



Scope 3 Emission Accounting at the Local Authority Level

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Contents

Acronyms	iii
Executive Summary.....	1
1. Introduction	2
2. Scope 3 emissions categories.....	2
3. Discussion of potential for greenhouse gas emissions categories to be included in reporting by local authorities	3
3.1 Group 1: Straightforward	3
3.2 Group 2: Need further work	5
3.3 Group 3: Need further research	8
4. Conclusion	8
5. Acknowledgements	8
6. References.....	9

Acronyms

FLS	Forestry and Land Scotland
FTE	full-time equivalent
GHG	Greenhouse Gas Emissions
LAs	Local authorities
LCA	Life Cycle Analysis
N/A	Not applicable
NHS	National Health Service
SPS	Scottish Prison Service
TCFD	Task Force on Climate-related Financial Disclosures

Executive Summary

Under the Climate Change Public Body Duties (Scottish Government, 2009) local authorities are obligated to report on their scope 1 (direct emissions from sources that an organisation owns and operates directly) and scope 2 (emissions from the production of purchased energy) emissions. On behalf of the Scottish Government Net Zero Public Sector Team the James Hutton Institute provided expert advice on the feasibility of inclusion of scope 3 emissions within the foreseeable future.

Thirteen categories of sources of greenhouse gas (GHG) emissions were identified by the Net Zero Public Sector Team with respect to their potential for reporting by local authorities. These categories were aggregated into three groups: Group 1 Straightforward, Group 2 Need further work, Group 3 Need further research. The Net Zero Public Sector Team identified the tools and methodologies relevant to reporting of GHG categories, by group, which were reviewed by the James Hutton Institute and feedback provided on details and practicalities.

The review concluded that, in principle, it is feasible to report Scope 3 GHG emissions by local authorities, noting that some methodologies need to be further developed. Certain categories, particularly emission categories within Group 2 ('Further work needed'), will require specialist advice to comprehensively assess overall impacts.

1. Introduction

With the global commitment towards Net Zero by 2050, and by 2045 in Scotland, there is an increasing requirement to reduce and mitigate emissions at all levels. Under the Climate Change Public Body Duties (Scottish Government, 2009) local authorities are obligated to report on their scope 1 (direct emissions from sources that an organisation owns and operates directly) and scope 2 (emissions from the production of purchased energy) emissions.

Through the Scottish Government Underpinning National Capacity Support to Policy function, the James Hutton Institute was approached by the Net Zero Public Sector of the Scottish Government to offer expert advice on the feasibility of inclusion of scope 3 emissions (indirect emissions from the value chain not already reported as Scope 2) within the foreseeable future. The following report summarises the insights and advice given.

2. Scope 3 emissions categories

The following categories were identified by the Net Zero Public Sector Team from the Greenhouse Gas Protocol (Greenhouse Gas Protocol, 2011).

- 1) Purchased goods and services
- 2) Capital goods
- 3) Fuel and energy-related activities (not in Scopes 1 or 2)
- 4) Upstream transportation and distribution
- 5) Waste generated in operations
- 6) Business travel including overnight stays
- 7) Employee commuting, including homeworking
- 8) Upstream leased assets
- 9) Downstream distribution and transportation
- 10) Processing of sold products
- 11) Use of sold products
- 12) End of life treatment of sold products
- 13) Downstream leased assets
- 14) Franchises Investments

These thirteen categories have been sorted into three groups by the Net Zero Public Sector Team based on the perceived ease of reporting for local authorities (LAs). This report uses these groupings to organise responses to the actions proposed or discussed.

During the consultation, several meetings were held with the Net Zero Public Sector Team to determine the scope and depth of this study. The James Hutton Institute staff involved have multiple years of experience in accounting for greenhouse gas (GHG) emissions across various sectors, including Scope 3 emissions and life cycle analysis. However, they are not experts in every category presented here. From our discussions, it is evident that, at this stage, we are primarily focusing on the overall feasibility of implementing Scope 3 emissions reporting rather than entering more technical issues associated with it. With this understanding, the team at the James Hutton Institute provided the recommendations which follow in this document.

It is noted that the strongest single piece of advice that can be given is across all categories: consistent and firm system boundaries, both between categories and between Scopes to ensure double counting does not happen. It should be recognised that what constitutes Scope 1 emissions from one perspective may not be consistent with those of someone else in Scope 3.

3. Discussion of potential for greenhouse gas emissions categories to be included in reporting by local authorities

3.1 Group 1: Straightforward

The following categories (Table 1) have been identified by the Net Zero Public Sector Team as relatively easy to include in local authority reporting.

Table 1: Emissions categories identified by the Net Zero Public Sector Team as straightforward to include in local authority reporting, with expert feedback from the James Hutton Institute.

Category	Tool / method for reporting	Impact of reporting	James Hutton Institute feedback
3. Fuel and energy related activities (not in scopes 1 or 2)	Data source: transmission and distribution losses, and well to tank conversion factors applied to Scope 1 and 2 consumption data.	Highlights carbon savings by including upstream emissions. Strengthens business cases for lower carbon options.	A single tool or specified methodology must be established to ensure consistency of reporting, particularly in cases where source choice (e.g. electricity generation) can have such a strong outcome in the end result.
5. Waste generated in operations	Data source: waste data and management information from the appointed waste contractor. UK Government conversion factors ¹ applied.	These emissions will be generated within Scotland and reductions will therefore contribute to national and regional reduction targets. Help support the transition to the circular economy. Whilst waste and recycling make up a relatively small proportion of emissions, they can be an effective way to start engaging staff and service users.	There are multiple complexities involved in accounting and communicating the true environmental impact of waste management options such as landfills, incineration, and recycling. It is important to verify whether there are specific high-quality emission factors for these

			activities. Additionally, several integrated methodologies need to be developed to accurately report a combination of all these choices at the local level
6. Business travel, including overnight stays	Data source: travel agent or travel contractor data, expenses claims, organisational credit cards. UK Government and other conversion factors applied.	These majority of these emissions are likely to be generated within Scotland and reductions will therefore contribute to national and regional reduction targets. Help support national and organisational policies, e.g. 20% reduction in car km. Allows compliance with internal policies to be monitored. Can help ensure value for money, i.e. public funds not being wasted on unnecessary journeys. Can support positive behaviour in other organisations (e.g. remote meetings). Focus should be on private transport rather than public transport, as reliability of consumption data for some public transport options are variable.	There is a need to define clear boundaries to avoid confusion in accounting. Public travel must be defined. For example, air travel is one of the ways of travel with the highest level of emissions and one which can be discouraged. Trade-offs between methods must also be considered. There is a need to evaluate the ease of collecting data and develop methods for several options at the local level to identify the best possible mitigation options.
7. Employee commuting and homeworking	Homeworking: conversion factor applied to full-time equivalents (FTEs). Commuting data: can be estimated based on information gathered from staff, e.g. staff travel survey	These emissions will be generated within Scotland and reductions will therefore contribute to national and regional reduction targets. Surveys can be used to gather information such as around challenges to active travel, which can	This does not account for emission range within a travel type – e.g. cars. Consideration is also required on how to calculate home working. For

		be used to target interventions and shape internal policies, improve facilities, etc. Wider benefits to health and wellbeing for active travel. Information may not be readily available as travel patterns can be variable, and collecting data for homeworking can be complex.	example, are averages to be used for employee commuting for emission factors? At what level of detail are emission factors to be collected? E.g. low emission cars versus high, taking the bus, etc.
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3.2 Group 2: Need further work

The next category of emissions was deemed as important for consideration but more complicated to include than the previous. The category, method for reporting, impact of reporting and feedback from James Hutton Institute are summarised in Table 2.

Table 2: Emissions categories identified by the Net Zero Public Sector Team as requiring further work to include in local authority reporting, with expert feedback from the James Hutton Institute.

Category	Tool / method for reporting	Impact of reporting	James Hutton Institute feedback
1. Purchased goods and services	To establish a hybrid methodology combining spend-based with supplier specific data. In the interim this is likely to be undertaken using a spend-based method. Effort required to move from spend-based to supplier or product specific reporting.	It is likely that only a proportion of these emissions will be generated within Scotland or the UK. Potentially this category could have a significant impact, due to the level of public sector spending. In terms of reduced emissions, but also greater sustainability and potentially greater resilience. Potential to stimulate the circular economy through a robust procurement strategy. Resource required – potentially significant (people and financial).	The spend method does not seem the best choice for use here and may lack the necessary accuracy. It may be a better choice to estimate emissions by type and invest funds into developing a suitable emission factor or database in its support. Shortcutting this step could result in very inaccurate GHG estimations and in punishing low-emission products that have a price premium, thereby encouraging high emission low price products

2. Capital goods	Various tools available including UK Government conversion factors based on quantities of materials used; or estimating carbon can be included as part of the specification and undertaken by the design / engineering team.	Opportunities to influence and reduce the embodied carbon of a project are greatest at the early design stages. Would mean that new build vs. deep retrofit for applicable projects be given full consideration. Could help stimulate the circular economy.	This is a very complex issue that deals with a lot of choices tailored to specific needs. We do not have the appropriate expertise to gauge the impact of this. However, with our current understanding, we recommend the following: There will need to be a single appropriate tool to use identified as different tools will produce different results of variable reliability.
4. Upstream transportation and distribution	Could be captured through purchased goods and services.		Date is required on quantities of goods transported, modes of transportation, distances travelled, and fuel consumption data. Local authorities need to look at the feasibility and cost of collecting this data for accurate reporting. As noted above, a standardised methodology would be required to ensure consistency.
8. Upstream leased assets	Data source: meter readings; or landlord should be able to provide this data, or an estimated share of it.	These emissions will be generated within Scotland and reductions will therefore contribute to national and regional reduction targets.	Emissions will vary from asset to asset and agreements. Dealing with electricity consumption

		Can be used to shape and inform the estates strategy/plan and leasing policy. Can be implemented on lease renewal basis. May incentivise the improvement of leased non-domestic properties.	offers the most straightforward method of accounting, but by no means comprehensive. Once again clear boundaries must be established to make the responsibility clear in responsibility for everyone involved
13. Downstream leased assets	Data source: annual meter readings for electricity and gas.	These emissions will be generated within Scotland and reductions will therefore contribute to national and regional reduction targets. Main source for LAs is likely to be social housing - however as this has its own targets and reporting (Annual Returns and the Energy Efficiency Standard for Social Housing (EESH)) any additional reporting here unlikely to have an impact and would duplicate effort. Could incentivise the improvement of non-domestic properties that are leased out, e.g. to improve insulation and to decarbonise heating.	As above
15. Investments	Data source: TCFD reports from investment managers	It is likely that only a proportion of these emissions will be generated within Scotland or the UK.	We do not offer any advice as this category requires a lot of prior information and more specialized expertise to gauge the overall impact.

3.3 Group 3: Need further research

Group 3 included categories that were deemed by the Net Zero Public Sector Team to have uncertain methodologies for going forward. It is noted by the authors that these estimations would typically be included in a classic Life Cycle Analysis (LCA), offering one methodological option.

Table 3: Emissions categories identified by the Net Zero Public Sector Team as requiring further research before inclusion in local authority reporting, with expert feedback from the James Hutton Institute.

Category	Impact of reporting	James Hutton Institute feedback
10. Processing of sold products	N/A to most – however might apply to Forestry and Land Scotland (FLS), Scottish Prison Service (SPS).	We do not have sufficient information about the nature, quantity, and type of these goods to assess their feasibility at the local level.
11. Use of sold products	N/A to most – however might apply to FLS, SPS. Possibly National Health Service (NHS) if ‘sold’ includes ‘given’.	Same as above
9. Downstream distribution and transportation	N/A to most – however might apply to FLS, SPS.	Same as above
12. End-of life treatment of sold products	N/A to most – however might apply to FLS, SPS. Possibly NHS if ‘sold’ includes ‘given’.	Same as above
14. Franchises	Data source: Task Force on Climate-related Financial Disclosures (TCFD) (Scottish National Investment Bank (2023/24) reports from investment managers	Same as above

4. Conclusion

Based on interactions with the Net Zero Public Sector Team, and the information provided in Tables 1 to 3, our conclusion is that, in principle, it is feasible to report Scope 3 emissions from local authorities. However, several methodologies for various choices need to be developed once that report is approved. Certain categories, particularly emission categories within Group 2 (Table 2), will necessitate specialist advice to comprehensively assess their overall impact.

5. Acknowledgements

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