management	3
Don't know	3
Other	4

Survey respondents.

Free text comments from survey respondents, reflected where relevant in the report, included:

Business case/ options appraisal Consideration of climate and procurement risks and opportunities in business case: "this only happens rarely and there is no official process for this in place for us; it often depends on the kind of project which is undertaken and the willingness of the project manager".
Market engagement "We do engage with the market, but don't have an official process for engaging on carbon emissions; this is often up to the contract manager, so we are working on guidance for them on contract and supplier management".
Evaluation and award "We have been requesting carbon mitigation through contracts and including sustainability as part of the scoring method on a case-by-case basis".
Contract management and KPIs Climate outcomes: "sometimes this is included but not very often as there isn't much knowledge on how to measure carbon emissions and we don't have a centralised way of capturing this, nor a standard methodology to follow".
Climate metrics "We have overall objectives around carbon reduction/net zero and some narrative targets surrounding carbon reduction in key hotspot areas of our supply chain, however no metric or specific methods for reduction identified as yet".

Direct engagement with public bodies

Other comments from interviews with public bodies included:

Climate specification and tender "The council have developed a high-level climate question - high level because they are not yet ready to know what to ask for. It is a starting point". Another public body stated that: "A new unscored climate question has been developed, with the aim to progress to a scored question. This sets the scene for markets and prevents blockages occurring when scored questions are introduced without prior engagement". Comments from indirect engagement with Scottish Government family e.g., via the Procurement Collaborative Group Heads of Procurement, referenced in Climate and Procurement Forum, indicate many procurers are struggling to know what questions to ask, and some would like a bank of easily accessible questions.
Collaboration

"We have reached out to other councils to ask what they were doing on climate and procurement, and they all came back saying nothing really – they are all suffering from a lack of resources so need to optimise collaboration. Perhaps there should be an approach such as was developed for Community Benefits - a Forum to get everyone talking and sharing".
Climate KPIs "We have developed KPIs to be used in contracts (e.g., baseline and changes in year 1) but believe we will have to pull back from that as majority of suppliers can't provide the data".
Contract and supplier management "This is poor. It might be helpful to have set of KPIs with guidance. We do ask bidders in tender so say what they can report on". Another public body stated: "Outcomes are not routinely collated in a dashboard or equivalent. We are aware of Contract Management system which has the ability to add sustainability narrative (Hunter tool), which APUC are developing".

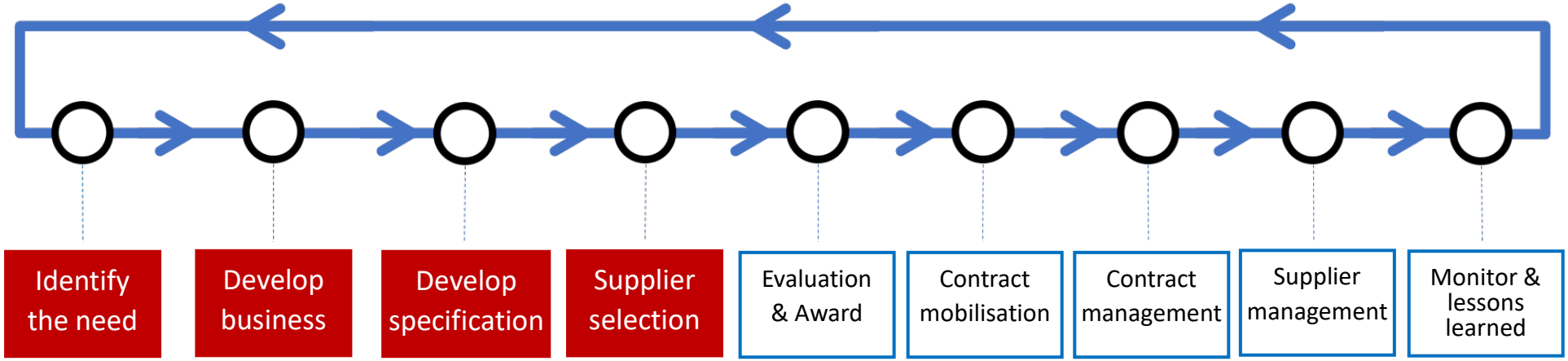
Annual Procurement Reports

Public bodies have also in some cases set out what they are doing regarding climate and procurement, within their 2021/22 published Annual Procurement Reports.

Procurement process – early identification of climate impacts "We have reviewed processes and templates to provide early identification and prompts to highlight projects which have a climate impact to ensure there is an opportunity to influence the procurement and outcomes through the supply chain. Climate actions are included in appropriate tenders", and "University Supply Chain Climate Action process commenced with top 30 Green House Gas emitting suppliers".
Contract Management "(we are planning to) Complete new Contract Management Standard Operating Procedures (SOP's) to support the development of contract management plans within each Category, including those related to climate change reduction measures, climate change adaption measures, and promoting biodiversity, where appropriate".
Climate specifications and tenders "An entirely new section dealing with Sustainability is being introduced which will effectively mandate that where practical, no tender will be advertised unless a sustainable and carbon reducing solution has been specified".

Another public body stated: “Inclusion of climate criteria in business case and procurement documents”. Other public bodies stated: “Climate Change impacts are considered in Commodity Sourcing Strategy templates”, and “New screening questions on Climate Change and Carbon Footprint in development for inclusion in strategies and tenders”, and “Consider using more selection and technical evaluation questions relating to climate change impact etc. where appropriate”.
Climate baseline “We have measured and established a baseline for our transport and delivery services, our emissions in the period were 25,000 tCO2e. We now will use this figure to measure future reductions against”.
Climate and procurement route map “We have drafted a map of our ambitions to move towards a net zero supply chain by 2035”.
Monitoring climate outcomes (we are planning to) “Develop and implement a system to capture Community Benefits, Fair Work Practices, Sustainability and Climate data”.
Supplier sustainability assessment “Supply Chain Management tool used and Ecovadis platform used to assess supplier sustainability and climate change compliance”.

9.4.2 Climate and procurement cycle actions guidance

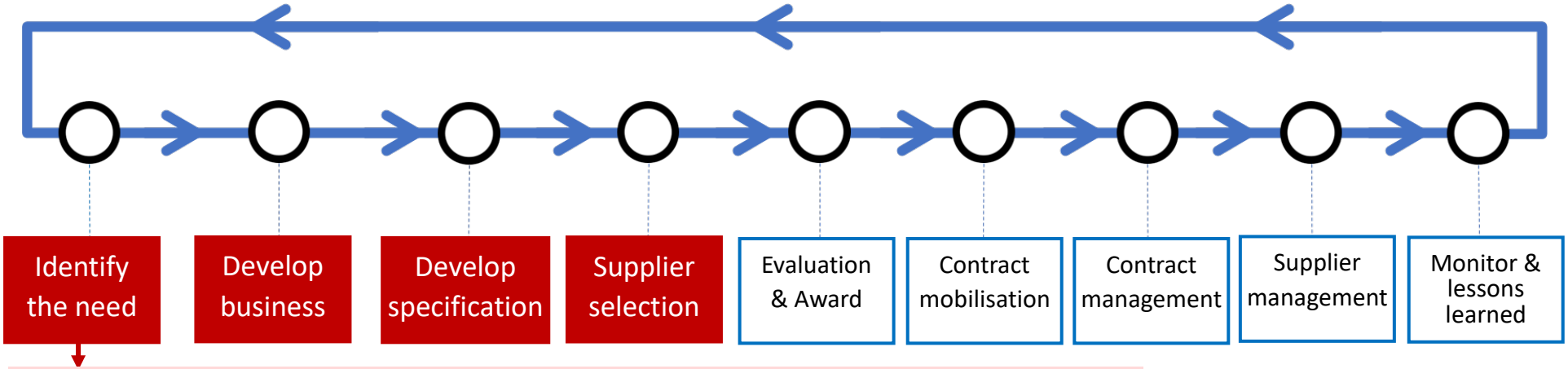


Within this appendix are details of:

Evidence obtained regarding climate and procurement through the procurement cycle from public bodies and desk-based research.

Based on this evidence, guidance and examples are highlighted through the cycle. The above cycle is used for this – it is recognised that this does not exactly reflect the terms used within the Procurement Journey (Procurement Journey 2023) but follows stages public bodies will be familiar with.

The first 4 stages are shaded red as they reflect critical stages, when making the right decisions early can result in the most positive, and relevant and proportionate, requirements and outcomes.



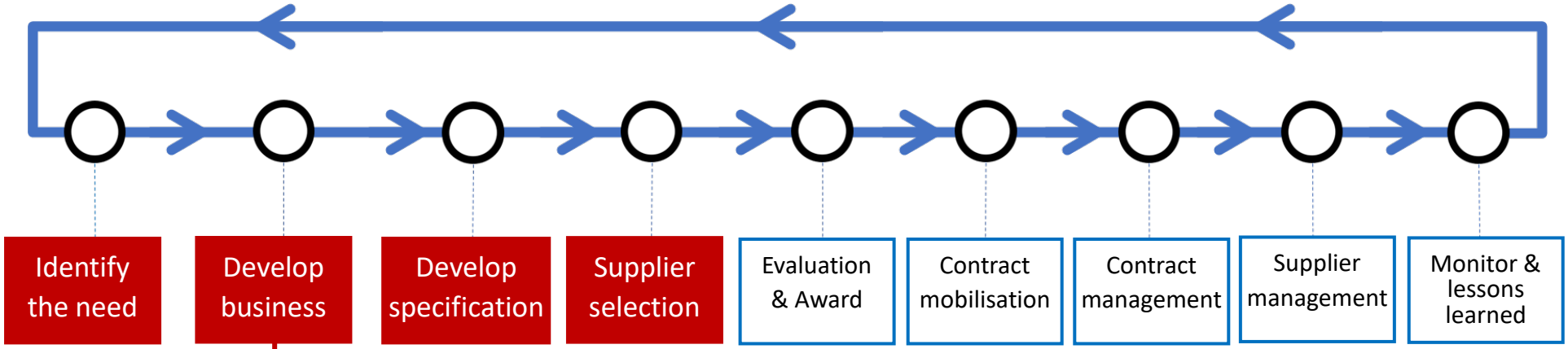
A balanced, prioritised, approach – determine whether the planned procurement is a climate priority/ 'hotspot', reflecting the assessment of climate and procurement priorities. Focus on those where you can make the greatest impact.

Internal engagement – involve all key decision makers, for example senior leaders who can influence 'whether', 'what', 'how' and 'how much' their organisations buy.

Consider alternative cost-effective sourcing and ownership opportunities that retain life cycle value and extend useful life.

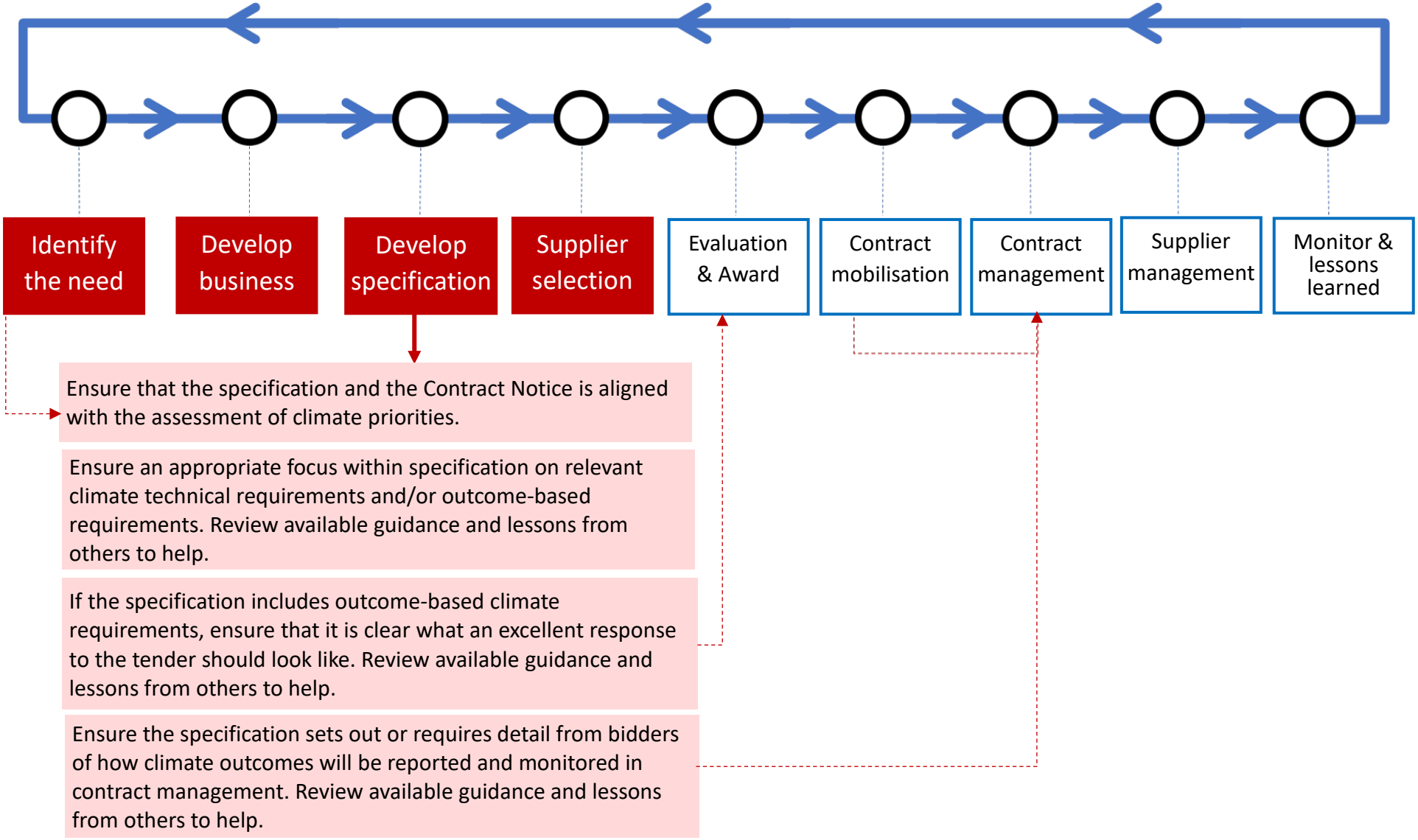
External engagement - markets/ suppliers – ensure you set clearly your climate and procurement objectives and ambitions. Ensure you understood what market climate capability and challenges are, including climate innovation and the need for support.

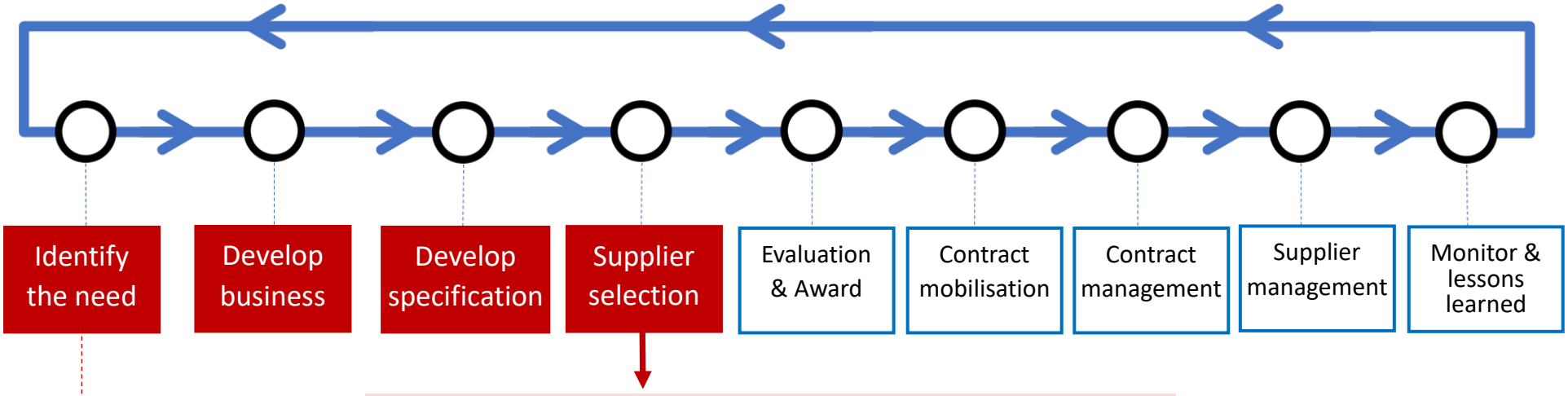
Peers – ensure you engage with other public bodies who have relevant lessons and examples regarding climate outcomes through procurement.



Ensure the business case analysis requires consideration of climate (a key part of sustainable procurement) by relevant stakeholders.

Ensure that life cycle costs, including those that may relate to climate (e.g. energy consumption, end of life management) considered within the business case, including options appraisal.

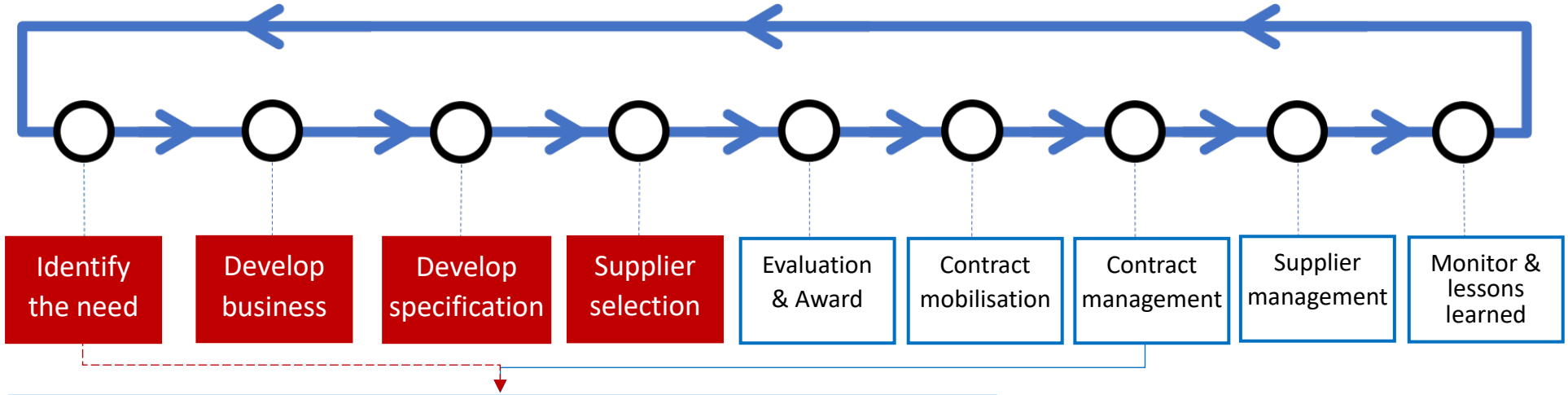

Identify the need
Develop business
Develop specification
Supplier selection
Evaluation & Award
Contract mobilisation
Contract management
Supplier management
Monitor & lessons learned
Ensure that the specification and the Contract Notice is aligned with the assessment of climate priorities.
Ensure an appropriate focus within specification on relevant climate technical requirements and/or outcome-based requirements. Review available guidance and lessons from others to help.
If the specification includes outcome-based climate requirements, ensure that it is clear what an excellent response to the tender should look like. Review available guidance and lessons from others to help.
Ensure the specification sets out or requires detail from bidders of how climate outcomes will be reported and monitored in contract management. Review available guidance and lessons from others to help.



Ensure that Single Procurement Document selection requirements reflect alignment with the assessment of climate priorities.

Where the planned procurement reflects a climate priority/ where climate is relevant, consider the use of standardised statement 4C7 to ask bidders for information about their capability to meet Scotland's climate change targets in the form of a climate change plan.

Review the 4C7 guidance within the Procurement Journey.



Ensure that contract management requirements are aligned with the assessment of climate priorities and the importance of climate to this procurement.

Consider what essential (and relevant and proportionate) measures need to be monitored to demonstrate continual improvement in climate management by the supplier.

Consider the availability of data when setting requirements. Is data available? Is there a baseline against which to measure improvement? What can reasonably be measured?

If data is not available focus on narrative and qualitative outcomes, such as responses to relevant questions asked within the example opposite (SG Training 2023).

Review available guidance and lessons from others to help.

Example of climate contract management KPIs

Source	Potential question of supplier	Measurement unit
Use of energy	How have you reduced energy consumption and/ or carbon emissions in the delivery of the contract, including through relevant supply or use of products, equipment?	▪ kWh
Use of vehicles	How have you reduced carbon and other air pollution emissions through the supply and use of vehicles or plant?	▪ Fleet CO_2 ratings. ▪ Miles/ fuel reduction.
Sourcing: supply/ use of products/ materials	How have you: ▪ Reduced the supply or use of products or materials, while ensuring delivery of contract need? ▪ Improved the sustainability/ reduced the embodied carbon of products/ materials supplied or used, including highest level feasible recycled content/ appropriate use of remanufactured products or equipment? ▪ Enabled the supply or use of refurbished or remanufactured products or materials that meet all relevant quality and performance needs?	▪ Quantity products/ materials used. ▪ Quantity sustainably sourced. ▪ Recycled content %. ▪ Material use avoided £, % or kg. ▪ Recyclable %. ▪ CO_2 footprint of products/ materials. ▪ Supply/ use of refurbished/ remanufactured products/ materials.
Use: use of products/ materials	How have you enabled repair or refurbishment of products or materials supplied or used? How have you enabled relevant reuse of products or materials?	▪ Reuse number, % or kg. ▪ Repair/ refurbish number, % or kg. ▪ Waste avoided % or kg. ▪ Quantity of products/ materials with extended warranties/ longevity.
End of life management:	How have you applied the waste hierarchy in the supply or use of products, materials or packaging, including through improving: ▪ The design of products or materials supplied or used so that they are easy to maintain, update or repair? ▪ Reuse of otherwise redundant products or materials? ▪ Recycling of products or materials?	▪ Waste avoided £, % or kg. ▪ Reuse number, % or kg. ▪ Recycled % or kg.

Note: These KPIs should only be used where relevant to the contract and data can reasonably be obtained and does not create an unnecessary burden on suppliers. See the following flow chart and 4.2.1.

Contract management decision tree – showing the link from intended reduction in emissions, the source of these emissions and the practical use of KPIs, such as those above, or alternative monitoring of qualitative outcomes.

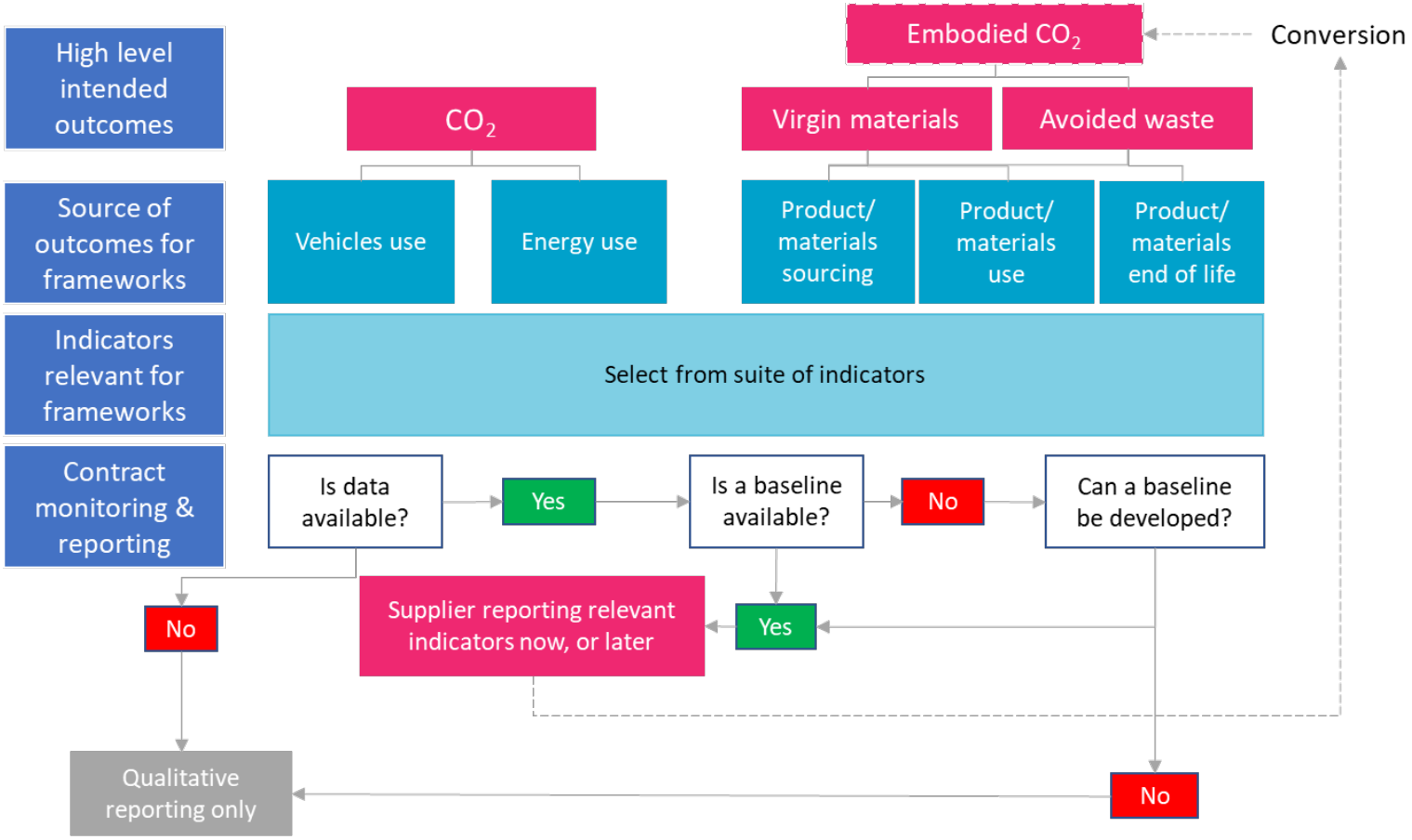
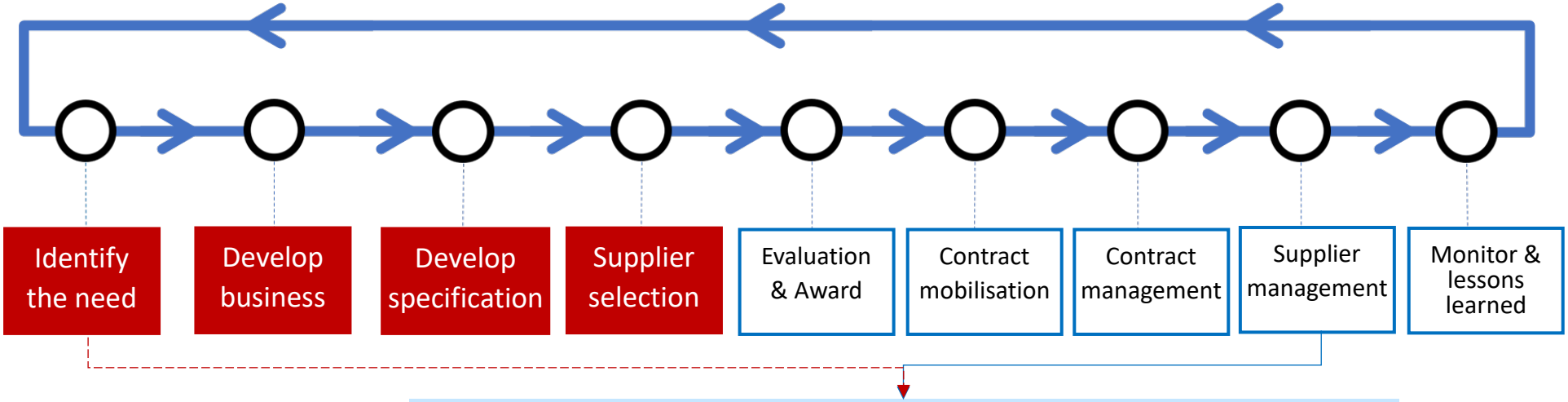


Figure 4: Contract management decision tree

Source: used in Sustainable Procurement Training under Scottish Government Sustainable Procurement Training Framework (SPL 2023a).

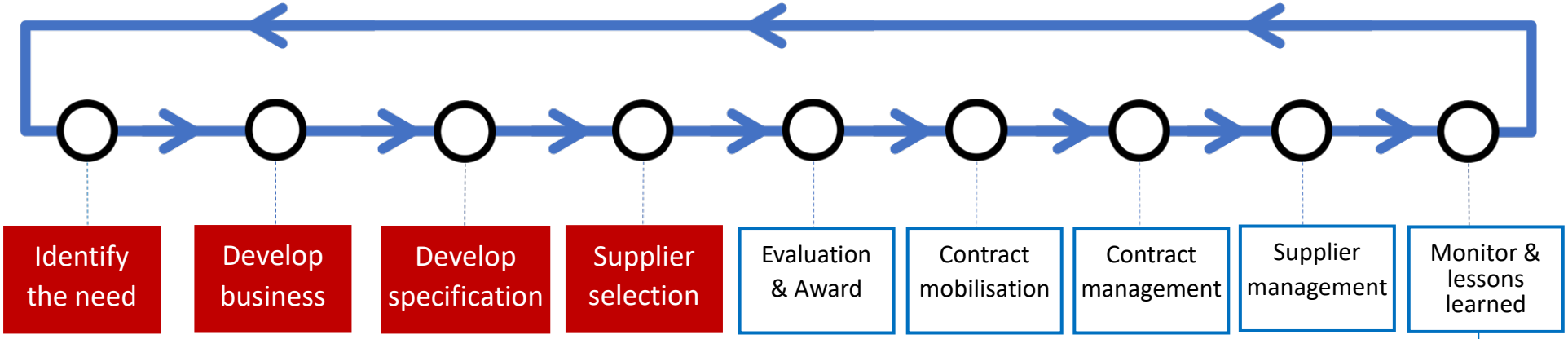


Ensure that supplier management, with incumbent and new suppliers, is aligned with the assessment of climate priorities and the importance of climate to the contract/ framework.

Determine whether incumbent suppliers are able to provide their scope 1 and 2 emissions to help make your supply chain emissions data more 'real'. Encourage continual improvement in support of your climate objectives, even if this is not part of a current contract.

Determine whether and how incumbent and new suppliers are able to demonstrate continual improvement in climate management.

Signpost incumbent suppliers to help and guidance to be able to support your climate objectives, where relevant.



Review how data, or narrative outcomes, are obtained through contract management recorded and collated – while ensuring ease of reporting by suppliers and recording by buyers.

For example, is a contract management register or other process used to record sustainable procurement, including climate, contract management data / outcomes? Is there a dashboard where these outcomes are recorded and collated? Consider whether this can be developed or improved to ease the reporting and collation of relevant data and information.

Ensure that this information is readily available to help Climate Change Reporting, including within Annual Procurement Reports.

Share climate lessons from the procurement internally and, where relevant, with peers.

Ensure lessons from an initial focus on climate priorities are used to inform other priority contracts.

9.5 Appendix 5: public sector climate case studies and other examples.

The following provides brief details on and links to published case studies as well as other examples referenced by public bodies. There are further details for published case studies within the links, designed to help other organisations understand what lessons may be learned.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
PUBLISHED CASE STUDIES – see the information within links provided for more detail:		
Perth & Kinross Council	Detailed design and construction of the Cross Tay Link Road (CTLR): Reducing Embodied Carbon Through Construction Project Design.	**Life cycle impact mapping** - an Environmental Impact Assessment was undertaken. This identified climate impacts relating to energy, travel, materials, waste, circular economy, capability of workforce, monitoring and report usage and savings. It included a requirement to assess and mitigate whole life carbon, including construction and operational impacts. This was managed through the implementation of PAS 2080. **Tender** - tenderers were required to state what carbon reduction initiatives will be implemented, following the PAS 2080 methodology, so that they reduced both carbon and cost. They were required to submit carbon savings that will be delivered utilising the carbon baseline and methodology provided in the tender, with the aim to save a minimum of 14,200 tCO_2e (30% of original). **Outcomes -** development of an Environmental Management Plan, covering emissions reduction: • Energy reduction projects, monitoring of water and energy consumption, monitor and reduce waste, move to a fully electric fleet of vehicles to service the contract, support circular

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
		economy ambitions by use of an online portal which matches assets that are no longer needed to organisations who can reuse them. • Environmental protection and enhancement of biodiversity and the heritage of the estate. • The tender set out the industry standard carbon KPIs which had to be used. Performance against the tendered baseline carbon footprint will be monitored and reported through contract management.
Skills Development Scotland, Highlands and Islands Enterprise and South of Scotland Enterprise	Reducing Carbon Footprint in Hybrid Cloud Hosting Services for IT Shared Services - Enterprise Information Services (EIS)	EIS conducted a project which moved from on-premises hosting to hybrid cloud-based hosting. This represented a call-off from the Crown Commercial Services G-Cloud framework. **Early consideration** – the use of the Sustainability Test identified that climate related risks were a priority. **Tender** – tenderers were asked to detail how they would provide reporting on each individual partners CO_2 usage, given the requirement to provide annual CO_2 emissions consumption data from the use of buyer and partner organisations hybrid cloud services. They were also asked to detail their roadmap towards net zero and beyond. The successful supplier provided examples of the types of CO_2 reporting from hybrid cloud hosting that they have provided to other clients and proposed working with EIS IT team to agree how CO_2 will be reported. They also committed to optimise emissions management, such as automatically switching off non-production environments out of hours and re-platforming legacy applications to benefit from hybrid cloud efficiency. **Lessons** - The key change for the EIS is the ability to have carbon reporting and for monthly contract management meetings to focus on improvements to carbon usage. The hybrid cloud provider has

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
		committed to ensuring that its data centres will be powered entirely by renewable sources of energy by 2025.
Renfrewshire Council	Sensor Monitoring Equipment for Social Housing Properties.	**Market analysis and engagement** – this was a pilot project involving real-time sensor technology to measure internal environmental conditions of six properties including temperature, humidity and CO_2 emissions, as a pilot for its 12,000 social housing properties. The Procurement Strategy was informed by commodity supply market analysis and consultation with key stakeholders. The research, which informed the strategy, revealed a gap in the market for an innovative product. **Sustainability Test** – this was used to identify key risks and opportunities. **Tender** – the identified risks and opportunities were reflected in requirements, with an emphasis on environmental and carbon impacts, Fair Work and community benefits. **Lessons** - the sensors have resulted in social and economic outcomes by contributing to good quality housing to tenants while addressing fuel poverty, offering jobs and training and giving tenants the skills and knowledge, they need to manage their heating and bills. Environmental outcomes include climate adaptation through retrofit and maintaining good quality properties.
Glasgow City Council	Corporate Procurement Unit, Fleet Strategy - A Pathway to Zero Emissions Fleet	**Market research and engagement to support net zero** - the Council's Fleet Strategy sets out the ambitions and commitments to transform its Fleet away from traditional fossil fuels and adopt new emerging technologies which includes the purchase of zero emission vehicles to support the Council's ambitions of achieving net zero by 2030. The Corporate Procurement Unit invested significant time in extensive market research and engagement which involved issuing a Prior Information Notification and a Capability & Capacity Assessment.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
		Sustainability Test - the Sustainability Test was used to identify relevant risks and opportunities. (case study focuses in particular on maintenance & repair of Hydrogen Fuel Cell Electric Refuse Collection Vehicles). **Tender** – the tender included a requirement to deliver zero-emission hydrogen fuel cell electric refuse collection vehicles with a minimum 30% greater fuel efficiency than that of an existing Euro VI Diesel refuse collection vehicle. Evaluation criteria were based on whole life costs to ensure that best value for money was achieved, relating to purchase, planned maintenance, unscheduled repairs and spare parts.
Glasgow Kelvin College	Reducing carbon footprint in ICT upgrade of 400 computers	**Early assessment of options** - the Procurement Team invested time on the pre-procurement processes of establishing whether to buy, what to buy, and how much to buy. When considering whether to buy they compared both the cost and life cycle environmental impact of purchasing new PCs versus purchasing new solid state hard drives and upgrading the memory of existing PCs. This identified that upgrading existing equipment would save carbon across all stages of the equipment's life cycle. **Outcomes** - this saved £118,000 and significant embodied carbon emissions. **Lessons** - the success of the project has encouraged wider long-term, whole life cycle thinking. The team reflected that in the future, collecting more before and after data on carbon would provide solid metrics of success.
Scottish Government	Facilities Services Management	**Life Cycle Impact Mapping and Sustainability Test** – the contract was let in 2021 for hard and soft facilities management (FM) services and related projects. Initial assessment identified the importance of climate to the contract.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
		Tender - requirements included minimising carbon emissions from energy, travel, waste, materials and equipment, including through circular outcomes. **Outcomes** – The winning suppliers developed an environmental management plan which dealt with: minimising emissions through carbon and energy, water and waste management, circular economy approaches including use of an online portal which matches assets that are no longer needed to organisations who can reuse them, move to a fully electric fleet of vehicles to service this contract.
Aberdeenshire Council	Aberdeenshire New Build & Refurb Projects	Planning permission was granted for the development of a 2-storey council office, public library and family centre at the former academy site at Schoolhill in Ellon in March 2022. **Ambitions** - the building aims to achieve 'net zero' operation standards and will feature a number of carbon reduction measures, including circular design. The approach illustrates the layering concept in constructing a building using circular principles to enable repurposing and ease of disassembly for reuse. Building work was projected to be completed by Summer 2023. **Pre-procurement and market engagement workshops** – internal workshops focused on the benefits a circular approach could bring, while market engagement set out the Council's ambitions. **Sustainability tools** – the Sustainability Test and Life Cycle Impact Mapping were used to capture and assess risks and opportunities in terms of environmental impact. **Lessons** –transnational peer to peer learning, to support awareness of applying circular approaches, helped greatly.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
Scotland Excel	Education & Office Furniture Framework	**Market engagement –** a Prior Information Notice was issued in 2020. This helped inform the relevant specification. **Specification and tender** – a method statement question was developed to seek evidence of climate and circular economy outcomes. This included the reduction of emissions from products, packaging and services which extend the useful life of materials, components, products or packaging, while operating in accordance with the waste hierarchy. Contract management KPIs – during the mobilisation period KPIs were proposed, based on reuse and recycling: Number of items supplied, Number of items reused /remanufactured through take back scheme, % by weight of recycled content in products provided to the framework, % recycled content in packaging.
Scotland Excel	Domestic Furniture and Furnishings Framework	**Circular economy ambitions –** the aim of the new generation of this framework is to encourage, where possible, take up of reused goods by a wider range of local authorities, while also requiring and encouraging suppliers of new goods to deliver continual improvement in sustainable and circular outcomes, in support of progress towards net zero and a circular economy. This case study considers how sustainability may be enhanced in the delivery of new products under the framework. **Specification and tender –** following a life cycle analysis of risks and opportunities the specification focused on improved design of products to reflect: Repairable, disassembly, recycled content, low impact manufacturing – sustainable and low embodied carbon, recyclable, take back of products for remanufacturing, environmental standards (Furniture Standards refers to UK Government Buying

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
		Standards/EU GPP criteria), end of life management/waste – reuse (within other Local Authorities' housing for vulnerable people, if fit for reuse or repairable), reuse elsewhere (donation to third sector), recycling. Bidders were asked to provide a method statement setting out how they would practically support these objectives (see case study for detail). **Lessons** – the case study provides details, but lessons include understanding the links, and occasional conflicts, between operational aspects and some environmental KPIs – for example the link from process efficiency KPIs to carbon reduction and a sometime reality clash between delivery related KPIs and the timescales involved to prepare goods for reuse.
Scotland Excel	Outdoor Play and Sports Facilities Framework	**Circular economy focus – market and peer engagement -** discussions between Scotland Excel and ProCirc partner, Zero Waste Scotland, focused on how to ensure that play equipment is not disposed of, if still in good working condition. Collaborating with the City of Aalborg (a ProCirc partner) was highly influential for incorporating sustainability measures in the tender, engagement on microplastics and reviewing the method statement to develop a robust scope with relevant targets. **Lessons** – collaboration is key in understanding what is possible and how other have addressed challenges. Capability building needs to be for a wider audience than procurement professionals / buyers alone and a clear business case made, e.g., delivering on the wider strategy goals that currently act as a barrier to change.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
Scotland Excel	Catering Sundries Framework	**Circular economy focus – market engagement and framework requirements** - to prepare framework users for the forthcoming Single Use Plastics Directive, in terms of future materials with market restrictions or a ban. **Sustainability tools** - Life Cycle Impact Mapping and the Sustainability Test were used to capture and assess risks and opportunities in terms of environmental impact. **Specification and tender** – a specific method statement question was developed relating to plastics and preparation for recycling disposables.
Scotland Excel	Energy Efficiency Contractors Framework	**Circular economy focus – specification and tender questions** – based on assessment using the Sustainability Test and Life Cycle Impact Mapping the specification set out requirements regarding energy, circular outcomes in technical and service requirements. The framework is aligned with and reflects the aims of the Scottish Government's Heat in Buildings Strategy. **Evaluation** - 'Top tips' were created on what general criteria a good response would meet while specific advice was provided to the Technical Panel regarding embodied carbon and monitoring outcomes. **Outcomes and lessons** – indicative estimates of what carbon reduction may be achieved by adoption of the requirements was evaluated. Given the scope of services and environmental risks and opportunities it may be suitable to split the method statement question into sub-questions and adjust some of the wording, to ensure for future frameworks this fully reflects the nature of the market, scope of services required and specialisms of bidders.
East Lothian Council	East Lothian Council	**Circular economy focus – policy commitment -** East Lothian Council was assisted through Interreg NSR ProCirc mentoring support to develop a Sustainable Procurement Policy, with a focus on

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
	Sustainable Procurement Policy	minimising the environmental impact of the local authority's consumption while maximising the benefits to the local area. **Lessons** - Capacity Building Internal Challenges. When implementing a third or fourth generation, it is important to support the internal client in maximising the benefits of new, innovative approaches, such as embedding sustainability. To do so, you need a sustainability champion to meet regularly with internal staff to maintain momentum. Often the focus on sustainability comes from operational level, but top-down support from senior management is critical to progression.
Scottish Parliament	Corporate clothing procurement	**Pre-procurement engagement –** life cycle analysis and market and support engagement. The Scottish Parliament Corporate Body (SPCB) were keen to improve sustainability to ideally eliminate any of their end-of-life clothing going to landfill. Support from ZWS and Business in the Community together with engagement with their clothing manufacturer and supported business supplier (Haven) identified opportunities and challenges. **Sustainability assessment** - this identified risks and opportunities relating to Climate Change, Resources, Waste, Fair Work, Ethical, Environment and Communities. **Outcomes** - Haven have created a Net Zero Carbon Plan, on the back of their target to become carbon neutral by 2030. They committed to provide a minor repair and alteration service as part of the contract in order to increase the durability of garments, while also providing either pin or magnetic Parliament logo name badges with Tax Tabs rather than embroidery of the Parliament logo. **Lessons** – positive two-way dialogue with the market – with SPCB setting out their ambitions and the market considering how this impacts on their business and how they may support the objectives.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
UCI Cycling World Championships above	2023 UCI Cycling World Championships Sustainable Procurement Code	**Aligning with 2023 Cycling Worlds Sustainability Strategy Framework** – in order to set out intended objectives for suppliers and partners a Sustainable Procurement Code was established. The Code, aligned with the Framework (which in turn supports the UN Sports for Climate Action Framework, the UN Sustainable Development Goals (SDGs) and the Scottish Government sustainable procurement duty, set out requirements and ambitions for suppliers regarding Climate Change, Resources, Waste, Fair Work, Ethical, Environment and Community.
City of Edinburgh Council	Hard Facility Management Services	**Life cycle assessment** –sustainable procurement Tools such as Life Cycle Impact Mapping and the Sustainability Test were used to capture and assess risks and opportunities in terms of environmental impact. **Market engagement –** extensive engagement was undertaken with the market both before and during the tender process. **Circular economy focus – specification** - the specification focussed on a low carbon approach to delivery including a focus on circular economy, low/zero carbon transport methods and recycling. **Lessons -** the nature and extent of the focus on circular outcomes within the specification sent a clear message to potential bidders of the Council's commitment and expectations. This has been supported by the awarded contractors, with an agreed environmental and sustainability plan.
Scottish Power Energy Network	Circular metrics for measuring the impact of their projects	**Circular economy focus – market engagement and reporting metrics** – this focuses on the process of engaging with the supply chain to develop reporting metrics, outcomes and next steps.

Public body (hyperlink to source)	Procurement	Relevant procurement processes, outcomes and lessons (see links to case studies for more information)
University of Glasgow	Supply Chain Sustainability Programme A Case Study	**Supplier sustainability assessment** - EcoVadis Sustainability Programme. The University has formally engaged with EcoVadis to utilise their expertise for assessment and monitoring of our high-risk suppliers. The EcoVadis CSR Programme provides the opportunity for our suppliers to obtain a rating of their performance in the areas of Environment, Labour and Human Rights, Ethics and Sustainable Procurement.
Scottish Canals	North Glasgow Integrated Water Management system (Glasgow Smart Canal)	**Flood mitigation and carbon reduction -** Sighthill will be the first of five housing sites to be connected to the Glasgow Smart Canal, a new flood mitigation system that will accept surface water run-off, cutting 35,000 tonnes of carbon and unlocking 110 hectares of land for 3,000 new houses to be built in North Glasgow. The £17m project, has been delivered by the Glasgow City Council alongside Scottish Water and Scottish Canals through the Glasgow City Deal backed Metropolitan Glasgow Strategic Drainage Partnership (MGSDP).
Scottish Environment Protection Agency (SEPA)	Flood Warning Development Framework 2022–2028	**Carbon mitigation -** included carbon emission mitigation requirements in some large contracts e.g., Future Flood and Incident Messaging Service (FFIMS). (MENTIONED IN FLOOD WARNING DEVELOPMENT FRAMEWORK 2022–2028)

UNPUBLISHED CASE STUDIES/ EXAMPLES – limited detail available; links are provided where available:		
Aberdeenshire Council	Scotland's Passivhaus primary schools	Recent new build schools - Passivhaus (Fraserburgh Primary and Peterhead Academy). Others are in Edinburgh, Dunfermline, Perth and Kinross and elsewhere.
East Ayrshire Council	Mossgiel Farm – organic milk supply and single use plastic free	**Avoid single use plastic** - Mossgiel Farm - also used by Scottish Courts: New partnership with Mossgiel milk to supply milk into our facilities. Mossgiel use zero single-use plastic in their business. This is producing award winning carbon negative organic milk.
South Ayrshire Council	Bridge Street Depot energy efficiency, the base for the area's Grounds Maintenance, Waste Management and Golf operational staff.	**Net zero design -** Bridge Street Depot, which will serve as the base for the area's Grounds Maintenance, Waste Management and Golf operational staff.
Sustainable Scotland Network	Case studies from Councils	A few case studies from Councils regarding sustainable practices with link to procurement, such as Ayrshire, Clyde Valley, Aberdeenshire, East Lothian, Glasgow

REFERENCED WITHIN ANNUAL PROCUREMENT REPORTS – these provide limited detail:		
City of Edinburgh Council	Wester Hailes Education Centre	The Council applied climate related criteria to 38 of the contracts concluded in the last year, with some examples of climate actions achieved contained in the report. There is an increased focus on supporting net zero outcomes and continuing development as new guidance and tools to support this area are introduced. One such project awarded during the year was a construction project for the Development of Wester Hailes Education Centre, tenderers were asked to address reductions of emissions, efficient energy use, sustainable supply chains, minimisation of waste, addressing environment nuisance issues such as noise, and the use of materials including reuse and recycling. The accepted offer included a commitment to support the Council achieve its net zero target by 2030; detail of environmental accreditations held; a named monitoring officer for carbon reductions; use of hybrid or electrical options for plant and equipment and low energy use cabins on site; use of local supply chains to reduce travel impact; waste management including controls on landfill and identification of secondary use; careful selection of equipment to ensure reduced noise, vibrations and maximising off-site fabrication where possible and daily inspection; and increased recovery of materials for reuse and recycling, working with suppliers on 'buy back' or donating to social enterprises or charities. Other climate actions identified through procurement of services and where the market is developing actions include, for example, employability services providers confirming they had environment policies and were upskilling within their organisation using resources from Zero Waste Scotland to reduce office energy use and reducing equipment spend by refurbishing and repurposing or undertaking energy savings assessments to audit energy use in buildings and transport to identify savings measures. In mental health services providers were reducing emissions through limitations on travel, recycling of products used, reduced energy consumption via improved insulation and LED lighting and investing in e-bikes.

Highlands and Islands Airport	Stornoway Airport Coastal Protection Works	The Stornoway Airport Coastal Protection Works • Utilised the contractor-owned local quarry on the island to provide all aggregate, reducing shipping carbon. • Applied a circular economy approach to waste at the quarry to make new aggregate or use in landscaping. • Utilised a local workforce and a site minibus, reducing travel-related carbon emissions. • Utilised biofuel in site plant to reduce carbon emissions and use of fossil fuels
Fire and Rescue Service	EV Fire appliance	The service has received around £500,000 of funding from Transport Scotland to roll the prototype into production. The contract to build the low carbon vehicle was awarded recently to Emergency One in Ayrshire. The features of the E1 EV0™ (Electric Vehicle, Zero Emissions) are world-class. The design and manufacturing of the appliance will fully comply with British Standards for firefighting and rescue service vehicles. It will have the same capability and equipment as a diesel model, and it will be able to assist at emergencies: • It has a range of approximately 220 miles with an 80% charge, which is the equivalent of driving from Dunbar to Dundee and back again. • It has a range extender for pumping water at a prolonged incident as well as ensuring it can return to the fire station
Scottish Prison Service	Various	**Property:** HMP Kilmarnock has also taken forward various measures to reduce its carbon footprint. These include installing LED lighting throughout the prison, installing new energy efficient boilers, replacing wing end RAMs with modern vent system under asset renewal, replacing the local IT server system which used electrical energy locally with a Cloud-based system, and reducing off-site training to reduce business related travel.

		Catering: In 2021/22, HMP Addiewell switched from single-use plastic cutlery and drinking cups to biodegradable bamboo cutlery and paper cups. SPS undertook sourcing work in the year to allow SPS to also transition away from single use polystyrene containers and plastic cutlery ahead of the 1 June 22 ban on such items. SPS tenders regularly include a question relating to the Sustainable Procurement Duty and seek information from the bidder / supplier of the actions being taken to address social, economic and environmental aspects within their operations and any contract with the SPS. The SPS food tenders in late 2021 served to illustrate a wide range of activities being taken forward generally by these businesses to tackle Climate Emergency. For example: All taking steps to minimise packaging / plastic film use; encouraging cardboard recycling and reuse and moving towards multi-use boxes for deliveries. Food waste being sent for anaerobic digestion to produce electricity (thereby avoiding landfill). This is the last stage following prior steps to use - different pack sizes to better match user needs, sell - items being discounted, or donate to local Food Banks before the food expiry dates. Bidfood being ISO 14064-1 accredited for their management of greenhouse gases. Bidfood stocking and supplying Vegware. Vegware is a plant-based, compostable foodservice packaging that provides an alternative to single-use plastic or polystyrene catering consumables Bidfood and Bestway both operating arrangements with supply-chain partners to collect waste cooking oil from customers for conversion into bio-diesel. Installation of solar PV panels, LED lighting, rainwater harvesting and use in premises along with other energy efficiency measures.

		Fleet: Work to decarbonise fleet operations, moving onto Euro 6 compliant vehicles, and ensuring effective routing / fewer miles travelled. The latter has led to some changes to established prison delivery schedule, working with their supplier networks to arrange load-backhaul. In addition, light fleet (cars) moving to hybrid, forklift moving from diesel to electric, and work noted around trialling hydrogen or hydronated vegetable oil (HVO) as a fuel for HGVs. Specific (CO_2) and sustainability targets within the businesses for further reductions. Regular Safe and Fuel-Efficient Driving (SAFED 3) training & awareness to support the above. Work with organisations such as Resource Efficient Scotland, Zero Waste Scotland and others to advise and support improvement actions.
Transport Scotland	Trunk Road Network Management Contracts	The Trunk Road Network Management Contracts provides another example of where Transport Scotland included commitments to reduce carbon and waste and enhance the environment. Each contract has an Environmental and Sustainability Manager who provides expert advice and support on any matters associated with the design, operation or maintenance of the Scottish Trunk Road Network that have environmental impact implications. The contracts require each Operating Company (OC) to increase the number of ultra-low emission vehicles in their fleet, with a commitment that by 2025 each OC will ensure at least fifty per cent of their car and van fleet will be ultra-low emission vehicles. The contracts also require that each OC installs electric vehicle charge points at central offices and depots, along with dedicated electric vehicle charging parking spaces and signage to support the operation of OC ultra-low emission vehicles. This will help to lower carbon emissions on the Trunk Road Network as each OC perform their obligations. The OCs are required to develop an environmental policy and identify environmental objectives, targets, programmes, training and communication requirements for operational control and emergency response.
NHS Greater Glasgow	WARPit	WARPit will help limit the amount of waste the Board sends to landfill and reduce both our disposal costs and our carbon footprint. Re-using furniture and office supplies saves money spent on

		purchasing new equipment and helps to free-up the space occupied by unused equipment. Each transaction is monitored, and every participant is registered, which means that waste disposal obligations and legal liability concerns are met. The portal also provides detailed up-to-date information on both the environmental benefits and financial savings generated. This has been successful allowing the Board to not only make a Cost Avoidance saving of £98,929 but has reduced the number of items sent to landfill. The process includes working with Scottish SMEs, Support Business refurbish furniture where required. The figure is reduced this year due to less decommissioning taking place within the Board. Benefit Saving: Financial Non-Recurring Saving £98,929, Carbon Saving 44,903 kg, Total Waste Saved 17,300 kg, Cars off the Road 6, Trees Equivalent 23.
Aberdeen City	Hydrogen hub	Project delivered in financial year 2021-22 by the Commercial & Procurement Shared Service and City Growth teams within the Council to deliver a Hydrogen Hub as a Joint Venture with BP sets the direction for future developments and initiatives for hydrogen as an alternative for transport fuels while at the same time using Aberdeen's expertise in innovation as the energy capital of Europe. The Aberdeen Hydrogen Hub will help the city achieve its ambitions for net zero and by growing hydrogen demand for use in high consumption transport applications such as buses, local authority vehicles and commercial vehicles, it will lay the foundations for adoption of this potentially zero carbon fuel in other applications such as rail, marine, private vehicles and domestic/ commercial heat and industry.
Fife Council	Various	Alternative Fuelled vehicles including Electric Vans and Pool Cars as part of the Council's Fleet Replacement Programme - Fife Council's fleet currently has 74 electric vehicles (55 are full electric and 19 hybrids). Continued use of a collaborative framework to support the increase of the number of charge points allowing wider use of electric vehicles and positively contributing to our climate change commitment - - 104 units currently in place (public and fleet) 2021 - 22 20 new units were installed and to date there are 7 new units installed. A further 16 new units are scheduled for completion in 2022 - 23.

		Heavy Goods Vehicles generally contain in excess of 90% recyclable materials which can be reclaimed at the end of the vehicle's life and the primary goal of the Euro VI (or latest Euro Engine) emissions standards is to reduce harmful emissions from vehicles - EURO 6 is the current standard and vehicles purchased must adhere to this. Scotland Excel Framework includes sustainable procurement within the technical section of the tender and a range of sustainable measures were outlined by suppliers including Fleet/environmental Standards Reducing carbon footprint Waste reduction Vehicle and waste prevention. LED lighting, LED street lighting and luminaires programmes have resulted in carbon and CO_2 reductions - Fife Council currently has 35,886 LED street lighting lanterns (approx. 52.8% of the network) and this is an increase of 917 since 2020 - 21. Energy consumption for unmetered street lighting including lit signs, bollards and traffic signals was: - 2021 - 22 = 9,207,443 kwh 2021 - 22 = 9,043,204 kwh This is a reduction of 164,239 kwh and approximately 241 tonnes of CO_2. Construction projects to be designed and constructed to be 'Net Zero' which will incorporate sustainable features which will reduce energy consumption and carbon emissions - Dunfermline Learning Campus is being constructed to Passivhaus standards/ certification which will assist the Council in reducing energy consumption and carbon emissions. Project us working towards Net Zero. All vehicles used on bus contracts must not be older than 20 years and must be manufactured on or after 1 October 2000. All taxi contracts use vehicles in line with the Council's Licensing requirements (no older than 10-12 years old). Minibuses must be no older than 15 years old - Transport contracts (160 + Taxis, Bus and Coach) require membership of the ECO Stars Fleet Recognition Scheme. Ongoing discussions with Contractors, the Climate Change Team and ECO Stars to seek ways in which Fife Council can strengthen the Council's commitments in future tender requirements. Focus will be mainly on minimum Euro emission standards, increased percentage of quality scoring devoted to environmental aspects and the use of Eco Star ratings as a scored quality criterion.

		Contracts must provide Fife Council with copies of declarations of conformity or conformity certificates - Timber contracts requirements - Ability to provide detail for chain of custody and certification on advice notes and invoices for materials.
Glasgow City Council	Various	The purchase and maintenance of 26-ton hydrogen fuel cell electric refuse collection vehicles is an important step for the Council in its response to the impending climate emergency agenda and the decarbonisation of its Fleet to support a reduction in the city's carbon emissions and improve air quality in Glasgow. Supply and Delivery of COP26 volunteer uniforms. – as part of the sustainable outcomes it was agreed that a tree would be planted for every uniform purchased. A total of 1,000 trees have now been planted. Glasgow City Region Home Energy Retro-fit Proposal - Delivering home energy refit at scale will be a key part of delivering ambitions for net zero carbon. It will provide clean, low carbon energy efficient homes. The programme will seek to accelerate the use of green energy initiatives. Home Energy Efficiency Programmes for Scotland (HEEPS) 20/21 - This project will ensure that the housing in the city is sustainable, in terms of environmental impact, by contributing to reducing CO_2 emissions by at least 80% by 2050. The project will help to tackle fuel poverty with the area targeted for the project falling within the lowest 20% of Scottish Index of Multiple Deprivation. LED & Column Replacement Programme2b - New installation using energy efficient LED Lanterns which contribute towards a reduction in energy usage and carbon emissions. Supplier helps to support the Council's plans to become a carbon neutral city by 2030. South City WAY Ph 4B Gorbals street and Victoria Bridge - The procurement will have positive environmental impacts through new and improved travel routes including cycle lanes and junction modifications.

North Ayrshire Council	Various	Various projects that have resulted in carbon reduction: Mini Competition for the Provision of Reuse, Recycling and Recovery of Bulky Waste Materials NAC/5035 Architectural & Lead Designer Services for Ardrossan Community Campus. NAC/5059 External Wall Insulation Contractor for EES: ABS Scheme 2020/2023. NAC/MC/5076 Provision of a Principal Designer at Nethermains Solar PV Farm. NAC/MC/5060 Bulk Collection and Treatment of Organic Waste. NAC/5038 Measured Term Contract for Combined Re-Roofing, Re-Rendering, External Wall Insulation and Solar Panel Installation. NAC/MC/5069 Development of a Local Transport & Active Travel Strategy and Supplementary Street Design Guide. NAC/QQ/5131 Passivhaus Certifier Services for the delivery of Ardrossan Community Campus. NAC/DA/5037 Public Electric Vehicle Charging Business Case. NAC/MC/5094 Provision of the Supply and Delivery of Reusable Water Bottles to schools in North Ayrshire. NAC/STA/5118 Island Green Programme – Accelerating the Path to NetZero Islands – Provision of On-Island Delivery Service.
PKC	Low Carbon Transport Hub Broxden	**Low Carbon Transport Hub Broxden** The Hub is an innovative low carbon design at Broxden Park & Ride. The intention of the Hub is to broaden the range of refuelling activities and transport modes available, providing sustainable travel options to local residents, businesses and visitors to the region, thereby providing the opportunity to improve workforce mobility, social inclusion and environmental impact.

Scotland's Rural College	Slurry storage	Slurry storage at Barony Campus does not meet anticipated legislative requirements to control emissions. Market research identified a sole supplier and their unique patented technology. SRUC researchers identified that this technology could contribute to the reduction in carbon footprint of SRUC's dairy operation (a strategic goal) by displacing inorganic N fertiliser and reducing methane losses during manure storage. The technology will also help establish the Barony dairy farm as a centre for late-stage development and demonstration of novel technologies in dairy farming.
Strathcylde University	Multi-Functional Devices	The strategy developed for the provision of Multifunctional printing devices included a detail assessment of new versus used equipment. The recommended approach was heavily impacted by the CO_2 savings achieved on retaining the current fleet (used). These savings included 19 tonnes CO_2 transport emissions avoided through continued use (Based on 13 trucks required to transport units, return trips to supplier warehouse, and same for a new supplier to deliver replacements), 68 tonnes CO_2 embodied carbon savings against purchasing new. (Based on 128 units at an approximate carbon footprint of 529kg/CO_2/unit) and 14 tonnes of e-waste reduction (Based on 128 units at approx. 111kg per unit).
Moray Council	Procurement guide - setting out procurement expectations for buyers and suppliers	The 'Food for Moray' event invited any business interested in supplying fresh meat, fruit and veg and bakery products to schools to learn more about the process and gain advice from the teams involved. Suppliers spoke with relevant officers to find out about the criteria for supplying schools, how they can operate more sustainably and evidence this in their bids. The event was attended by officers from catering, climate change, procurement and community wealth building, as well as advisers from Business Gateway. Existing suppliers were on hand to share their experience of supplying the council. Suppliers liked that they could come to talk with relevant officers and obtain information before deciding whether to proceed with the tender process. It was an excellent opportunity for officers to handle any concerns or misconceptions about the process at an early stage. Feedback from attendees was very positive. Three local butchers went on to join the tender process, and one purchased an electric van.

9.6 Appendix 6: sources of guidance regarding climate and procurement

Guidance	Focus	Comment
GHG Protocol Technical Guidance for Calculating Scope 3 Emissions	As referenced in 3.2, this provides detail that supports the Corporate Value Chain (Scope 3) Accounting and Reporting Standard.	This includes alternative methodologies to assess supply chain emissions from purchased goods, services and works (GHG 2023).
GHG calculation Tools and Guidance	This provides: Cross-sector tools, Country-specific tools, Sector-specific tools, Tools for countries and cities.	The tools are most useful for those who have a high level of understanding and require a specific focus. Many public bodies may not feel these are relevant (GHG 2023b).
Procurement Journey – What do I do on Climate?	Guidance for public bodies on use of standardised statement 4C7 in Single Procurement Document (Procurement Journey 2023a).	This is also referenced in Climate Change guidance within the Sustainable Procurement Tools platform Scottish Government (2023a).
Zero Waste Scotland: Procuring for a Circular Economy	**Category specific.** This represents a toolkit providing guidance and clauses through the procurement cycle.	This focuses on Catering, Cleaning, Electrical and Electronic, Flooring, Furniture, Maintenance and Repair, Sports and Recreation, Waste Services, Workwear and PPE, Packaging (ZWS 2023).
Zero Waste Scotland: Procuring Resource Efficient Construction Projects	**Category specific.** It represents a toolkit providing guidance and clauses through the procurement cycle. This was written in 2018, although much remains relevant.	This focuses on construction resource efficiency and intended for buyers and contractors (ZWS 2023a).
APUC - Primary Impact Area for Climate Change	**Category specific.** Provides guidance on aspects that can be considered in applying action to reduce the impacts on climate emissions on specific goods or service.	This is for ICT, Food, Furniture, Energy, Laboratories, Travel (PIACC 2023).

University of Edinburgh Fair and Sustainable Procurement Guidance	**Category specific.** Designed to assist buyers and suppliers – discussion with the University indicates these are due for an update as they some years old.	This is for Electronics, Catering, Laboratories, Travel (University of Edinburgh 2023).
EU Green Public Procurement Criteria (EUGPP 2023)	**Category specific.** A set of sustainability specifications, including some focus on energy, vehicles, waste, embodied carbon, for commonly procured categories.	Computers, monitors, tablets, smartphones, Electricity, Furniture, Indoor cleaning services, Paints, varnishes and road markings, Road design, construction and maintenance, Road transport, Data centres, server rooms and cloud services, Food catering services and vending machines, Imaging equipment, consumables and print services, Office building design, construction and management, public space maintenance, Road lighting and traffic signals, Textile products and services.
UK Government Buying Standards (GBS 2023)	**Category specific.** A set of sustainability specifications, including some focus on energy, vehicles, waste, embodied carbon, for commonly procured categories. These are mandatory for Core Scottish Government organisations.	Cleaning products and services, Electrical goods, Furniture, Horticulture and park services, Office ICT equipment, Paper and paper products, Textiles, Transport (vehicles), Construction projects and buildings (not mandatory in Scotland for Core Government), Water-using products, Food and catering services.
Scottish Futures Trust	**Category specific.** Guidance on pathways to net zero for assets delivered under PPP contracts, linked to the Net Zero Building Standard Document Suite (SFT 2022).	Net Zero Public Sector Buildings Standard (SFT 2021).
Sustainable Scotland Network – SSN Manual	**General.**	This includes detail on policy drivers, relevant legislation, procurement process, principles

	This provides general guidance on the role of procurement in supporting sustainable economic growth.	and approaches and reporting requirements (SSN 2023).
Public Sector Leadership on the Global Climate Emergency Guidance, October 2021	**General.** This Scottish Government and SSN guidance set out public bodies' leadership role in tackling the global crises of health, climate emergency and biodiversity loss.	This may help non-procurers understand the role of procurement (Scottish Government 2021).

Other guidance exists elsewhere, including but not restricted to: The Local Government Association Sustainable Procurement Toolkit (LGA 2023); WRAP Cymru Low Carbon & Resource Efficient Construction Procurement (WRAP 2023); Foodsteps: life cycle food products (Foodsteps 2023).

9.7 Appendix 7: Supplier survey questions and key selected responses

Driving emission reduction through the public sector supply chain - *supplier evidence*

Aims:
This research project will provide evidence to the Scottish Government on improving the ways in which public bodies can measure and target climate emissions arising from the purchase and supply of goods, services and works. This includes evidence from small, medium and large suppliers regarding relevant and proportionate approaches to measuring, mitigating and reporting emissions.

Benefits:
The research, undertaken by **Sustainable Procurement Limited,** in conjunction with **Aether Limited** on behalf of **ClimateXChange** (https://www.climatexchange.org.uk/), will help public bodies understand and implement practical steps to examine and mitigate such emissions. It will also help suppliers understand recommended approaches which are relevant to them. The research will be published after October 2023 on the ClimateXChange website.

The research will (summarised):
Evaluate methodologies, tools and techniques for measuring, mitigating and reporting procurement and supply emissions at organisational and contract level, including those used by public bodies and suppliers in Scotland, which do not place a disproportionate burden on supply chains and public bodies.

It will set out practical actions, including use of appropriate tools and techniques, that public bodies can use to drive net zero ambitions in procurements, and to maximise emission reduction in supply chains. It will also identify exemplar climate and procurement projects from within the Scottish public sector and supply chains.

Next steps:
A short survey for suppliers has been developed to help with evidence gathering. The more suppliers (whatever their size) that engage as soon as possible with this research the greater the evidence base, to inform practical recommendations.

The survey should take around **10 minutes** to complete. Where appropriate, information may be followed up by the research team. The information obtained will be just used for the research, will be anonymous when the research is published and not used for any other purpose. The Survey is open until 7th August 2023.

Data processing:
Providing this information is voluntary. Names, roles and email addresses are the only personal data intended to be collected and will only be used to contact consenting respondents for follow-up information, if relevant. All information provided will be managed in accordance with

GDPR requirements.

If you have any questions or wish to discuss this research please contact Philip Duddell: philip@sustainableprocurement.eu.com.

1	Your organisation
2	Has your organisation calculated organisational **Scope 1 emissions** (e.g. from fuel combustion, company owned vehicles)?
	Yes
	No
	Don't know
If your answer to Question 2 was 'Yes':	
3	Has your organisation calculated organisational **Scope 2 emissions** (e.g. from purchased electricity)?
	Yes
	No
4	Has your organisation calculated organisational **Scope 3 emissions** - **from waste**?
	Yes
	No
	Don't know
5	Has your organisation calculated organisational **Scope 3 emissions** - **from your purchase of goods and services/ your supply chain**)?
	Yes
	No
	Don't know
If you have calculated **Scope 3 emissions from purchase of goods and services/ supply chain**:	
6	Was a specific methodology and/ or tool used? Please provide details below (**select all that apply**):
	GHG Protocol Scope 3 Technical Guidance
	Defra/BEIS
	Developed by our organisation
	Quantis
	Using industry averages/ benchmarks
	Using mix of spend based emissions and that from our suppliers

	External Scope 3 carbon accounting tool (please provide details)
	Don't know
	Other
7	Please provide any further relevant details in response to Question 6 below. This includes details of tools/ methodologies tools used and whether they are free to use or chargeable.
8	Has your organisation established a Climate Change Action Plan or similar?
	Yes
	No
	Don't know
	Other
9	Does your organisation disclose carbon emissions and plans to any of the following? (**select all that apply**)
	Carbon Disclosure Project (CDP)
	EcoVadis
	Other external carbon disclosure
	Public sector customer(s)
	Other customers
	No
	Don't know
	Other
10	Does your organisation routinely identify or require carbon emissions from your supply of goods and services and /or your supply chain? (**select all that apply**)
	Yes - identify emissions for specific goods and services we supply
	Yes - require emissions from suppliers for goods and services they supply
	No - we don't identify emissions for goods or services we supply
	No - we don't obtain emissions from our suppliers of goods and services
	Don't know
	Other
11	If you are facing challenges with identifying (a) Scope 1 or 2 emissions AD/OR (b) emissions from your supply chain AND/OR (c) emissions relating to your supply of specific goods and services, please state which of the following are relevant (select all that apply):
	Uncertain where to start
	Uncertain how to calculate emissions from our procurement of goods and services

	Uncertain how to calculate emissions relating to specific goods or services we supply
	Lack of routinely available data e.g. quantities/ emissions
	Inconsistent requirements from buyers
	Lack of clarity in how to measure and report emissions for contracts
	Lack of internal resource
	Requirements from buyers which appear to be disproportionate
	Lack of availability of suitable tools
	Uncertainty in how to verify data/ information
	Lack of relevant guidance
	Need for business support
	All of the above
	None of the above
	Other
12	If you want to provide more information in response to the above Question please provide it below:
Not yet	
13	Does your organisation have case studies/ examples (published or otherwise) of mitigating relevant climate/ carbon emissions in the supply of goods, services and works to the Scottish public sector?
14	Your organisational role:
15	Are you happy to be contacted in response to this survey, if relevant?
16	Contact details (name, email and/or other):
17	Many thanks for completing this short survey. Please use the box below to provide additional information relating to the above questions, if relevant, and for any further information or comments.

Summary of survey responses to key questions:

In response to the question 'Does your organisation disclose carbon emissions and plans to any of the following? (selecting all that apply)':

No	28
Public sector customer(s)	26
Other customers	17
Other (including B Corp, SECR, ESOS, TCFD, Race to Zero from UN)	11
Carbon Disclosure Project (CDP)	10
Other external carbon disclosure	10
EcoVadis	8
Don't know	1

Suppliers identified the following challenges to determining their scope 1 and 2 emissions or those from their supply chain (selecting all that may apply):

Lack of routinely available data e.g., quantities/ emissions	34
Uncertain how to calculate emissions from our procurement of goods and services	22
Uncertain how to calculate emissions relating to specific goods or services we supply	22
Uncertainty in how to verify data/ information	20
Lack of clarity in how to measure and report emissions for contracts	19
Lack of internal resource	19
Inconsistent requirements from buyers	18
Lack of relevant guidance	16
All of the above	15
Lack of availability of suitable tools	14
Need for business support	14
Uncertain where to start	11
Requirements from buyers which appear to be disproportionate	11
Other	5
None of the above	4

If you require the report in an alternative format such as a Word document, please contact info@climatexchange.org.uk or 0131 651 4783.

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