

Cleaner Air for Scotland 2 Towards a Better Place for Everyone 2023/24 Progress Report

June 2024

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1. Foreword

The quality of the air we breathe is fundamental to our health, and our ecosystem. Scotland enjoys good air quality compared with much of Europe and globally, with significant reductions achieved across all the main air pollutants over the past three decades, but we are determined to go further to protect human health and the environment. Our vision is for Scotland to have the cleanest air in Europe.

The World Health Organisation considers air pollution to be the biggest environmental risk to human health. That is why we are taking action, including supporting the implementation of the Low Emission Zones in Edinburgh, Aberdeen and Dundee this year, alongside the LEZ already in place in Glasgow, helping us reduce emissions and pollution in our city centres.

Good progress has been made this year in delivering our actions in Cleaner Air for Scotland 2. Since publication of the strategy in July 2021, we have worked with partners to deliver more than half of the actions, with seventeen actions completed since the last progress report. For the second consecutive year, Scotland is meeting air quality objectives. This is a great achievement and evidences the hard work we have been doing collectively with partners.

I look forward to continuing our journey together to improving Scotland's air quality.

Màiri McAllan MSP
Cabinet Secretary for Net Zero and Energy

2. Introduction

The Scottish Government's Cleaner Air for Scotland 2 strategy (CAFS2) sets out the policy framework for air quality in Scotland to 2026 and includes a comprehensive list of actions across the following ten policy areas:

1. Health
2. Integrated Policy
3. Placemaking
4. Data
5. Public Engagement and Behaviour Change
6. Industrial Emissions Regulation
7. Tackling Non-Transport Emissions Sources
8. Transport
9. Governance, Accountability and Delivery
10. Further Progress Review

This third annual report summarises progress on actions since the last progress report in September 2023.

3. Summary of progress

Over the past few decades levels of the main air pollutants have declined significantly. Between 2005 and 2021 (the latest year for which figures are available), nitrogen oxide emissions have decreased by 60%, fine particulate matter by 41% and sulphur dioxide by 92%.

This year is the second consecutive year that objectives for all pollutants at all automatic monitoring sites have been met outside of pandemic lockdown periods. In addition the number of Air Quality Management Areas (AQMAs) in Scotland is reducing from 43 to 28, and a further 15 revocations are scheduled for 2024.

A wide range of actions have been delivered over the past year, working closely with stakeholders, and progress is continuing on the remaining actions. A summary of some of the achievements over the past year is outlined below.

Public Engagement

Much of the focus has been on taking steps to inform development of the Public Engagement Framework for air quality, which is a key action in CAFS2.

Building on the publication of the public engagement survey in June 2023, which explores public perceptions of air quality in Scotland, we commissioned the James Hutton Institute to review evidence around the key actions people can take to help improve air quality in Scotland.

The Key Behaviours Report identifies six key behaviours that individuals can take for air quality improvement. From thinking about how we get around whether that's walking, wheeling or cycling for short journeys or using public transport instead of driving, looking at opportunities to work flexibly or from home and looking at how we heat our homes. A link to the report can be found [here](#).

This work will form the basis of the public engagement framework for air quality in Scotland.

Health Research

The publication of health research has been a key achievement since the last Progress Report. The report improves our understanding of health impacts caused by air pollution which in turn will inform policy development. The report was published in October 2023, and can be found [here](#).

Local Air Quality Management (LAQM) Policy Guidance

The LAQM policy guidance sets out the statutory background and the legislative framework within which local authorities have to work. In collaboration with SEPA and local authorities we have updated the guidance to incorporate the Environmental Standards Scotland (ESS) recommendations to strengthen the LAQM regime, and fully updated information on air quality-related policy areas such as transport and planning. The updated guidance was published in May 2024 and can be found [here](#).

Ammonia

Emissions of ammonia are harmful for our natural environment and a key deliverable in reducing these emissions from agriculture is the update of the Prevention of Environmental Pollution from Agricultural Activity (PEPFAA) of code. Relevant chapters have been updated to incorporate measures to reduce emissions to air and have been published on the [Farming and Water Scotland](#) website.

In addition, Scotland's Rural College (SRUC) is developing tools to encourage farmers, land managers and decision makers to reduce ammonia emissions from livestock and land use practices. The tool will now be tested on a number of SRUC's research farms to aid further refinement and assess on farm trade-offs in ammonia and greenhouse gas emissions.

Annex A: completed actions

Since publication of the 2022/23 progress report, a further 17 CAFS2 actions have been fully delivered. Each action in CAFS2 has been assigned a short (to 2022), medium (to 2024) or longer term (to 2026) timeframe for delivery within the Delivery Plan. The majority of the completed actions are those identified as short and medium term priority actions in the Delivery Plan, however six longer term actions have also been delivered.

Topic and timeframe	CAFS2 Action	Update
Health (long term action)	The Scottish Government with support from Public Health Scotland will assess the evidence on health impacts of low level pollution in countries with levels of ambient air pollution comparable to Scotland.	<p>In March 2023 we commissioned a literature review to assess the health impacts of low level air pollution in countries with levels of ambient air pollution comparable to Scotland.</p> <p>The evidence report from the literature review was published on 23 October 2023 - Low-level pollution - health impacts: evidence review</p>
Placemaking (short term action)	The Scottish Government with support from SEPA will promote the aim of the UK Integrating Tools for Air Pollution Assessment project in developing an online air pollution risk assessment tool for air pollution effects on ecosystems.	The APAS (Air Pollution Assessment Service) tool was launched at the end of November 2023.
Governance accountability and delivery (medium term action)	The Scottish Government with support from SEPA will undertake a further revision of the LAQM policy guidance to take account of developments since the last update in 2016.	Working with SEPA and local authorities, the LAQM policy guidance was revised and published in May 2024, including revisions to sections 1 – 9. A link to the updated guidance can be found here Local Air Quality Management - Policy Guidance .
Integrated policy (short term action)	The Scottish Government with support from SEPA will ensure that all actions taken by the Scottish Government to address air quality maximise the potential for co-benefits with climate change mitigation and adaptation. The 50	We have included guidance for local authorities in the updated Local Air Quality Management (LAQM) policy guidance, which published in May 2024. A link to the updated guidance can be found here Local Air Quality Management - Policy Guidance .

	<p>recommendations for maximising co-benefits set out in the CAFS Governance Group climate change report will be used to guide this process. We will work with local authorities to ensure that a similar approach is taken at local level.</p>	
<p>Integrated policy (medium term action)</p>	<p>SEPA will work with local authorities to ensure that noise action plans are closely aligned with air quality action plans to deliver co-benefits. Guidance will be produced to facilitate this.</p>	<p>We have included guidance for local authorities in the updated Local Air Quality Management (LAQM) policy guidance, which published in May 2024. A link to the updated guidance can be found here Local Air Quality Management - Policy Guidance.</p>
<p>Tackling non transport emissions (short term action)</p>	<p>The Scottish Government, in developing policies and programmes to support households and businesses in transitioning to low-carbon heating solutions, will consider the needs of those affected by controls on the supply of the most polluting domestic fuels.</p>	<p>The Scottish Government undertakes impact assessments at the early stages of developing policies. An evidence report to inform the development of a Business and Regulatory Impact Assessment (BRIA) for regulations to ban the sale of house coal and high sulphur fuels has been published here Impacts of the sale of house coal and the most polluting manufactured solid fuels: report</p>
<p>Tackling non transport emissions (medium term action)</p>	<p>The Scottish Government will work together with SEPA and the agricultural industry to develop a voluntary code of good agricultural practice for improving air quality in Scotland</p>	<p>The CAFS2 Agriculture and Environment Working Group agreed that measures to reduce emissions to air should be incorporated into the relevant chapters of the PEPFAA code, rather than as standalone guidance. We identified two chapters as being particularly important for air quality, these being manure handling and storage, and inorganic and liquid fertilisers. Both of these chapters have now been updated and published, and can be found here PEPFAA- Code of Good Practice - Farming and Water Scotland.</p>

<p>Tackling non transport emissions (medium term action)</p>	<p>The Scottish Government will undertake a specific assessment of visible smokes and their health and amenity impacts arising from muirburn. The assessment will consider pollution characteristics and downwind impacts into populated areas, along with appropriate management responses and interventions.</p>	<p>The Wildlife Management and Muirburn (Scotland) Act 2024 requires that any muirburn should be unlawful unless carried out under a licence, for limited purposes, with further limitation on muirburn on peatland. Limitations on muirburn for the purposes of environmental sustainability will have co-benefits for air quality. In addition the health impacts of poor air quality are well understood and have been recently reviewed, which supports completion of this action.</p>
<p>Tackling non transport emissions (medium term action)</p>	<p>The Scottish Government with support from SEPA and NatureScot will review current monitoring of terrestrial ecosystems (and air pollution effects) in Scotland.</p>	<p>NatureScot have worked with SEPA to task the Centre for Ecology and Hydrology with developing a mobile application that will allow rapid assessment of nitrogen deposition in the field. The application offers direct access to Nitrogen Futures data at a local level, thus allowing officers to work with landowners to develop and implement emission reduction measures to protect local sensitive habitats. The Nitrogen App is now available and SEPA are looking to incorporate the app into priority catchment work.</p>
<p>Tackling non transport emissions (short term action)</p>	<p>The Scottish Government will encourage uptake of Ecodesign stoves through Ecodesign Ready and other initiatives, along with consideration of how best to address widespread replacement of pre Ecodesign appliances.</p>	<p>The James Hutton Institute report on key behaviours for air quality identified two behaviours relating to domestic solid fuel burning (burn less and burn cleaner (including use of efficient stoves)). On 13 May we held a domestic emissions focused public engagement workshop to discuss incorporating these key behaviours within the public engagement framework which is due to be completed during 2024. This action is now being delivered through the public engagement framework.</p>

<p>Health (long term action)</p>	<p>Transport Scotland with support from Scottish Government will contribute to research on in-vehicle air quality measurement methodology, the use of recirculation mode for long-distance journeys related to CO₂ and in-vehicle air pollution related to occupational health.</p>	<p>Existing evidence in this area confirms that in-vehicle air quality is highly influenced by outdoor air quality and driver/passenger behaviour (use of recirculation mode/ opening windows etc). We will utilise existing evidence to support our public engagement on air quality. We will also continue to implement measures that improve outdoor air quality, such as the Low Emissions Zones (LEZs), which will reduce exposure to harmful air pollutants both inside and outside vehicles.</p>
<p>Health (long term action)</p>	<p>The Scottish Government with support from Public Health Scotland will commission population research on the long term effects of air pollution using cohort methods to aid further understanding of health impacts and explain the apparently different epidemiology in Scotland.</p>	<p>During 2023 we commissioned a comprehensive review to examine the existing evidence on the health effects associated with low-level pollution in countries that have levels of ambient air pollution similar to Scotland.</p> <p>The scope of the work commissioned also considers the inconclusive evidence from Scotland regarding the association of air pollution with cardiovascular disease, as well as the potential contributing factors to this variation.</p> <p>The report concludes that evidence from global studies and reviews consistently supports the association between air pollution and various health outcomes, including cardiovascular disease.</p> <p>The findings from the report are an important contribution to our knowledge of the health impacts of air pollution at concentrations similar to those recorded in Scotland, and together with other commissioned research contribute to our understanding the health impacts of air pollution and deliver the outcomes of this action.</p>

Health (long term action)	The Scottish Government with support from Public Health Scotland will convene a task group to identify what, if any, actions might best be undertaken at Scottish level to address the issues associated with indoor air pollution.	The UK Air Quality Expert Group delivered a report setting out factors associated with indoor air quality. This research will provide a useful base in future work on indoor air quality. Public Health Scotland have also updated NHS Inform to raise awareness and provide advice on indoor air quality, the page can be viewed here Indoor air pollution NHS inform .
Transport (short term action)	SEPA working with local authorities and Transport Scotland will provide updates on the performance of the LEZs and continue to update the LEZ models to reflect changes associated with projects such as Spaces for People fund.	LEZ reporting requirements are set out in LEZ guidance published by Transport Scotland Low Emission Zone Guidance Transport Scotland .
Data (short term action))	The Scottish Government with support from SEPA will provide guidance to local authorities on how best to always commission traffic data collection in a way that supports local air quality objectives.	These three actions relate to traffic data collection for use in air quality modelling tools. Such tools are important for air pollution mitigation purposes. SEPA and Transport Scotland have worked with local authorities to support the implementation of LEZs within the four cities. This has included traffic data collection. As part of this work, SEPA has developed minimum requirements for future traffic data collection contracts. This will help ensure that traffic data is collected in a way that it can be used for multiple models including air quality models. The guidance is available on the Improvement Service Spatial Hub.
Data (long term action)	Transport Scotland with support from SEPA will undertake a review of [road] transport data capture and associated gaps with relevance to air quality.	
Data (long term action)	Transport Scotland with support from SEPA will collect transport data within Air Quality Management Areas and beyond to support air pollution mitigation planning, following the good practice established by SEPA's National Modelling Framework.	

Annex B: completed ongoing actions

Five actions are completed ongoing. These actions will be embedded in our current and future action to improve air quality. Updates for completed ongoing actions are provided in the table below. Each action in CAFS2 has been assigned a short (to 2022), medium (to 2024) or longer term (to 2026) timeframe for delivery within the Delivery Plan.

Topic and timeframe	CAFS2 Action	Update
Transport (long term action)	Transport Scotland will collaborate with the private sector to identify effective pragmatic solutions on the uptake of zero and ultra low emission vehicles.	<p>Scottish Government's Vision for the future public electric vehicle charging network for cars and vans and the Electric Vehicle Infrastructure Fund (EVIF) support the public and private sectors to work together to grow the network.</p> <p>In March 2024 the Zero Emission Truck Taskforce published its Pathway to HGV Decarbonisation.</p>
Industrial emissions regulation (long term action)	Transport Scotland will develop an emission impact and evidence base on Transport Refrigeration Unit (TRU) emissions.	Transport Scotland are working with stakeholders on a collaborative approach as to how emissions from auxTRUs can be improved following publication of this report Air quality Technical Reports and Guidance .
Industrial emissions regulation (long term action)	Transport Scotland will explore opportunities across traffic management, behaviours and legislation/standards to reduce non-exhaust emissions (NEE) from road traffic.	<p>The Department for Transport (DfT) is currently developing a non-exhaust emissions (NEE) measurement system.</p> <p>A key aim of this project is to improve knowledge on NEE and address the gaps so it can be used to inform policy and legislation aimed at reducing tyre and brake wear particulate emissions.</p>
Industrial emissions regulation (long term action)	Transport Scotland will contribute into research to develop a consistent method of measuring non-exhaust emissions (NEE) from road traffic, in order to improve the understanding of NEE emissions in Scotland.	<p>As road vehicle emissions are a non-devolved area, a UK approach to NEE is needed. We will engage with the UK government on future action to reduce NEE.</p>

<p>Governance, accountability and delivery (medium term action)</p>	<p>The Scottish Government with support from SEPA will assess the advantages and disadvantages of extending LAQM assessment to all areas with public access, to provide the necessary evidence base on which to make a decision on whether this would deliver overall benefits.</p>	<p>Any changes to air quality objectives to align more closely with the WHO guidelines will have implications for the current system of LAQM. We will as part of our review of CAFS2 consider the WHO guidelines and as part of this, review the LAQM system.</p>
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Annex C: milestones and updates for outstanding actions

Delivery milestones for actions were set out in the 2022/23 progress report, these milestones are shown in the table below alongside a progress update. Each action in CAFS2 has been assigned a short (to 2022), medium (to 2024) or longer term (to 2026) timeframe for delivery within the Delivery Plan.

Topic and timeframe	CAFS2 Action	2023 Milestone(s)	2024 Update
Health (long term action)	The Scottish Government with support from Public Health Scotland will commission an assessment of actual exposures experienced by a representative sample of the Scottish population, assessing pollution exposures over a realistic activity range during a normal time period.	By end 2024 we will commission research.	An evidence review has been commissioned, focusing on an extensive examination of existing literature to identify realistic assessments of air pollutant exposure that are representative of the Scottish population. We will consider the next steps following completion of the evidence review.
Placemaking (medium term action)	The Scottish Government will undertake a review of nature based and green infrastructure interventions which can benefit air quality, using the outcomes to develop a database of potential solutions.	In 2024 we will commission a literature review with support from the Placemaking Working Group.	We have internally reviewed the evidence on nature-based solutions for air quality. During 2024 we will work with NatureScot to update the air quality information available on their Nature Based Solutions webpages to reflect current evidence, linking to practical examples/ case studies.

<p>Placemaking (medium term action)</p>	<p>The Scottish Government with support from SEPA will implement the National Modelling Framework Regional air quality model to assess the effects of land-use development on local air quality.</p>	<p>SEPA has supported the development and incorporation of features to facilitate air quality and human health assessments in the Air Pollution Assessment Service (APAS) tool. At present JNCC is looking to launch APAS at the end of 2023 or early in 2024. A consortium has been formed to consider next steps for implementation of the APAS tool.</p>	<p>The human health element of the APAS tool will be considered during 2024.</p>
<p>Data (long term action)</p>	<p>The Scottish Government with support from SEPA will commission research to explore the potential of utilising satellite data to complement air quality monitoring.</p>	<p>In 2025 the Scottish Government will review current research in this area and commission new research if needed.</p>	<p>On track - we are continuing to work towards this milestone.</p>
<p>Behaviour change (medium term action)</p>	<p>The Scottish Government will develop a public engagement strategy on air quality in Scotland, taking into account the recommendations from the University of the West of England evidence review.</p>	<p>We are working with stakeholders on the development of a public engagement framework, with a view to publish the framework in 2024.</p>	<p>We have hosted three public engagement workshops and published a 'key behaviours for air quality' report. The outputs will be used to develop the public engagement framework during 2024.</p>

<p>Industrial emissions regulation (long term action)</p>	<p>The Scottish Government, Transport Scotland and SEPA will engage with industry to produce guidance on requirements for gaseous and particulate emission from Non-Road Mobile Machinery (NRMM).</p>	<p>In 2025 the Scottish Government with support from Transport Scotland will look to commission research to help quantify the impact of emissions from NRMM on air quality in Scotland. The evidence will be used to inform the next steps.</p>	<p>We have met with Transport Scotland to discuss the next steps in delivering this action. This action is on track for delivery.</p>
<p>Transport (long term action)</p>	<p>Transport Scotland will work to revoke all Air Quality Management Areas (AQMAs) where trunk roads are the primary contributor to air pollutants.</p>	<p>In 2024 Transport Scotland will meet with the two local authorities where trunk roads contribute to air pollution to discuss key issues.</p>	<p>In 2023, for the second year running, there were no exceedances of the air quality objectives for any pollutant at any automatic monitoring site in Scotland, including the two trunk road AQMAs. The minimum criteria for revocation is three consecutive years of compliance. It is a local authority decision whether to revoke or retain an AQMA (with agreement from the Scottish Government) once the minimum criteria has been met. Transport Scotland will continue to engage with the local authorities with trunk road AQMAs.</p>

<p>Industrial emissions regulation (long term action)</p>	<p>The Scottish Government and SEPA will, as part of the review of the Clean Air Act 1993 (see domestic burning actions), address the regulatory gap relating to stack height assessment for SEPA permitted sites.</p>	<p>In 2024 we will work with SEPA and local authorities to review the Clean Air Act 1993. Following the review we will develop a timeline for progressing amendments to the Act if required.</p>	<p>Initial conversations with SEPA and local authorities have taken place to review the Clean Air Act 1993. We are considering the next steps.</p>
<p>Tackling non transport emissions (short term action)</p>	<p>The Scottish Government will commission work to provide further evidence on the proportion of particulate matter emissions and other key pollutants attributable to domestic burning in Scotland, together with geographic and demographic distribution of domestic burning.</p>	<p>A research project led by Scotland's Rural College is focusing on urban air pollution issues, particularly domestic combustion, its effects on particulate matter and the consequences for human health. The research will also look at the geographical distribution of combustion and types of fuel used. For a spatially complete assessment of the contribution of domestic burning to particulate matter an atmospheric chemistry and transport model was used together with the 2022 release of the UK National Atmospheric Emissions Inventory (NAEI) for 2020 to model the contribution from biomass burning. This modelling</p>	<p>This project has been commissioned as set out in the delivery plan. So far the project has conducted field sampling campaigns at two field sites in Edinburgh (smoke controlled urban) and Fife (rural) to assess the contribution of domestic biomass burning to PM2.5. The project is due to complete in 2026.</p>

		exercise will be updated with further improved emissions, the resolution will be increased from currently 3 km to 1 km, model performance will be assessed against measurements, and the results will then be made available (by March 2024) for an assessment of health impacts as well as their geographical and demographic distribution (by 2025).	
Tackling non transport emissions (medium term action)	The Scottish Government with local authorities will consider what changes are needed to the current permitted development rights for flues for woodburning stoves and biomass boilers.	We consulted on the third phase of the review of permitted development rights (PDR) between May and August 2023. The consultation sought views on potential changes to the current PDR for flues for woodburning stoves and biomass boilers. We are carefully considering the responses received and will use these to inform next steps.	We have considered the consultation responses and further work is underway to look at how more geographically targeted changes to permitted development rights for certain domestic flues for wood burning stoves and biomass boilers could help address the issues of nuisance and air quality.
Tackling non transport emissions (medium term action)	The Scottish Government will work with local government and SEPA to consider revision of the Clean Air Act 1993.	In 2024 we will work with SEPA and local authorities to review the Clean Air Act 1993. Following the review we will develop a timeline for progressing amendments to the Act if required.	Initial conversations with SEPA and local authorities have taken place to review the Clean Air Act 1993. We are considering the next steps.

<p>Tackling non transport emissions (medium term action)</p>	<p>The Scottish Government will support investigation into the method of assessing risk of significant harmful ecological effects from atmospheric nitrogen (nitrogen deposition and elevated concentrations of ammonia and NOx), comparing critical loads/levels with dose-response or other options.</p>	<p>A project led by the James Hutton Institute is focusing on understanding the interactive impacts of nitrogen deposition and climate change on biodiversity and ecosystem functioning, particularly carbon and nitrogen cycling. The project will develop indicators of these impacts for use in environmental monitoring on protected areas and in the wider countryside and explore the potential for mitigation of impacts and appropriate methods to apply. The final strand of this project will be modelling of scenarios of nitrogen deposition and climate impacts on natural ecosystems. These modelling frameworks will be used to explore and map risks to biodiversity and ecosystem function for a series of scenarios of future nitrogen deposition rates and climate change, based on socioeconomic, climate change and</p>	<p>Two reports have been completed that (i) review the interactive effects of climate change and nitrogen deposition on natural ecosystems and (ii) review the mitigation potential of nitrogen deposition in semi-natural ecosystems. A number of field sites have been surveyed and sampled across different habitat types. Although this is a medium term action, survey work will continue in years 3 and 4 (2024-2026) therefore the action will be complete by 2026.</p>

		air quality policy scenarios. The key outputs of this work will be risk maps/visualisations and a scientific manuscript in year five of the project (2026/27). NINE The James Hutton Institute.	
Tackling non transport emissions (medium term action)	The Scottish Government with support from SEPA and NatureScot will assess the potential costs of implementing identified improvements to the current site condition monitoring of designated conservation sites, to improve on current methods which don't detect air pollution effects.	A project led by the James Hutton Institute commenced in April 2022. The second work package will consider the mitigation potential for identified nitrogen impacts. Field experiments began in August 2023.	Work package two will use survey work to understand whether peatland restoration and re-wetting ameliorates the effects of nitrogen deposition. Field sites have been selected with surveys due to start later in 2024. This project is due to complete in 2026.
Tackling non transport emissions (long term action)	The Scottish Government will take forward, working with businesses that may be affected and other interested parties, potential measures to control the supply of the most polluting domestic fuels – including a ban on house coal, restricting the sulphur content of smokeless fuels to 2%, prohibiting the sale of certain types of wet wood and introduction of a	An evidence report to inform proposals for introducing a ban on the sale of house coal and high sulphur content manufactured solid fuels in Scotland has been published.	Work is ongoing with discussions held with the Domestic Emissions Working Group.

	<p>minimum renewables content for manufactured smokeless fuels. In taking forward this work, we are mindful that any new measures would require to be implemented over a period of time, such as a transitional period during which businesses could adapt to the new requirements without disproportionate costs.</p>		
<p>Tackling non transport emissions (long term action)</p>	<p>The Scottish Government and SEPA will continue to share best practice and raise awareness of greenhouse gases and ammonia, and actions that farmers and crofters can take to minimise their environmental impact while improving efficiency.</p>	<p>Good practice to minimise emissions to air will be incorporated into relevant chapters of the updated PEPFAA code. By end of 2023 the slurry and manure management and inorganic and liquid fertilisers chapters of the revised code review are expected to be complete.</p> <p>In addition a project led by Scotland's Rural College (SRUC) commenced in April 2022, with one of its objectives being the development of tools to encourage farmers, land managers and decision makers to reduce ammonia emissions. Researchers will</p>	<p>Both of the relevant PEPFAA code chapters have now been updated and published, and can be found here PEPFAA- Code of Good Practice - Farming and Water Scotland</p> <p>In the first two years of the SRUC project a meta-analysis has been undertaken to assess the trade-offs between ammonia and greenhouse gas emissions (GHG) with various mitigation measures. A spreadsheet based decision support tool has been developed to assess ammonia emissions from livestock and land use practices. In years 3-5 (2024-2027) of the project</p>

		<p>draw on literature and existing and developing expertise to develop a farm-level ammonia footprinting and decision support tool for ruminant farmers, demonstrating the benefits of mitigation interventions on commercial farms. In March 2024 recruitment for farm case studies will begin.</p>	<p>the tool will be tested on a number of SRUC's research farms to aid further refinement and assess on farm trade-offs in ammonia and GHG emissions. In addition, a scoping study will be completed that details the available and emerging technologies for measuring ammonia emissions.</p>
<p>Tackling non transport emissions (long term action)</p>	<p>The Scottish Government will consider options to reduce emissions from large scale units in consultation with the agricultural sector, aligning with broader policy development around future rural support.</p>	<p>Early 2024 we will discuss with the CAFS2 Agriculture and Environment Working Group and consider options.</p>	<p>As part of the consultation on the Environmental Authorisations (Scotland) Regulations (ended 30 March), we sought views on options for reducing ammonia emissions for livestock farms. We are assessing the consultation responses and will be working with stakeholders to take forward any recommendations.</p>

<p>Transport (medium term action)</p>	<p>Public bodies should incorporate travel from employee commute as part of their corporate carbon footprint and will report these emissions via their public bodies duties reporting.</p>	<p>Scottish Government guidance to public bodies - <i>Public Sector Leadership on the Global Climate Emergency</i> published in Oct 2021 - says that it is expected as a matter of best practice that public bodies should have targets to reduce emissions from commuting and the guidance makes suggestions for how public bodies might influence and measure commuting emissions. The Scottish Government is developing new statutory guidance on public bodies' climate change duties and climate change reporting to be published in 2025.</p>	<p>On track for completion by 2025.</p>
<p>Transport (long term action)</p>	<p>Transport Scotland will work to more fully understand the role of non-electrification routes to decarbonising transport – to lead to a better-defined wider policy position that complements existing electrification work streams. We will explore alternative fuels' potential to power certain vehicle types in the short, medium and long term, whilst still contributing to</p>	<p>Transport Scotland is working with Scottish Enterprise to consider the place of low carbon fuels such as biomethane, in our transport system, (including road transport, as well as harder to decarbonise non-road modes of transport). Transport Scotland recently funded a study looking at the opportunities for Scotland in low carbon fuels. The conclusion was that</p>	<p>Following consultation last year, the independent analysis was published in September 2023 and is being taken into account with the finalised ESJTP due to be published by summer 2024.</p>

	<p>Scotland's statutory climate change targets.</p>	<p>there were potential opportunities for Scotland in sustainable aviation fuel production and maritime decarbonisation in particular, in the long term, with hydrogen as a feedstock. However no specific opportunities in low carbon fuels for road transport were identified at this time. The draft Energy Strategy & Just Transition Plan (ESJTP) was published 10 January 2023. Consultation closed 9 May 2023 . Over 1500 responses were received. These are currently being independently analysed and the results will be taken into account as we move towards finalisation of the ESJTP in due course.</p>	
<p>Further progress review (long term action)</p>	<p>The Scottish Government with support from SEPA will initiate a review on progress with implementing CAFS2 during 2024, with a view to having a further version of Scotland's air quality strategy in place by the end of 2025.</p>	<p>We will develop a timeline with the CAFS2 Delivery and Working Groups and publish the revised timeline in the next progress report.</p>	<p>We have agreed the approach to developing the next phase in air quality, with the CAFS2 Delivery and Working Groups, with work beginning in Summer 2025.</p>



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