



Cotswolds
National
Landscape

3keel

Cotswolds National Landscape (CNL) Climate Action Engagement Strategy Review

Achieving consensus on a
pathway to Net Zero by 2050
and resulting Action Plan

Prepared for:

Cotswolds National Landscape (CNL)

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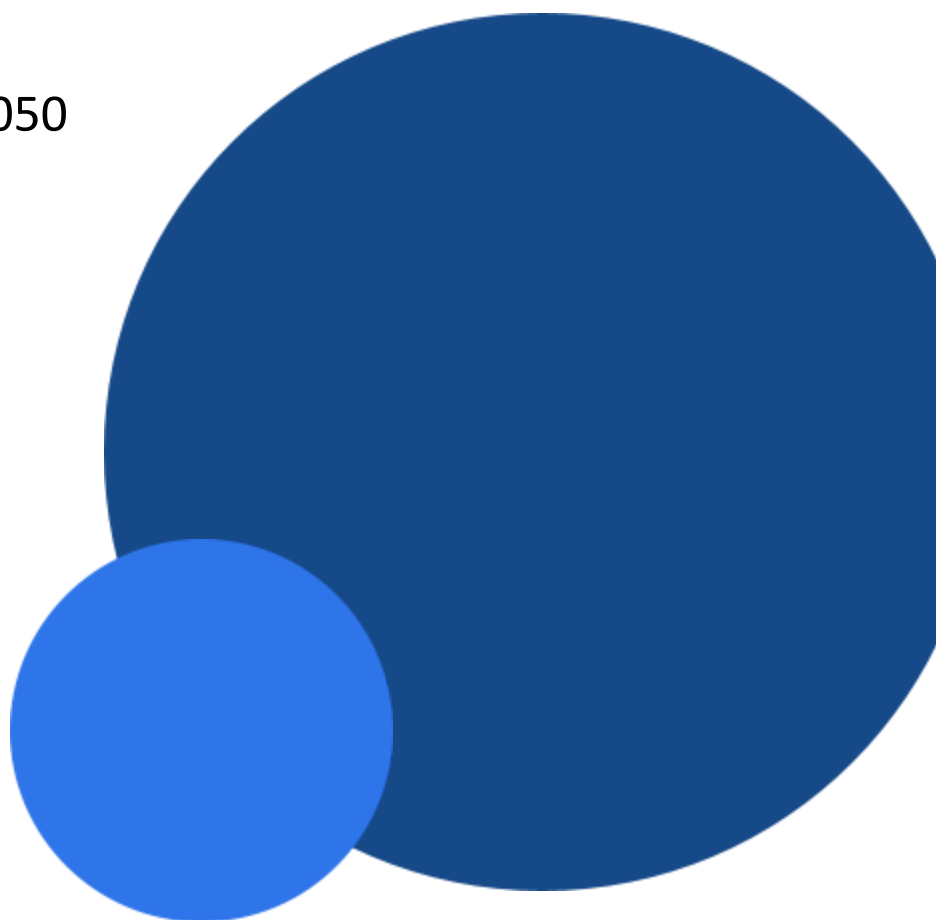
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CONTENTS

DISCLAIMER	2
CONTENTS	3
EXECUTIVE SUMMARY	4
OVERVIEW OF THE COTSWOLD NATIONAL LANDSCAPE PATHWAY TO NET ZERO PROJECT	9
METHODOLOGY FOR THE WORKSHOPS	11
Workshop set up and aims.....	12
Workshop structure.....	13
Land use and management focus areas.....	13
Energy focus areas.....	13
Food and drink focus areas.....	13
Transport focus areas.....	13
OUTCOMES OF THE WORKSHOPS AND TRENDS IDENTIFIED	15
Summary of in-person workshops.....	15
Workshop 1 - CNL Board members, team and volunteers.....	15
Workshop 2 & 3 - Land use and management.....	15
Summary of online workshops.....	16
Workshop 4 - Energy.....	17
Workshop 5 - Food & drink.....	19
Workshop 6 - Transport.....	21
BRINGING THE OUTPUTS TOGETHER, COMMON THEMES, LESSONS LEARNT	23
Key learnings.....	23
Key steps to achieve net zero objectives.....	23
UNDERSTANDING CARBON CROSS OVER	41
PATHWAY TO NET ZERO	43
APPENDICES	50
Appendix 1: Contacts and useful links.....	50
Appendix 2: List of Organisations and businesses who attended workshops.....	56
Appendix 3: Overview of pathway to Net Zero.....	62

EXECUTIVE SUMMARY

The Small World Consulting (SWC) Report '*A greenhouse gas emissions (GHGs) assessment and target scenario for the Cotswolds National Landscape*' produced for the Cotswolds National Landscape (CNL) Board in 2023, set out targets for emission reductions and some dedicated deliverables for the CNL to reach net zero by 2050.

In the summer of 2023, 3Keel was commissioned by the CNL Board to take these findings and proposed methods for potential emissions reduction to a broader audience, including local councils, organisations, businesses, and land managers from across the CNL area. A series of six workshops, conducted both in person and online, were held to facilitate detailed discussions on strategies to reduce emissions in various sectors, including land use and land management, food and drink, energy, and transport. The aim was to assess the feasibility of the proposals outlined in the SWC report and, when needed, explore alternative approaches to achieving net-zero emissions. Additionally, any gaps in the report's recommendations and existing initiatives within the CNL area towards achieving net-zero emissions were identified and documented.

The full 3Keel report '*Achieving consensus on a pathway to Net Zero by 2050 and resulting Action Plan*' outlines in detail the processes and outcomes from these workshops. The findings will help shape the proposals and actions submitted to the CNL Board to start the pathway to net zero process. Within this process there needs to be a reality check as to how much the CNL Board can actually deliver or influence outcomes around net zero on its own, as this is a task on a huge scale. The CNL Board and team is impactful, ambitious for change and delivers exceptionally well with a core team of only 25 people, and it must continue to focus on its statutory purposes and prioritise within limited financial resources to achieve this shift to net zero and driving down emissions. Therefore, collaboration with other organisations, businesses, local authorities, land owners and land managers is the only way the reduction in emissions can start to gain momentum to reach the 2050 target. The main question though is what are the next steps for the CNL Board?

Proposed priorities for 2024-28

Actions for the CNL Board to start the journey along the net zero pathway, resulting from the workshops, are outlined here:

Themes from the SWC Report:

1. Land Use and Management

Proposed non carbon annual reduction of 5%, to 30% of current baseline by 2050 (SWC figures). Proposed carbon reductions to be achieved through practices such as 700 hectares of tree planting, 50km of hedgerows created annually and use of regenerative farming practices (SWC figures and recommendations).

It is imperative that actions related to land use and land management give full consideration to the combined emergencies of climate change and the ecological decline of species and habitats in the CNL. Therefore other work areas such as nature recovery, as well as food production and farmers' livelihoods, must always be considered.

Out of all of the delivery areas covered in the SWC report, this is the one which most aligns to the CNL team's core activity, so in turn should be where it can provide most input and opportunities for collaborative working.

- **Commissioning a tree and hedgerow opportunity mapping exercise across the entire CNL** as soon as it is financially possible, this is a high priority. The tree and hedgerow planting targets were debated at length. The workshops flagged a concern over the feasibility of the scale of additional tree planting but, similarly, felt that the hedgerow target could potentially be increased. By undertaking such a survey the CNL team, and its partners, will have a better understanding of the scale and opportunity of additional canopy cover in the CNL.
- **Increasing support and knowledge sharing about Regenerative Farming Principles and Practices.** There is scope to work collaboratively with training and education providers, e.g. RAU, FarmED and University of Gloucestershire, to help provide relevant case studies and help provide farmer and landowner knowledge sharing. This would cover methodologies and regenerative farming practices including information about access to Defra and other farming schemes and possible private funding which can support change. In turn this would help with reducing emissions from farming practices. Soil carbon was picked up as an area with greater potential for playing a significant role in CNL's journey to net zero, and therefore the scale of its positive contribution needs to be better understood and then reflected in future iterations of the pathway. The legume and cover cropping annual targets set in the SWC report were considered achievable and possibly even more could be delivered with a holistic working plan to support regenerative farming practices. Working with farmer cluster groups would also provide strong engagement in this area.
- **Continued use of Farming in Protected Landscapes (FiPL) grants.** Feedback from the workshops showed how impactful FiPL had been to date. So, with additional funding now in place for the next 12 months, this must be a key area for the CNL Board to support funding and enable early delivery, as well as ensuring lessons from funded projects are widely publicised to encourage the adoption of best practice, and help to inform future environmental land management schemes.
- **Land Use Strategy and National Policy.** The CNL Board should support the development of a 'Land Use Strategy' to guide the pathway towards net zero. In addition, it was reflected that the CNL Board could, and should, support and observe national policy changes to help reduce emissions in land use and management.

2. Food and Drink

Looking to reduce food waste, encourage dietary changes, review production distribution and improve technology and innovation. Annual reduction required 5%, to 30% of baseline by 2050 (SWC figures).

- **Knowledge and education** is a principle delivery the CNL Board could engage with other partners on and was deemed as the highest property in this area.
- **Empower consumers and connect farmers and existing businesses** with best practices and help to improve local, low carbon supply chains (including addressing any missing infrastructure). This would be an area that the CNL Board and partners could contribute to at a local level. Government grants and other funding to help with this could be identified and shared with others.
- **CNL Carbon Footprint for Food and Drink** is much higher than the national average, so there is a possibility of research and analysis as to why this is the case. The CNL Board and team may be able to contribute to such a project, if this was to progress.

3. Energy

Annual reduction in emissions 13.6%, to 5% of baseline by 2050 (SWC figures).

It is important to note that the workshop session was looking at reducing emissions from a variety of energy emitting sources, not at creating new energy provision/renewables. The CNL Board has already published its position statement on Renewable Energy (June 2023) and this can be viewed at www.cotswolds-nl.org. Further advice for historic properties and energy efficiency can also be found on the government website.

Potential actions for the CNL Board are:

- **Energy emissions.** Looking at the practical application of carbon reduction and focusing on energy efficiency, e.g. retrofitting traditional housing stock.
- **Provision of information.** The CNL Board has a supporting role to play in providing information as to what action can be taken immediately such as focusing on energy efficiency, working with other partners such as local authorities and signposting people and businesses to government schemes.
- **Planning requirements and restrictions.** The CNL planning team should consider energy efficiency and low carbon solutions in future planning applications and housing developments. They may need to be adaptable to factor around energy emissions and changing energy sources.
- **CNL Board will need to be aware of changes to government and local schemes and incentives** and incorporate this information where required.

4. Transport

Visitor travel emission reduction targets - annual 10%, to 7.5% of baseline by 2050 (SWC figures). Due to the very high numbers of visitors to the CNL area, visitor travel was the key focus for the overall reduction targets that SWC set for transport, and the subsequent actions are therefore referenced back to this.

- **More joined up vision on transport** that brings together all modes of transport and addresses the needs of all transport users. The CNL Board could be an active participant in these discussions.
- **Development of community transport hubs** which bring together multiple modes of transport in one location with all the amenities required for them to be an attractive service to residents and visitors. This would mean detailed discussions between local authorities and transport providers across the CNL area, but there is an action point for the Board to provide input of previous knowledge of schemes, e.g. Cotswold Discoverer Pass, and any other related considerations.
- **The transport workshop** provided very positive responses from those who attended and a collective response to work on new solutions. The CNL Board could therefore share this experience and energy to help create a wider action group.

Additional Key Areas of Work (not covered by the SWC report):

5. Climate Adaptation

The risks and opportunities from climate change to landscape character have been identified as a risk specific to Protected Landscapes. To help mitigate this risk, Defra has determined that the preparation of a Climate Change Adaptation Plan must be produced, embedded in, or linked with, the Management Plan by 2028, and in all future plans.

6. Reducing the CNL Board's Carbon Footprint

To demonstrate sector leadership, and in line with the ambitions of the country's National Parks, the CNL Board should commit to increasing its efforts to mitigate GHG emissions by reducing the carbon footprint of its own operations. A common set of metrics, targets and methodologies could be agreed to monitor emissions reductions. Some areas of focus include: low carbon buildings; environmental performance of the vehicle fleet; moving towards the use of electric power tools; reducing car mileage through greater use of car sharing, carpools, public transport, and alternative working arrangements.

7. Team Resource

The CNL team has a wealth of knowledge but as the focus on climate change mitigation and adaptation grows there is a requirement for greater capacity and a dedicated role to join the CNL team to shape the next steps and areas for collaborative working to achieve net zero. The requirement for this role definitely increased pace as the outputs from the workshops were collated. The CNL Board has now recruited a Climate Action Lead, starting in March 2024. The priority actions outlined in this report will help to shape the early work programme for this new role and identify ways of turning it into practical, on-the-ground, action, either with the CNL Board and team leading, or working in collaboration with identified partners or reacting to local and national policy and responses. The 2023 workshops established excellent cross organisation and business working relationships and this should be a primary deliverable of the new Climate Action Lead to follow up on these and build upon them moving forwards in order to make greater in-roads on the net zero pathway.

The actions listed above are the priority areas for consideration by the CNL Board and will help to inform targets and the direction of the net zero pathway in the Statutory Management Plan for the CNL. This report will provide greater detail on Actions 1-4, i.e. the themes from the SWC report, but 3Keel strongly encourages the CNL Board to also focus on Actions 5-7 as part of their Climate Action prioritisation work.

Understanding the National Ambition:

On 31 January 2024 Defra published the Protected Landscapes' *Targets and Outcomes Framework*, as part of the government's announcement one year on since the publication of the Environmental Improvement Plan (EIP). The Framework is specifically linked to three EIP outcomes:

- o Goal 1: Thriving plants and wildlife
- o Goal 2: *Mitigating and adapting to climate change*
- o Goal 3: Enhancing beauty, heritage and engagement with the natural environment

Of the ten new targets, three relate directly to Goal 2:

- ✓ Reduce net greenhouse gas emissions in Protected Landscapes to net zero by 2050 relative to 1990 levels
- ✓ Restore approximately 130,000 hectares of peat in Protected Landscapes by 2050
- ✓ Increase tree canopy and woodland cover (combined) by 3% of total land area in Protected Landscapes by 2050 (from 2022 baseline)

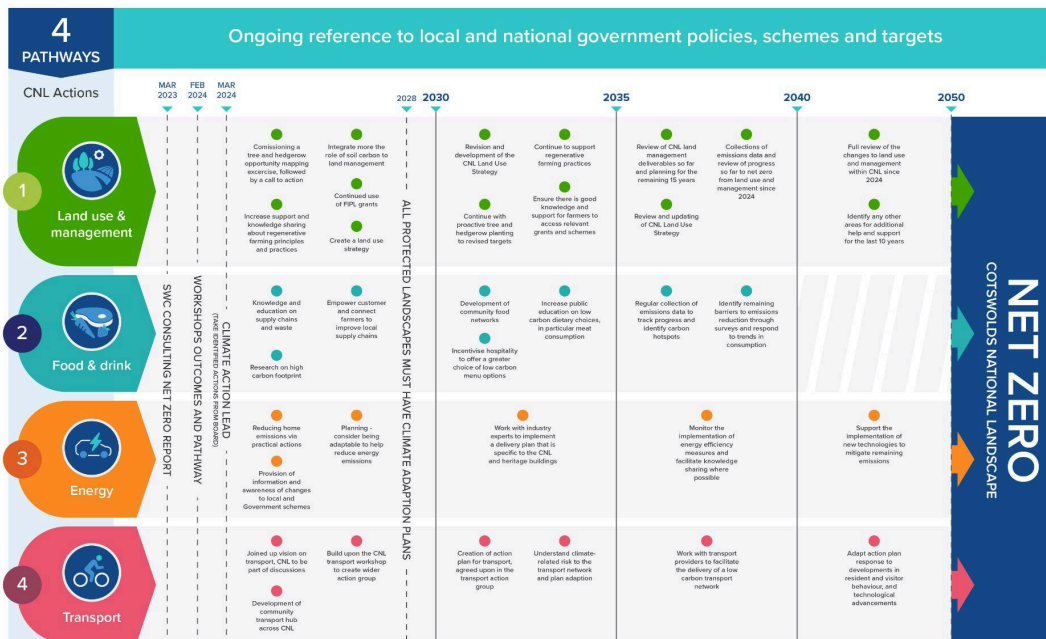
Although the CNL cannot contribute significantly to the peatland target, the focus for the CNL Board must be on achieving and, where possible, exceeding the other two targets. Also, in delivering its climate change commitment, the CNL team can help to achieve other associated targets, e.g. the restoration or creation of wildlife-rich habitats and adopting nature friendly farming principles.

Attention also needs to be drawn to the following points:

1. Research, development and new technology will be constantly evolving through to 2050 and beyond and this needs to be referenced and included in future planning for the CNL Board.
2. Tangible actions for the next five years have been listed and the CNL Board will need to review how much they lead on, work in collaboration with other partners or wait and respond to local and national schemes and policy.
3. Targets have come from the SWC report but with further information from the workshops and the collective work across CNL, in the next five years these targets will need to be reviewed at agreed time periods in conjunction with the progress or changes made.
4. There will need to be research and agreement as to the method of data capture and who is responsible for monitoring possible actions to help reduce emissions between now and 2050. This is likely to be a collaborative piece of work.

The CNL Board has been ground breaking and exceptionally forward thinking in their approach to put in place actions and reviews to help them progress to reach the 2050 targets for net zero. This will definitely shape a proactive approach to their future planning strategies whilst delivering for their core purpose.

PATHWAY TO NET ZERO OVERVIEW



Pathway to Net Zero Overview - see Appendix 3 for full version

OVERVIEW OF THE COTSWOLD NATIONAL LANDSCAPE PATHWAY TO NET ZERO PROJECT

The Cotswolds National Landscape (CNL) Board commissioned a report from Small World Consulting (SWC) *'A greenhouse gas emissions (GHGs) assessment and target scenario for the Cotswolds National Landscape'*¹ which was published in March 2023. This reviewed the current GHG baseline across CNL in land use and management, transport, energy, food and drink. The report provided recommended percentage reduction targets of GHGs in four specified areas and provided actual delivery targets for some possible deliverables required to reach the goal of net zero by 2050 that the CNL Board has committed to. A summary of the main report was also developed *'Creating a Pathway to a Climate-Friendly Cotswolds'*² as a more user-friendly document and was provided in advance to all participants of the workshops outlined in this report.

In July 2023, the CNL Board approached 3Keel to take the recommendations from the SWC report and findings and review them through a series of workshops with members of the CNL Board and team, and other organisations and bodies that have a vested interest and expertise in reaching net zero from the identified delivery areas. The CNL Board asked 3Keel to design the workshops with engagement activities to help capture feedback and data, ultimately aiming to capture responses and information to structure and identify the priority first steps for the CNL Board and its partners in embarking on the net zero pathway.

To achieve this, six workshops were planned to be delivered through October and November 2023. Three in person and three online, all three hours in length. 3Keel worked with the CNL CEO, Andy Parsons, and the CNL Climate Action Working Group led by Ben Dent to help structure the workshops. Attendees for the workshops included local authorities, landowners, land managers, farmers, businesses, communities, local businesses, transport providers, NGOs and experts and those whose job roles covered the subject areas from across the CNL area (a full list of attendee organisations is available in Appendix 2). The invite list for each workshop was prepared by the CNL team.

For each workshop topic area, the aim was to discuss the SWC proposals and targets to see if they were feasible and provide reasoning and evidence to support or challenge accordingly. The workshops would also aim to identify anything missing which should be included in future discussions, find other possible contributors to the net zero debate or those that might help remove GHGs. Data on practices or projects that were already happening which could help reach net zero targets would also be recorded.

All of the information and data collected from the workshops is intended to help shape the unique delivery pathway for the CNL team to present to its Board, and refine actions and targets required to deliver the net zero pathway and to feed into their five yearly planning cycle (via the Statutory Management Plan). Alongside this it will help to identify the potential role for the CNL Board and team, and which potential partners would be best able to lead and support actions to reach net zero by 2050.

¹ <https://www.cotswolds-nl.org.uk/wp-content/uploads/2023/07/CNL-GHG-Assessment-Report-FINAL.docx.pdf>

² https://www.cotswolds-nl.org.uk/wp-content/uploads/2023/07/Laymans-Guide-to-SMW-CNL-GHG-Assessment_0723.pdf

Building on Small World Consulting's Carbon Footprint

The carbon footprint report created by SWC proposed a series of percentages by which different emissions sources would need to be reduced in order to reach net zero by 2050. The proposed percentages were calculated by blending a number of national projections and published pathways with geographically specific information on the landscape and demographics within the CNL. For example, carbon removal targets such as tree planting were calculated based firstly on the national targets attributed to the area, then the topology was assessed using an opportunity mapping exercise, and finally the figure was uplifted to account for the fact that Cotswolds residents emit more emissions than the UK average residents which generated the final figure. Therefore, creating a report that built on the assessment completed by SWC was critical to ensure consistency and enable future calculations to be comparable to the baseline set in 2021. More information on the data sources used to develop the CNL's carbon footprint can be found in SWC's report³.

Some topic areas have targets based on specific activities (e.g. 700ha of new woodland every year across the Cotswolds) whereas others have an indicative percentage (e.g. a 13.6% reduction in energy emissions each year). The variation in granularity of recommendations is largely due to the variation in both the scale and reliability of the data available, however factors such as diminishing certainty in future development of the sector also plays a role in making recommendations that reach decades into the future. Therefore, for the reasons outlined above, in this report the development of numerical interim targets has deliberately been avoided.

Terminology

Throughout the report various groups related to CNL are referred to, the definitions for each of these are as follows:

- CNL: the geographic area
- CNL team: the team who will be carrying out the work/supporting others, etc.
- CNL Board: the organisation

³ <https://www.cotswolds-nl.org.uk/wp-content/uploads/2023/07/CNL-GHG-Assessment-Report-FINAL.docx.pdf>

METHODOLOGY FOR THE WORKSHOPS

Findings from Small World Consulting's (SWC) report⁴, were used to develop a series of workshops based on land use and management, transport, energy, food and drink. SWC's report provided recommended percentage reduction targets of GHGs in several areas (Table 1). The intention for the workshops was to review these recommendations made with a range of relevant stakeholders in order to inform the development of a net zero pathway.

Table 1: Information sourced directly from the SWC report, showing the proposed annual reductions and overall reduction recommendations needed to reach net zero by 2050. These figures were used in workshop discussions.

Emission category	Annual reduction	Likely long-term residual emissions as a percentage of present-day level
Energy-only	13.6%	5%
Food and drink	5%	30%
Other goods and services	5%	10%
Visitor travel	10%	7.5%
Land-use (non-carbon dioxide)	5%	30%
Land-use (carbon dioxide)	Constant annual targets in terms of hectares of trees and hedges planted, or switched to more sustainable agricultural management	

Six workshops focused on different themes, in line with the SWC recommendations, were delivered through October and November 2023. Three were held in person and three online, all three hours in length. See Table 2 for details on all of these workshops, including their titles, venues and attendees.

⁴ <https://www.cotswolds-nl.org.uk/wp-content/uploads/2023/07/CNL-GHG-Assessment-Report-FINAL.docx.pdf>

Table 2: Workshop delivery details

Date 2023	Workshop title	Venue or online	Attendees <i>A full list of attendee organisations is available in Appendix 2.</i>
17 th October	CNL Climate Action Workshop 1	Cirencester Baptist Church	CNL Board, Team and Volunteers.
24 th October	Land Use & Land Managers (North) CNL Workshop 2	Warwick Hall, Burford	Land Managers and advisers from across CNL
25 th October	Land Use & Land Managers (South) CNL Workshop 3	Stroud District Council, Ebley Mill	Land Managers from across CNL.
8 th November	Energy - reducing emissions Workshop 4	Online – zoom conference call	Organisations, councils and those with an interest or role related to this.
13 th November	Food & Drink (and other goods services) Workshop 5	Online – zoom conference call	Organisations, councils, land managers and those with an interest or role related to this.
15 th November	Transport & Travel (residents and visitors) Workshop 6	Online – zoom conference call	Organisations, councils and those with an interest or role related to this.

Workshop set up and aims

All workshops followed the below agenda:

1. Welcome and introductions
2. Overview from Ben Dent (on behalf of the CNL Climate Action Working Group) on the work undertaken so far including the SWC report with the request that everyone working together could help shape the decision-making processes and however difficult the conversations were, ‘stubborn optimism’ would help deliver on the task.
3. The attendees were divided into groups with 3Keel facilitators to cover the questions set out for each dedicated workshop. The questions focused on a certain target or deliverable as outlined in the SWC report. Responses and comments made were captured on post it notes or online jam boards for the 3Keel team to analyse.

4. After 20 - 25 minutes attendees rotated to the next table and so on until they had had an opportunity to respond to all of the questions set.
5. Short summaries of the main trends and outcomes were delivered by the facilitators back to the whole group, before the workshop finished.

It is important to note that the structure and facilitation of the workshops was aimed at gaining the maximum amount of response from those participating. Everyone had access to add post it notes of their own during discussions, so could easily add additional comments to the main information capture sheets, along with the facilitators. It was vital to hear from as many different people and perspectives as possible to share their knowledge and views to make the review as comprehensive as possible.

Workshop structure

Each workshop had several focus areas, according to the theme of the workshop, in line with the SWC recommendations. The focus areas for each themed workshop were as follows:

Land use and management focus areas

- Increasing regenerative agriculture and adoption of regenerative farming practices, such as reducing use of synthetic fertilisers.
- Hedgerows - 50 km of new hedgerows every year.
- Legumes cropping - increase to 350 ha of legumes per year.
- Cover crops - increase cover crops by 2500 ha per year.
- Livestock - reducing overall number of livestock, adopting cutting edge livestock management technologies (e.g. breeding, food supplements) and dietary change.
- Woodland and agroforestry - 700 ha of new woodland (canopy cover) and 360 ha of new agroforestry every year.

Energy focus areas

- Low carbon buildings
- Low carbon transport
- Energy efficiency
- Transition to renewables

Food and drink focus areas

- Food waste
- Dietary changes
- Production and distribution
- Technology and innovation

Transport focus areas

- Cars (including electric cars/car sizes, frequency of journeys/car share etc.)
- Trains and buses
- Cycling/walking

- Visitors and the wider remit for transport

These focus areas were covered in the facilitated break out groups during each workshop. Several questions were asked of attendees when considering these focus areas to encourage discussion, these were set out as follows:

1. Is this target area for discussion achievable? And if so, how?
2. What is missing or lacking around these discussion points and themes?
3. What is currently happening across CNL already to help reach net zero and who is delivering it?
4. Where relevant, how influenced and interlinked are the targets and percentage of GHGs reductions proposed, reliant upon policy at local or national government level?

OUTCOMES OF THE WORKSHOPS AND TRENDS IDENTIFIED

This section reviews the outcomes of both the in person and online workshops to highlight the key trends that were raised. Ideas that came up in discussion, in relation to the themes, as well as useful information sources and potential contacts are listed in Appendix 1.

Summary of in-person workshops

Workshop 1 - CNL Board members, team and volunteers

This workshop focused on all the targets highlighted in the SWC report, taking a more top line approach. Therefore, the outcomes from this workshop have been added to the outputs of the relevant thematic areas below.

This session was extremely useful as it provided an initial sift through of the SWC recommendations and enabled 3Keel to identify the key areas of feedback and questioning for use in the other workshop's and help with their facilitation requirements.

Workshop 2 & 3 - Land use and management

Two in-person workshops were run for land use and management, in the north and south of the CNL area, both with the same format. This was to accommodate the larger number of people attending (approximately 70 people). These workshops also reflected the core purpose of the CNL is to conserve and enhance the natural beauty of the Cotswolds and to work with its local communities.

Key outcomes:

- The land use and management targets were quite specific and detailed in comparison to the other workshop themes and subsequently this promoted very detailed debate and conversations.
- Both of the workshops provided strong trends which are summarised in full below - and have a strong overlap with the trends identified in the later online workshops.

Policy & Land Use Strategy

The CNL Board exists to protect a beautiful area, whose appearance has been shaped by the changes in land management over time and would continue to evolve in adapting to unavoidable climate change. The workshops reflected heavily that the land management proposals in the SWC report would affect some change, and the CNL Board was well placed to create an overarching Land Use Strategy to guide the pathway towards net zero. In addition, it was reflected that the CNL Board could, and should, support and observe national policy changes.

Information Sharing and Wider Education

Unlike the following workshops this theme emphasised the need for active training, supporting of new entrants and countryside skills, particularly around the maintenance of new woodlands and hedges or changes in agricultural practices. Additionally, this theme picked up the need to share good practices, new

and innovative methods, and support farmers with transitioning towards regenerative farming, something that could be co-led with local universities, colleges and local nature recovery partnerships.

Practicalities

Given the nature of the land use workshop participants - being people who are often out engaged in land management - the practicalities of implementing each of the different proposals came through strongly. This gives the CNL team a clear insight into how straight forward some of these proposals might be to take forwards, and links into the already identified need for information sharing and wider education above too.

Infrastructure

This theme covers broader discussions that took place on the days, both the practical impact of changing agricultural practices on the landscape, the communities and resourcing equipment to deliver it. As much as the potential for using the Cotswolds as a brand for specifically low carbon products that have been grown or produced within this landscape.

Summary of online workshops

Engagement was high across all online workshops which enabled thought provoking and insightful discussions with input from a range of participants. Most notably from the online workshops, the same core themes arose independently each time as discussions progressed.

People - The CNL is a thriving residential area and popular visitor destination, and so achieving carbon reduction is heavily reliant on the behaviour of those existing within its boundaries. This includes considerations beyond the individual level, including consideration of wider community impacts and the demands of different demographics.

Policy – Formalising carbon reduction into policy is often an effective tool to solidify action. Policy discussions also included methods of incentivisation, funding opportunities and how to achieve an optimal reallocation of funds away from emitting behaviours and towards carbon saving initiatives.

Infrastructure – This theme is critical for the delivery of many suggested actions. For these actions, the ‘will’ is there however the infrastructure is not currently adapted to the proposed or desired operational changes.

Information sharing and wider education – This was a popular theme for discussion and an area where it was felt that the CNL team could have a strong presence.

An overarching thread that is present within each of these themes is the need for collaboration both between stakeholders and within groups. It will be important for the likes of policymakers, business owners, farmers, the general public, community groups and parish councils to all be aligned in the key actions required to reach net zero. Additionally, collaboration between business owners, for instance, is equally important to share learnings and build on each other’s successes.

Workshop 4 - Energy

Key outcomes:

- The outcomes from this session were more related to the practical application of carbon reduction rather than in consumer behaviour and community action.
- Timing is particularly important to consider within this topic area, differentiating between what action can be taken immediately such as focusing on energy efficiency, and what is likely to develop on a longer timescale due to factors such as costs and technology availability.
- The table below summarises the headline message from each breakout session and theme.

Breakout	People	Policy	Infrastructure	Information sharing
Low carbon buildings	Encourage uptake of smart meters	Ensure all new buildings developed are to a high environmental standard not just the minimum requirement Social Housing Decarbonisation Fund	Need to be aware of heritage / listed housing stock in the Cotswolds however all housing types are suitable for heat pumps Conversion of boilers to run on HVO which could be sourced from local waste Development of heat networks	CNL team can bring together expertise and advice, breaking down the complexity of this topic area Educate in school as much of this tech will still be underway in decades time Practical training / upskilling for installers
Transition to renewables	Currently no clarity over options, what is available / allowed and so deters people from taking action Conduct research into public perceptions of wind turbines and solar arrays on the landscape A view expressed by the CNL Board about the positive visual impact of turbines might be persuasive Encourage switching to renewable tariffs	Work with parish and town councils in order to aid less affluent members of the community to also take action Local energy area planning Drawing on national funding	Understand what is suitable to be done within the Cotswolds and what is better done outside Whole-CNL landscape survey exercise to identify areas of search for suitable solar / wind etc	Lack of advisors in this area promoting local success case studies Use creative ways to communicate the savings from switching Inform the public of the importance of switching to suppliers that offer tariffs backed by Power Purchase Agreements (PPA). This is compared to 'green tariffs', backed by Renewable Energy Guarantees Origin (REGO), which have a limited impact on the expansion of renewable electricity generation.

<p>Energy efficiency</p>	<p>CNL Board could play a role by leveraging its brand to reinforce / support initiatives to encourage homeowners to invest in climate protection</p> <p>Engage with landlords on EPCs</p> <p>Promotion of efficiency actions that could be implemented e.g. use of LED lighting</p>	<p>Collaborating between councils, CNL Board and local companies to develop centrally accessible solutions</p> <p>What are the best / most appropriate energy efficiency / insulation standards and how do we ensure consistency across the CNL?</p>	<p>Consider connections between proposals - insulation etc should come first then start conversations around heat pumps</p> <p>Delivery of well insulated homes whilst maintaining the Cotswolds local distinctiveness</p> <p>CNL team's contribution would be mainly through planning, including heritage. Older buildings not only difficult to retrofit, but also need to be somewhat leaky, sometimes</p>	<p>CNL team being able to provide advice based on good research and evidence, being authoritative leaders in this field</p> <p>Case studies from local residents and organisations shared via CNL website - visual, persuasive</p> <p>Ensuring information stays up to date and reflects the current policy landscape</p>
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Workshop 5 - Food & drink

Key outcomes:

- The key outcome which is addressed within all four topic areas is the need for better information and education for two main purposes. The first is to empower consumers in food decision making to tackle misinformation and misconceptions that persist in this space (e.g. food miles vs eat local, less but better meat etc.). The second is on the industry side, to enable farmers and businesses to connect and share learnings from existing projects.
- This workshop had the greatest number of conflicting opinions due the contradiction between food products with the highest carbon emissions being linked to agricultural practices and livelihoods present within the Cotswolds.
- The carbon footprint from food and drink in the CNL is higher than the national average so there could be an opportunity to conduct further research and analysis to understand why this is.
- The table below summarises the headline message from each breakout session and theme.

Breakout	People	Policy	Infrastructure	Information Sharing
Food waste	<p>Community benefit of shopping more frequently and locally</p> <p>Work with more food banks before the produce is almost expired</p> <p>Community composting schemes, in collab with allotments potentially</p>	<p>Address policy for rental accommodation. Pay for recycling due to being classed as a business so many don't, plus too infrequent to be beneficial.</p> <p>Hiring of waste education officers</p>	<p>Household food waste caddies across the whole area</p> <p>Collaboration between local food waste collectors and farms who can use the waste</p> <p>Better use of AD plants on farm</p>	<p>Leaflets within holiday lets to educate visitors on disposal in the local area</p>
Sustainable diets	<p>Evidence that pledges is a successful method to inform behaviour changes</p> <p>Use of nudge theory & social norming</p> <p>Tackling perceptions of how to eat a low carbon diet. Less meat rather than no meat is more feasible.</p>	<p>Reducing cost of vegetarian substitutes</p>	<p>Encourage hospitality to source more locally, provide more vegetarian / vegan options, use lower carbon meat e.g. game</p> <p>Carbon labelling on menus</p>	<p>Running of events to educate and celebrate a lower carbon diet</p> <p>Educate within schools and the wider community the link between diet and both healthy lifestyles and climate action</p> <p>Addressing food miles /misconceptions, local food isn't always low carbon</p>

<p>Production and distribution</p>	<p>Celebrate the season by making out of season foods the exception rather than the rule in diets</p> <p>Support more forms of community growing e.g. community orchards</p>	<p>Sector specific action required e.g. pubs & restaurants vs schools vs supermarkets & shops</p> <p>Support SME processing and manufacturing facilities to keep them in the area</p>	<p>More on-farm processing required perhaps via Farming in Protected Landscapes (FiPL) funding</p> <p>Lack of local abattoirs, and protection for those that still exist</p> <p>Better use of 'last mile' delivery</p> <p>More refill stations for dry goods</p>	<p>Education on seasonality, particularly for chefs</p> <p>Directory of local and sustainable food producers</p> <p>Highlight which foods have been produced locally</p>
<p>Technology and innovation</p>	<p>Community fridges</p> <p>Support wider reuse/recycle within the food industry, needs to widen out to the Cotswolds. Rural communities falling behind</p>	<p>Need to ensure a consistency of approach to innovation & tech</p> <p>Mapping of local farming policies and initiatives to ensure coordination and sharing of lessons</p> <p>Defra supporting work on feed additives to reduce methane</p> <p>Technology Fund for farmers from Defra</p>	<p>Greater use of renewable energy by local food producers</p> <p>Development of an app which highlights where local food is available.</p> <p>Conduct research into previous work</p>	<p>Identifying mentors / champions in this area to reach new farmer audiences</p> <p>Small biz are busy doing the producing & time poor & lack funding to invest in technology - need to understand what is achievable for the businesses</p>

Workshop 6 - Transport

Key outcomes:

- Strong desire for a wider, more joined up vision on transport that brings together all modes of transport and addresses the needs of all transport users.
- Development of a community transport hub which brings together multiple modes of transport in one location with all the amenities required for them to be an attractive service to residents and visitors.
- The table below summarises the headline message from each breakout session and theme:

Breakout	People	Policy	Infrastructure	Information sharing
Low carbon transport	<p>Follow transport hierarchy principles - minimise demand, green travel & switch to EV</p> <p>Incentivising car share / alternative modes of transport</p>	<p>Questions raised over who funds the transition</p> <p>Understand the current deficit in grid capacity if the Cotswolds were to push EVs</p> <p>Remove VAT on public electric car charging points to remove discrimination against those without off street parking</p>	<p>Development of transport hub</p> <p>Review quality of rural bus services</p> <p>Development of more cycle routes, independent from roads</p> <p>Accelerate roll out of electric car charging points</p>	<p>Misconceptions in regard to rural public transportation</p> <p>Promotion of EV car clubs, both community and private</p>
Car use	<p>Address the convenience and privacy of driving as a barrier for alternatives</p> <p>Engage different demographic groups e.g. young drivers, older drivers</p>	<p>Dis-incentivise car use in the right areas, and provide high quality alternative</p>	<p>Reconfiguration of car parks</p> <p>Community transport hubs</p>	<p>Mapping EV charge points, better publicising of car clubs</p>
Cycling/ walking	<p>Understanding the unmet need, differentiating between leisure and commuting cyclists needs</p>	<p>Local authorities to champion the creation of more bicycle lanes</p>	<p>More & named cycle routes</p>	<p>Better route information that is accessible virtually e.g QR code</p>

Public transport - trains and buses	Gap analysis to understand how to influence people's perceptions	Secure central government funding to make public transport more affordable	More utilisation of minibus transport Community Rail Partnership	Misinformation on reliability of public transport
Visitors and other	Encourage slow tourism and group travel Walking & cycling holidays Transport pass for visitors	Requirement of visitor attractions to have a transport plan e.g. mini buses from station Hard to secure funding	Coordination of accommodation providers and tour operators Attractions to provide or reward low carbon transport	Educate visitors on transport options on arrival using easily accessible, centrally stored information. Currently lacking an overarching collation of info.

BRINGING THE OUTPUTS TOGETHER, COMMON THEMES, LESSONS LEARNT

Key learnings

- Carbon reduction is already being considered across themes and implementation is starting to occur however there is a need to improve the process of sharing learnings and successes to expand projects.
- There is a limit to the CNL Board's operational control, finances and capacity and so understanding the parameters of where it can have maximum impact is critical to optimising its role in the CNL becoming net zero.
- Many other National Landscapes are grappling with the same issues that are facing Cotswolds and so there is an opportunity to align approaches at the national level, particularly if attempting to influence policy at a national level or secure national funding.
- As somewhat expected, there was not always complete alignment of views between different stakeholders in the best way to approach issues but there was consensus that working together on the workshop themes had been a successful approach and one they would welcome continuing in some format post workshops to ensure collaborative working and making best use of resources and knowledge.
- There is a high degree of overlap between different topics, requiring an intersectional approach to decarbonisation as opposed to viewing each emissions source in isolation.
- As referenced previously, there was an acknowledgement that there is a limit to the CNL Board's ability to implement all the actions required to reach net zero. Therefore, key proposed actions have been split by the role that the CNL Board can play in facilitating them. These are listed as CNLB Lead, CNLB Co-Lead, CNLB Support and where to Observe.

The following pages summarise the workshop themes and identify ways in which the CNL team can work to help achieve the outcomes highlighted in the SWC report. From these, essential actions, and a possible pathway for CNL can be created for submission to the CNL Board for early 2024.

Key steps to achieve net zero objectives

For the themes transport, food and drink, and energy the key steps are outlined over the following pages.

Workshop	CNLB Lead	CNLB Co-lead	CNLB Support
Transport	Investigate how to fulfil duty to increase enjoyment of the CNL in ways which minimise residents' and visitors' carbon footprint.	Better publicising of public transport availability to tackle perceptions of poor bus provision to both residents and visitors.	Development of a Cotswold's ticket connected to multiple modes of transport. Work with local councils on the development of transport hubs. Encourage key attractions to offer discounts / rewards for visitors travelling via public transport. Advocacy for specific initiatives such as car clubs and named cycle lanes. Infrastructural improvements.
Food and drink	Review the policy landscape and create concise documentation on options for farmers, business owners and hospitality. Information campaign on purchasing habits, low carbon diets, buying local and sustainable etc.	Events which educate and celebrate a low carbon diet, bringing communities together e.g. Cotswolds Sustainable MasterChef.	Incentivising restaurants to offer more low carbon menu choices. Low carbon diet pledge to encourage environmentally conscious purchasing habits. Support low carbon sourcing pledge in hospitality industry. Provision of technological infrastructure, e.g. 'Eat Sustainably Directory' and other schemes via an app or website.
Energy	Although the CNL Board is unable to physically deliver the transition to renewables there a number of preliminary steps that could be taken in order to increase uptake and attract investment, such as land mapping exercise for solar/wind across CNL Provide advice and guidance to renewables within the Cotswolds landscape. This may include surveying residents to understand current attitudes and create information campaigns to increase support.	Work with industry experts to understand what power generation is most suitable for the Cotswolds landscapes and land uses in particular.	Supporting businesses and households to utilise local and national funding schemes. Support implementation of the government's review of 'Adapting historic homes for energy efficiency'.

Land Use & Management

Cover Cropping	CNLB Lead	CNLB Co-lead	CNLB Support	Observe
<p>Practical Considerations - how to do it, what might this look like?</p>	<p>Land use strategy Develop land use framework to target areas for change. In doing so, reflect that:</p> <ul style="list-style-type: none"> ● Cover crops benefit over winter crops to avoid the risk posed by increasing dry springs. ● There are ongoing management options for cover crops - spray, livestock, or rolling. ● Companion cropping is also an option. ● This needs a % change rather than a number. ● Seed loving bird species also benefit from winter stubbles and should be considered with this option. 	<p>Land use strategy Create new ways to farm in a protected landscape investment visionary transformational change. Support approaches to farming in protected landscapes which contribute to a transformation in nature recovery and emissions mitigation and sequestration.</p> <p>The importance of working with other protected landscapes is noted here.</p> <p>Encourage the behavioural change of farmers to min till, reduced traffic etc.</p> <p>Farmer innovation + bid / suggest what they could do</p>	<p>The Local Nature Recovery strategy links with this pathway.</p> <p>Nature services and nature, carbon, water quality and natural flood management are valued here as is biodiversity.</p>	

Training / Rural Skills			Improve knowledge and understanding of the benefits of healthy soils, organic matter and carbon sequestration.	
Funding			Funding Routes Lowland calcareous grassland BNG credits are good, and so increase demand for this as an option, which is contrary to cover cropping ambitions in the SWC report.	Funding Routes Stewardship restrictions on possible cover crop area. Payment rates impact the achievability of these proposals. Loss of Basic Payment Scheme (BPS) moves farmers to crops to guaranteed incomes.

50 km of new hedgerows every year	CNLB Lead	CNLB Co-lead	CNLB Support	Observe
Practical Considerations - how to do it, what hedges might look like	<p>Increase growth of new hedgerows considering the following factors:</p> <ul style="list-style-type: none"> ● Practicalities of new hedgerows <ul style="list-style-type: none"> ○ Varied soil depth. Some areas might be too shallow for hedges. ○ Bottom-up site identification. ○ Consider climate change when selecting species. ● Ways of encouraging new hedgerows <ul style="list-style-type: none"> ○ Restore poor quality hedgerows as a priority. ○ Incorporate hedge gapping up 	<p>Consider the associated benefits:</p> <ul style="list-style-type: none"> ● Improved connectivity of tree lines and hedgerows, from urban environment to countryside ● Shading benefit for livestock, as hedges provide shelter belts ● Also consider: field trees, placing hedge species for food (human biodiversity) 	<p>Partner with other active groups of bodies, such as:</p> <ul style="list-style-type: none"> ● Oxfordshire treescapes ● Local nature recovery strategy ● CPRE have hedgerow with similar target just for hedges 	

	<ul style="list-style-type: none"> ○ Restore, widen, or double hedges ○ Compare restoring hedgerow and planting new. ○ Consider natural regeneration ● Hedgerow target could be bigger <ul style="list-style-type: none"> ○ Consider whether 50km of hedges is too modest a target ○ Establishing some new hedgerows is easy, but potentially may be limited thereafter. ● Visual impact and design <ul style="list-style-type: none"> ○ Consider the impact on the landscape of more hedges and acceptability to residents and visitors. ○ Hedgerows with trees and without depending on character can help address ash dieback loss. ○ Design the hedge so people will adopt happily. 			
Training / Rural Skills / Development	<p>Rural Skills: Develop and/or improve management of hedgerows considering:</p> <ul style="list-style-type: none"> ● Add trees to hedgerows. ● Encourage hedge laying. ● Control machine hedgerow cutting. ● Rural skills and for hedgerows management <p>Area of research or development - could CNL test these?</p>	<p>Rural Skills: Develop and/or improve management of hedgerows</p> <ul style="list-style-type: none"> ● Hedgerows – plenty of opportunity, large and small scale, scope to educate against flailing by habit. ● Improved hedgerow management ● Management plant fewer well 		

	<ul style="list-style-type: none"> • Guarding develop better methods • Ban spiral plastic guards 	Monitoring and data <ul style="list-style-type: none"> • Consider how bare hedgerows can be monitored. • Carbon benefits of new hedgerows are limited. 		
Funding		Funding Streams <ul style="list-style-type: none"> • FIPL Hedgerow Fund • Press for government funding to include increasing width as well as length of hedgerows 	Funding Streams <ul style="list-style-type: none"> • Consider the Hedgerow Carbon Code • A small carbon credit for hedgerows would help. 	

Legumes Cropping	CNLB Lead	CNLB Co-lead	CNLB Support	Observe
<p>Practical Considerations - how to do it, what might this look like?</p>	<p>Practicalities of increased legume cropping</p> <ul style="list-style-type: none"> • How will climate adaptation affect feasibility of these land use changes? • Next step to ground truth. • Legumes as a companion crop - does that count? • Clarity in what sort of legumes is included. • Clarity on purpose of each change in use + management of land • Is it ambitious enough? • Why are legumes not herbal leys? <p>Risk to consider with this as a possible route</p> <ul style="list-style-type: none"> • Value of human consumption of legumes is dropping. • The dominance of global pulse markets. • Under investment in legumes in the UK? • Is there a total area to work towards rather than a year-on-year rate? • The Cotswolds struggles with growing legumes, as a spring 	<p>Practicalities of increased legume cropping</p> <ul style="list-style-type: none"> • Clarity of which land is targeted for legumes/ cover crops. • Land capability assessment to identify suitable areas for either practical suitability of soils. • Could we increase sheep to replace the need for legumes? 	<p>Practicalities of increased legume cropping</p> <ul style="list-style-type: none"> • Peas + beans need a market. • A need to develop more disease resistant varieties + trial more human higher value legumes. <p>Other areas outside of traditional ag</p> <ul style="list-style-type: none"> • Community supported agriculture. • Horticulture market gardens. <p>Food chains</p> <ul style="list-style-type: none"> • Unit out to supply chains - scopes - for connection. • Local food chains + markets as a driver for change? 	<p>Practicalities of increased legume cropping</p> <ul style="list-style-type: none"> • The opportunity for novel cropping. <p>Wider climate change considerations</p> <ul style="list-style-type: none"> • Link to ecosystem services and resilience to more. • More extreme weather conditions (cold or hot) and the ongoing impact of climate change. • The perceived need for greater levels of UK self-sufficiency + security

	<ul style="list-style-type: none"> crop, due to late season start. Reduce risk/ uncertainty that otherwise holds back change appetite. <p>Landscape character</p> <ul style="list-style-type: none"> Changes to landscape are part of a moving process. Landscape character -> relate to planning and CNL climate adaptation plan 			
Training / Rural Skills / Development		<p>Data</p> <ul style="list-style-type: none"> How will CNL monitor any of these measures? Is there info on how much land is currently under cover crops/ legumes? And use baseline data to help identify target areas. <p>Training and development</p> <ul style="list-style-type: none"> Training knowledge for agronomists 	<p>Wider education</p> <ul style="list-style-type: none"> Food education to use and cook with legumes. 	
Funding		<p>Funding routes</p> <ul style="list-style-type: none"> FiPL + money for Cotswold brand 	<p>Finance and risk</p> <ul style="list-style-type: none"> It needs to be financially viable to do and de-risk the loss of spring crops 	<p>Current schemes</p> <ul style="list-style-type: none"> It needs certainty to plan as incentives have been chaotic so far. Mid-tier does not permit legumes in cover crops.

Livestock	CNLB Lead	CNLB Co-lead	CNLB Support	Observe
<p>Practical Considerations - how to do it, what might this look like?</p>	<p>Practicalities and considerations of livestock numbers reductions</p> <ul style="list-style-type: none"> • Less livestock and less feed releases land for energy crops etc. • What else could be farmed on land of this type and height? • Focus on traditional good herbal leys. • Trad is the new cutting edge, reflecting past techniques & ecology - based systems. • Carry out a review of actual farming systems/ livestock. • What are landscape consequences of reducing livestock? • Does pasture meadow support less climate change than arable crop farming? • Biodiversity in manure, an example of reason to still have pastoral farming. • Eliminate general fertiliser use for intensive and extensive livestock to improve soil quality and maximise potential as a huge resource. • Employee requirements are high cost. • Review of where we are currently, may not mean an automatic livestock reduction. • Integration of livestock in arable • Livestock is capital and labour intensive, so may reduce because of cost pressures 	<p>Other groups of bodies active to partner with</p> <ul style="list-style-type: none"> • See Bradwell Grove (Rob Richmond) for the role of livestock in a sustainable system. • Proposal for co-operative promoting conservation grazing, linking land and animals with natural parks and uplands, needing funding and incentives for farmers. • What resources at CNLB to assist in promoting relationships with land owners. • Other programmes (good food Oxfordshire) (oxford colleges linked to farmers) • Carbon calculation grazing stock. • Landscape scale projects now happening GWT, NT, CNL working together, sharing contacts, resources, skills. We need more of this. • Pasture for life certification. • Include horses, stables, manure and their 	<p>Technological solutions</p> <ul style="list-style-type: none"> • Technological advancements are unknown. • FYM compost or biochar. • Making compost. + bio dynamic. • Bokashi treatment on manure reduces emissions and increases volume. <p>Reduction of meat consumption in wider society</p> <ul style="list-style-type: none"> • Procurement systems to drive reduced meat consumption. • Don't reduce it if you don't reduce consumption. • mustn't reduce production without reducing consumption otherwise just exporting emissions <p>Less but better quality</p> <ul style="list-style-type: none"> • Shorter supply chain more local markets. • Support Cotswold dairy. 	<p>National policy</p> <ul style="list-style-type: none"> • Difficulty in movement of livestock. • Flying flock support through policy. • Food security targets / impacts <p>Technological solutions</p> <ul style="list-style-type: none"> • Use more efficient beef breeds - stabiliser? • Genetic editing in livestock. <p>Dietary change</p> <ul style="list-style-type: none"> • Dietary change is achievable - there is already a movement which we could support, via campaigns, funding stream to support local veg growth. • The impact of food transportation on prices and

	<p>anyway.</p> <ul style="list-style-type: none"> ● Will climate adaptation drive livestock reduction because it is too hot and not enough water? ● Use of sheep for pest management in arable. ● Using more of the animal, less waste, lower number of livestock required. ● More benefits beyond carbon. <p>Less, but better quality</p> <ul style="list-style-type: none"> ● Less livestock may mean fewer farmers => community consequences. ● Reducing intensive nature of cattle farming, and converting to organic /regen (mob grazing, etc. ● Utilisation of break crops & arable leys depends on livestock ● Ways of farming livestock should be examined before reduction. ● Reduction in feed growing, not livestock. ● Rotation livestock part of this. ● Use of heritage breeds ● Less intensive livestock good but need more extensive livestock of the correct type for grazing. ● Value of well-produced meat. ● Diet of livestock related to emissions. ● Grass based only livestock. Brash supports a longer grass growing season. ● Grazing system and selection genetics ● More cattle less sheep ● Less+ better meat / dairy 	<p>management in the calculation.</p> <p>Less but better quality</p> <ul style="list-style-type: none"> ● Re-learn the role of (essential) stock. ● How many livestock are currently in the Cotswolds? ● How many livestock are needed for nature conservation? ● Create a Cotswold 'standard' for food and farming 	<p>as local dairy business.</p> <ul style="list-style-type: none"> ● Labelling products of climate friendly provenance. ● Need labelling scheme for meat from ag systems which are carbon friendly. ● Promoting meat eating. <p>Smaller Abattoir Support</p> <ul style="list-style-type: none"> ● Fund - work with this funding scheme to support small abattoirs to ensure that locally produced livestock can enter the local food chain more easily. 	<p>pollution, as well as the importance of dietary changes for farmers and reducing food waste in shops.</p> <ul style="list-style-type: none"> ● Alternative sources of protein (Hodmedods growing lentils in Suffolk) ● Reduce waste diets change changing mind set. <p>Less but better quality</p> <ul style="list-style-type: none"> ● More abattoirs. ● Farmers subject to supermarkets setting the price / quota ● Dietary - reduce the amount of meat but produce quality. ● Transport of animal feed <p>Conservation grazing implications</p> <ul style="list-style-type: none"> ● Too simplistic, needs to account
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	<ul style="list-style-type: none"> ● Right animal, Right place Soil <ul style="list-style-type: none"> ● Factor in soil type, ecology & soil biology. ● More soil organic matter and general soil health. 			for the contribution to biodiversity, which is essential for ecosystem
Training / Rural Skills / Development	Entry and training <ul style="list-style-type: none"> ● Funding apprentices on best practice organic farms ● Well paid farming jobs ● Education for farmers ● New entrants' way in via livestock, people who want to work on the land Advisers <ul style="list-style-type: none"> ● Land agents, farmers not all going to work via SFI etc. ● What about private finance? ● Land agents need confidence that farmers will comply with schemes (which are complex) and because otherwise agent caught between farmer and RPA ● More farm 'open days' to link engage the public with farming ● CNL land use / systems link to advisers / best practice 	Data <ul style="list-style-type: none"> ● Better use of data and research into breeding and feeding ● Research of actual sequestration for changing systems. ● Clear scientific knowledge of what is happening. ● Link to local universities/ colleges research. Numbers livestock baseline <ul style="list-style-type: none"> ● Data, what do we have now? Technology <ul style="list-style-type: none"> ● Techniques not technologies. ● Graze sheep under solar - stacking industry + land use. ● Use tech to reduce labour costs. ● Could also consider technique not technology. 	Technology <ul style="list-style-type: none"> ● Embrace tech now but need knowledge + investment. ● Comms to put landscape in context to scene set. 	
Funding	<ul style="list-style-type: none"> ● Is there financial support? 		<ul style="list-style-type: none"> ● Provenance /affordability 	

Regenerative Farming	CNLB Lead	CNLB Co-lead	CNLB Support	Observe
<p>Practical Considerations - how to do it, what might this look like?</p>	<p>Practicalities & considerations of regenerative farming in the Cotswolds</p> <ul style="list-style-type: none"> • New farming includes horticulture, market gardens, and more direct sales from farms to consumers. It also involves tenant farmers and a focus on community supported agriculture. • How compatible is regen / net zero farming and food security? • Need to define best regen practices for carbon • Define regen ag for Cotswolds specifically. • Uncertainty over precise carbon consequences of regen practices, so risk of claims of greenwashing. • Sustainable food production, through innovative methods such as using woody material instead of wood land, tree planting for food production, and transportation of food. It emphasises the need to prioritise sustainability in food production. • No mention of agriculture 	<p>Other groups of bodies active to partner with</p> <ul style="list-style-type: none"> • Oxfordshire nature recovery network. • County council smallholdings and County farms as a means of small scale. • The Cotswold farmer cluster. • Food 4 life (NHS) • Comms at GCC level about what regen is. • Other programmes (good food Oxfordshire) (oxford colleges linked to farmers) • Landscape scale projects are now happening GWT, NT, CNL working together, sharing contacts, resources, skills, and we need more of this. <p>Biodiversity & regen agri</p> <ul style="list-style-type: none"> • The balance of biodiversity/ carbon food production is really difficult. Better integrated land management. • Need to consider carbon + biodiversity consequences of different aspects of regen 	<p>National Policy</p> <ul style="list-style-type: none"> • Soil Carbon Code • Woodland Carbon Code • Equipment availability • Barriers to regen are the cost of equipment. • More sharing of farming equipment. <p>Practicalities & Considerations of regenerative farming in the Cotswolds</p> <ul style="list-style-type: none"> • Eliminate general fertiliser use for intensive and extensive livestock to improve soil quality and maximise potential as a huge resource. <p>Dietary Change</p> <ul style="list-style-type: none"> • Dietary change is achievable - there is already a movement which we could support, via campaigns, funding streams to support local veg growth. • Better food systems - less grain fed meat more 	<p>National policy</p> <ul style="list-style-type: none"> • National farming policy • Responsibility central govt local govt various admins. <p>Waste</p> <ul style="list-style-type: none"> • Processed food = price? • Reduce food waste: recycle nutrient (and utilisation) • The impact of food transportation on prices and pollution, as well as the importance of dietary changes for farmers and reducing food waste in shops. <p>Alternative cropping</p> <ul style="list-style-type: none"> • Community energy. • Energy crops? • Relaxation of legislation eg. hemp. <p>Other forms of certification</p>

	<p>systems' impact on the environment, unrealistic and limited information provided.</p> <ul style="list-style-type: none"> ● Long term management (permanence) and long-term projects that tie up. Need to be nimble on focusing where to currently available <p>Livestock in regen ag</p> <ul style="list-style-type: none"> ● Proposal for co-operative promoting conservation grazing, linking land and animals with natural parks and uplands, needing funding and incentives for farmers. ● Flying flocks. ● Extensive livestock. ● Return to mixed farming. ● New entrants with livestock enterprises. ● No fence as fencing is often poor quality. ● Less intensive livestock is good, but more extensive livestock of the correct type for grazing. <p>Food production & Cotswold branding of local food</p> <ul style="list-style-type: none"> ● Food supply chain could be more localised ● Link urban and rural areas to increase engagement. ● Premium product or extensive 	<ul style="list-style-type: none"> ● recognizing benefits of ecosystem services, including habitat improvement and water quality, through ecosystem payments. ● Could work to connect habitats, created in the right place based on an opportunity map. e.g. road, verges. 	<p>diversity - more nutrient density.</p>	<ul style="list-style-type: none"> ● Certification of organic farming + pasture fed livestock (PFLA) ● Organic and non-organic farming methods compared, with emphasis on glyphosate and no-till farming. ● Red tractor label ● organic vs. conventional
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	<p>livestock.</p> <ul style="list-style-type: none"> • Nature recovery and food production, reduction in government production, Cotswold brand food production. • Local promotion of regen farming products. • Create a Cotswold 'standard' for food and farming. 			
Training / Rural Skills / Development	<p>Farming and the public</p> <ul style="list-style-type: none"> • Modify the public and farming mindset to make it stewardship. • More farm 'open days' to link engage the public with farming • Needs a cultural change to good + landscape. <p>New entrants</p> <ul style="list-style-type: none"> • Good farm advice for all and owner sizes + scales. • Give training to new comer land owners. • Training with livestock handling + management. <p>Knowledge sharing</p> <ul style="list-style-type: none"> • Can we facilitate farmers to connect and understand challenges, with more advisors, funding workshops. • What resource at CNL to assist in promoting relationships with land owners little with land 	<p>Education</p> <p>Understand economic drivers for farming systems</p> <ul style="list-style-type: none"> • Royal Agricultural College + Hartpury and Farm Ed, as source of info & advice <p>Data</p> <ul style="list-style-type: none"> • data set availability? 	<p>Farming and the public</p> <p>Education on healthy eating</p>	

	<p>managers (as volunteer)</p> <ul style="list-style-type: none"> • Need for dissemination of research findings to farmers, e.g Harper Adams tillage and transport project. • Are farmers consulting CNL on national characteristics? • Knowledge hubs for exchange 			
Funding	<p>FiPL Funding</p> <ul style="list-style-type: none"> • FiPL funding for advises • Bottom-up approach to ask CNL for funding option 	<p>Green Finance</p> <ul style="list-style-type: none"> • Green finance plays a crucial role in promoting sustainable development - i.e. LENS, ELMS, BNG, and FIPL offer funding and incentives for eco-friendly initiatives like biochar and carbon sequestration. 	<p>Other Funding</p> <ul style="list-style-type: none"> • BNG.? win - wins • Schemes exclude smaller scale Farmers • Farming Investment Fund 	<p>Other Funding</p> <ul style="list-style-type: none"> • CSS BN(11) • ELMS+ SFI • BPS loss impacts. farm viability

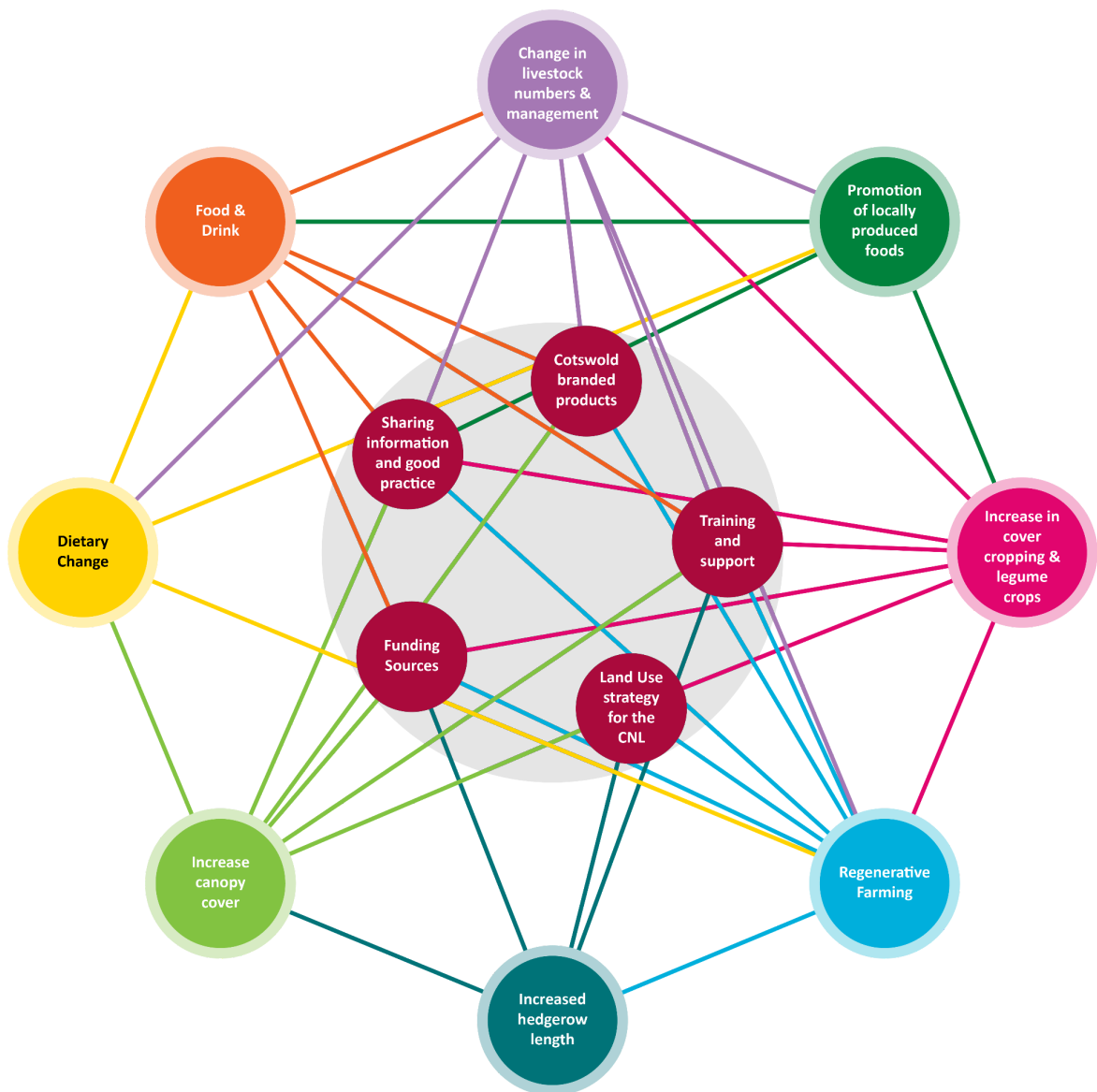
700 ha of new woodland (canopy cover) every year	CNL Lead	CNL Co-lead	CNL Support	Observe
<p>Practical Considerations - how to do it, what might this look like?</p>	<p>Practicalities of new canopy cover</p> <ul style="list-style-type: none"> ● Helpful / crucial ● Archaeology restricts tree planting. ● Shifting climates <p>Right tree, right place (planning)</p> <ul style="list-style-type: none"> ● Landscape impact obstruction of views? ● CNL relax objections on tree planting is that might, or is that lay CNL exist policy insensitivity ● Consistency of planning policy e.g. in relation to trees' impacts on views. ● Planning support ● Local insetting ● Planning system should encourage insetting as part of farm diversification. ● Build consensus on trees + landscape + views. <p>Right tree, right place (on the ground)</p> <ul style="list-style-type: none"> ● Seed source ● Needs spatial prioritisation, inc for trees. where is the best place for sequestration, nature + air pollution. ● Farmer collaboration for landscape scale action. ● Right tree in the right place. ● Natural regeneration (without tree guards) ● Tree planting (but joined up). 	<p>Local authority cross over</p> <ul style="list-style-type: none"> ● Different local authority policies eg Ox v Glos tree planting. ● Oxfordshire favour trees next to footpaths; Glos does not, need consistency <p>Land use strategy</p> <ul style="list-style-type: none"> ● Spatial land use planning / strategy. <p>Flooding, wet woodland and water management</p> <ul style="list-style-type: none"> ● Understanding trees' contribution to flood management. ● What will trees do to water in streams? ● Wet woodland. ● Understanding water landscape in the Cotswolds. ● Double benefit if trees contribute to natural flood prevention ● Consider wetlands as well as trees <p>Urban trees</p>	<p>Pest control</p> <ul style="list-style-type: none"> ● Urgent deer management solutions required, and for grey squirrels. ● Squirrel control + hares / rabbit + voles ● Grow market for venison ● Improved woodland pest control to establish healthy woods <p>Other examples</p> <ul style="list-style-type: none"> ● Expansive definition of agroforestry e.g. orchards, vineyards, caravan sites. ● aggregated farms eco applications (fc & network rail pilot on Evenlode) 80ha target across 27k ha of participating farms. ● Limited by perceived availability of suitable land ● N.B. small world 	<p>Carbon -</p> <ul style="list-style-type: none"> ● Trees for more than just carbon ● Warming is already at 1.5c? <p>Beyond trees</p> <ul style="list-style-type: none"> ● Can not just focus on carbon - must include biodiversity. ● Grassland benefits from carbon e.g. commons. ● Herbal leys and organic will capture as much or more than trees. ● Need to better link farming and forestry <p>Labour and employees</p> <ul style="list-style-type: none"> ● Employee for food / fruit picking. ● Policy for labour required for fruit /

	<ul style="list-style-type: none"> ● Tree protection and management for survival of 700 ha of trees, indigenous trees planted to prevent flooding, trees as part of food growing management. ● Tree planting is achievable, but it needs to be the right trees in the right places. ● New woodland- need to work out a scale of new woodland that is appropriate i.e. compatible with purpose of AONB designation). <p>Land use strategy</p> <ul style="list-style-type: none"> ● This is a water challenged landscape especially if trees increase. ● Role of wetlands in relation to landscape. ● Soils ● Constraints: land type ● Woodland type connectivity ● Benefit of historic land use - hedges - orchards ● Aggregate Carson calculations. ● Local flexibility / variations needed. <p>Agroforestry</p> <ul style="list-style-type: none"> ● Community orchards in every Cotswold community. ● Food from trees? ● Horticulture. ● Livestock management through agroforestry. ● Market for tree fruit. ● Community juicing. ● Nuts (fruit not target) ● Variety of trees to allow livestock to browse and self-medicate. 	<ul style="list-style-type: none"> ● Planting in urban areas need for multi-functional land use ● Mosaic habitat. <p>Improving connectivity of tree lines / hedgerows - urban to countryside</p> <ul style="list-style-type: none"> ● Health benefits offer accessible areas close to communities. ● More trees in caravan parks, around storage units: public spaces; trees for trellising for vineyards ● Trees in built up areas - school playing fields grass parks, verges. <p>Associated benefits</p> <ul style="list-style-type: none"> ● Rewilding rate: potential ● Need to rapidly build momentum on tree planting and quick wins, quickly. ● Connectivity across tree+ hedge targets 	<p>consulting tree planting targets are beyond the nature recovery network map targets.</p> <ul style="list-style-type: none"> ● The presence of ash dieback and the need for an audit of net planting in relation to ash dieback. <p>Woodland carbon code</p> <ul style="list-style-type: none"> ● If woodland carbon code units are sold, it can't contribute to CNL target i.e. double counting ● Need to distinguish between & carbon in tree above ground + carbon sequestered below ground ● For example, soils - carbon code ● Woodland carbon code. <p>Renewables</p> <ul style="list-style-type: none"> ● If woodchip from Cotswolds substitutes for woodchip from Canada, can carbon saving from transport be included ● Renewable energy as part of land use. 	<p>nut pick</p>
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	<ul style="list-style-type: none"> ● Increased wood pasture - mixed use. ● Sustainable food production through innovative methods such as using woody material. instead of wood land, tree planting for food production, and transportation of food. It emphasises the need to prioritise sustainability in food production. ● Providing shade for livestock 		<ul style="list-style-type: none"> ● Role of forestry commission. 	
Training / Rural Skills / Development	<p>Knowledge sharing</p> <ul style="list-style-type: none"> ● Need to articulate locally all the benefits of woodlands ● Knowledge exchange 	<p>Woodland management</p> <ul style="list-style-type: none"> ● Woodland management and maintenance as well as planting. ● Skills + training for woodland uses, needs right management as well as right tree right place. <p>Knowledge sharing</p> <ul style="list-style-type: none"> ● What must happen to wood when trees are down to maximise benefits. ● Need training in woodland management to after-tree felling. 	<p>Monitoring and data</p> <ul style="list-style-type: none"> ● How to monitor progress? ● Measuring + verifying - how? ● Baseline data - take issue + other solutions, not just targets 	
Funding	<p>Helping to find funding</p> <ul style="list-style-type: none"> ● CNL to coordinate schemes (join up, FiPL+ facilitation fund. ● CNL should fund coordinators for farmer clusters for large scale changes. 			

UNDERSTANDING CARBON CROSS OVER

The diagram below dissects how some of the most notable topics overlap with a number of key emissions sources, with particular emphasis on the relationship between land management and food and drink - the interlink between them being regularly highlighted during the workshops. The analysis in the above set of tables also focused on areas that the CNL team could lead or co-lead on and these were specifically focused on in this diagram. The key recommendations from the SWC report are shown here connected with the areas of work that are emerging from the workshops. The intersection between these different emissions sources should be acknowledged when putting together a decarbonisation plan. This is because in practice a coordinated approach will be required in order to deliver a solution that is beneficial at most, and not detrimental at least, to all parties.



Practical considerations of implementing a decarbonisation plan

The net zero action plans need to be feasible, deliverable and measurable. The workshops conducted as a part of this project have aided considerably in understanding what is feasible for the CNL Board to deliver on in aiding the CNL to reach net zero. Further work is required to assess actions that are actionable and measurable. Some guidance on how to implement this is outlined below:

- **Deliverable:**
 - Identifying which individuals and organisations are responsible for delivering against certain projects contributes to ensuring that carbon reduction ideas materialise into action.
 - This also enables progress to be made against multiple emissions sources simultaneously.
 - Due to the nature of the Cotswolds footprint a large part of this will be action delivered by gaining buy-in from residents, visitors, farmers, and the wider community more generally. Therefore, this requires a more information focused approach including clear messaging and creative methods of communication to reach all stakeholders.
 - Assigning ownership can be a positive step to enable those who live, work, and visit the CNL to feel empowered and included on the journey to net zero.

- **Measurable:**
 - Regular measurement of and reporting on key emissions sources is integral to track progress. Tracking progress enables informed decisions to be made on what actions are proving to be successful and can be a useful prioritisation tool on where to focus effort going forward. It can also act as an effective motivator to keep up momentum.
 - In order to deliver on this, data collection is critical. Due to much of CNL's emissions occurring outside of CNL Board's direct control, most of the data will come from sources outside of the organisation.

- **Examples of data sources to collect:**
 - Waste data from local councils
 - Mapping of land use types
 - Consumer surveys of dietary habits
 - Consumer surveys of transport habits
 - Routes and utilisation data from transport providers
 - EPC ratings from residential & commercial properties

PATHWAY TO NET ZERO

The review of the SWC report via the workshops and direct meetings with the CNL Board and team, were to help determine the next steps and develop a potential pathway that the CNL Board could take to start the process towards Net Zero for 2050.

Targets set out in the SWC report have been robustly debated and an extremely wide range of areas for further research and information gathering have been identified along with action points. But what are the essential steps especially from 2025 – 2030 that CNL needs to consider?

To try and put this into some order, 3Keel have subdivided the actions into 5 yearly blocks as this works with the CNL management planning process. There may have been an expectation at the start of this review that perhaps the targets set in the SWC report could be given a definitive 'yes' or 'no' or replaced with new defined numerical targets.

Reaching net zero is never straightforward as there are many influences and the need to understand what actions deliver and could they also deliver on multiple fronts as shown in the carbon crossover diagram.

The pathway therefore has to be feasible, deliverable and measurable but it is worth highlighting key parameters that helped identify the next steps:

1. The core purpose of CNL must be at the heart of all decisions and what it was set up to achieve. This doesn't mean that no progress should happen. Status Quo is just not an option if net zero is to be reached. Change will need to happen but should be carefully considered so the CNL Board stays true to its purpose.
2. The CNL Board and team does not have unlimited resources both financially and in the capacity of its team. So, the pathway needs to reflect this. This was the reason for identifying in the previous sections of this report what the CNL Board could lead on, Co-lead, provide support or would need to observe future developments (often in the area around policy) where they do not have control.
3. The CNL board needs to also establish where best to place their knowledge, skill sets and influence to achieve the greatest net zero gains.
4. Collaboration with other stakeholders and organisations will be the only way progress will be made to achieve the targets across CNL. What was extremely positive during the workshop process is that this way of working was fully supported by those attending and they wanted to see more of this.

5. Research and technology developments are happening at great speed and all future planning by the CNL board will need to include and review this, to update their approach and what could hasten the net zero target being met.

The CNL Action For Climate Change table takes the four themes of land use and management, food and drink, energy and transport and breaks them down into identified areas for delivery from 2025 – 2050, in 5 year intervals.

Please note that this table is currently with the 3Keel design team to convert into a pathway infographic and timeline and will be ready for the final report for February.

Particular attention has been paid to the period 2025 – 2030 as this will present the most immediate considerations and areas for debate for the CNL Board to adopt in their next 5-year plan which will take place in February 2024.

The area for easiest action and quickest wins will be via the land use and management actions as these more closely affiliated with CNL's core purpose, but there are also actions in the other areas of food and drink, energy and transport that should not be overlooked. Within these action points priority order will also need to be established by the CNL board.

Monitoring, Recording and Verification (MRV)

The calculations carried out within the SWC report to provide target % reduction and actual hectares of change for land use were based on many layers of data and information. The CNL Board therefore needs to decide if going forwards over the next 25 years if they will adopt certain recognised methods of measurement to see if they are achieving targets or will be working more on recording of actions and their impact to contribute towards the targets proposed. The decision on this will need to be well informed and may involve working with others across the CNL to establish methodology.

Climate Action Lead Role – Spring 2024

CNL is currently recruiting for a new role – Climate Action Lead. The SWC report and this additional report from 3keel, can help shape some of the early structure and possible work streams this new role can take on. Priority areas identified:

1. Build upon the relationship building galvanised during the workshops, finding key contacts and identifying/setting up of sub work groups where appropriate.
2. Work with partners to assess the potential cumulative impact in CNL of all offsetting and in setting initiatives.
3. Work with other CNL team members to help evaluate the areas identified as possible quick wins, taking on information from historical and current relevant projects.

4. Develop a working plan of priority of actions around climate action for CNL according to resources and funding.
5. Identify new areas for funding if required including possible joint bids with other partners.
6. Include potential of working more collectively galvanising the parish council network, chiefly through our parish council reps on the CNL Board, and those parish councillors and clerks who attended the workshops.
7. Create working relationships with key organisations/ people identified within this report which could be used for future planning, co-lead or support projects.
8. Be the point of contact for updating the CNL Board and team on policy requirements and any forthcoming changes around Climate at national and local level. This would include where CNL may need to consider lobbying for change.
9. Closely monitor developments within ELMs (SFI, Countryside Stewardship schemes) and help lobby where changes need to be made or support others doing this.
10. Lead on bringing together finance and a project team to map woodland and hedges and opportunities across CNL.
11. Represent CNL at meetings and to share their vision and plans for delivery.
12. The carbon footprint from food & drink in the Cotswolds AONB is higher than the national average so there could be an opportunity to conduct further research and analysis to understand why this is.
13. Education and training has been identified as essential on all of the climate action areas. This role could help develop programmes working with other partners and organisations and promote these and associated messages across the CNL network.

CNL – Action for Climate Change 2025 - 2050

Theme	2025 - 2030	2030 - 2035	2035 - 2040	2040 - 2045	2045 - 2050
Food & drink	Primary data collection exercise to understand residents' diets and their emissions	Development of community food networks linking farmers and businesses to each other and to consumers		Identify remaining barriers to further reducing emissions from food & drink and create plans to mitigate these.	
	Set-up and delivery of events which celebrate a low carbon diet	Information campaign on tackling misconceptions surrounding food purchasing selection			
	Provision of technological infrastructure which enables better information sharing e.g. 'Shop local directory'	Semi-regular (min. once every reporting cycle, every 5 years) collection of emissions data to assess progression towards net zero, and completion of surveys to gauge feasibility of actions used to inform future planning.			
	Incentivise hospitality establishment to offer attractive low carbon menu options				
Transport	Better publicising of public transport availability to tackle perceptions of poor bus provision.	Development of a Cotswold's ticket connected to multiple modes of transport			
	Mapping of current charge point network and identify gaps to fill Advocacy for specific local initiatives such as car clubs and named cycle lanes	Work with local councils on the development of transport hubs	Reconfiguration of car parks to provide more services to low carbon transport options	Identify remaining barriers to delivering emissions reductions in transport and create plans to mitigate these	
	Undertaking research to understand how to meet the needs of the local community considering different journey purposes and demographics.	Work with transport providers to facilitate the delivery of a low carbon public transport network. Semi-regular (min. once every reporting cycle, every 5 years) collection of emissions data to assess progression towards net zero, and completion of surveys to gauge feasibility of actions used to inform future planning.			
Energy	Land mapping exercise to identify suitable locations	Work with industry experts to understand		Identify remaining barriers to delivering renewable	

	deploy different types of renewable energy generation		what power generation is most suitable for the Cotswolds	energy and create plan to mitigate these		
	Development of a delivery plan to lower the carbon footprint of heritage buildings.		Implementation of low carbon building delivery plan			
	Surveying residents to gauge support for and attitudes on the deployment of renewables		Depending on the output of the survey, take steps to build support for renewables			
	Engage with residents, landlords and holiday lets to encourage uptake of climate protection (e.g. retrofitting) and energy efficiency measures (e.g. use of LED lighting)		Semi-regular (min. once every reporting cycle, every 5 years) collection of emissions data to assess progression towards net zero, and completion of surveys to gauge feasibility of actions used to inform future planning.			
Land use & management	Land Use Strategy Work with key stakeholders (including large scale landowners) to write terms of reference for writing a Land Use Strategy, using this report and SWC report as the basis.			Review Land Use Strategy in sync with Pathway to Net Zero and the CNLs Management Plan Cycle.		
	Understand and identify the smaller scale land owners and managers - i.e. horse and pony, market gardens, orchards, small holdings, small scale owners new to land management etc and they can be engaged in this pathway.					
		Data: Commence data collection and literature review to lay the groundwork for a Land Use Strategy.				
		Commence consultation with wider stakeholders & Cotswolds Farmer Forum.				
		Launch Land Use Strategy.				
	Woodland & Hedgerow Creation Identify partners to work with to create an opportunity map for woodland		Commence program of supporting			

	creation and hedgerow expansion to feed into the Land Use Strategy. Accelerate woodland creation in areas identified within the nature recovery plan.	planting schemes in identified areas			
	Create Opportunity Map and consult with key stakeholders		Review and update Opportunity Map following delivery		
	Work with stakeholders to identify the quick wins', funding routes, understanding of landscape character, planning requirements, and empower them to deliver these objectives.	Review progress and identify blockers to deliver further trees and hedges			
	Repair and maintain scheme launch - hedgerow management	Review impact of repair & maintenance scheme	Continue to support hedgerow repair and maintenance and associated skills.		
	Funding: Green Finance LENs Feasibility – to establish other finance routes for change such as regen farming practices, soil management and help associated reduction of carbon and increase in sequestration. Private finance could help speed up change and help farm businesses to become more resilient. LENs can also help to manage flood resilience for communities within and downstream of the Cotswolds.				
	LENs Feasibility and set up aim for a first trade by 2026.	Review impact of LENs on delivery of pathway.			
	Data: Acquire baseline data to understand expansion of cover cropping & legumes via this (and other) mechanisms.	Identify any blocker and review literature around if increase legumes and cover crops contributing effectively to net zero ambitions			
	Funding: Keep Funding routes and options for farmers and land managers under review and	Continue to review other funding routes available and maintain a mechanism to support farmers and land managers to apply successfully			

	work to promote, support and share them.				
	Education and Training Convene partners in the education sector to develop training courses for agronomists, farmers and land managers that support transition to Regenerative Ag. Farmer to farmer learning will be essential for success	Review courses and update accordingly			
	Education and Training Convene partners in the education sector to develop training courses for farmers and land managers that support woodland & hedgerow management	Review courses and update accordingly			
	Education and Training As above, develop training courses for farmers and land managers regarding lowering livestock numbers moving to pasture based systems	Review courses and update accordingly			
	Sharing Information & Good Practice Work with existing wider networks to identify, and share good practice, by convening a Cotswold Farmer Forum and programme of site visits and knowledge shares.				
	Work with existing, and identify potential for future, cluster groups within the CNL.				
	Livestock In line with the data gathering phase for the Land Use Strategy set out to understand the numbers, management, grazing systems livestock in CNL.	Monitor and review changes to livestock technology within the Farmer Forum			
	Using the Education & Training and Information Sharing infrastructure above identify and share where low carbon livestock systems exist and share good practice and support new entrants into livestock.				

APPENDICES

Appendix 1: Contacts and useful links

Ideas, contacts and useful links in relation to each theme that were generated through the workshop discussions are detailed below.

Theme	Focus area	Useful sources of information and links
Energy	Low carbon buildings	<ul style="list-style-type: none"> • Net Zero Carbon Toolkit for those constructing or retrofitting homes, guidance on the best interventions at a whole house level: https://cotswold.gov.uk/netzerocarbondtoolkit • Business advice tool kits are coming out Nationally via Visit England and Local Visitor Economy Partnership (LVEP) • CDC Building prefab homes that are energy efficient • Social Housing Decarbonisation Fund - Central Government funding
	Low carbon transport	<ul style="list-style-type: none"> • ThinkTravel: https://www.gloucestershire.gov.uk/thinktravel/ • Sustrans: https://www.sustrans.org.uk/ • Oxfordshire County Council has a current consultation on transport hubs • Pilot to run Cam railway station with Gloucestershire Community Rail partnership, with Slimbridge and Berkley Castle. Currently, in a feedback and review phase. • Oxford has done a lot of trials for on-street charging. • Slimbridge Shuttle bus: https://www.gloucestershirecommunityrail.org/slimbridge-shuttle • Milton Keynes Council set up "On Demand" public transport system called MK Connect. • Cirencester (very) light railway project - linking Kemble with Cirencester Town centre: https://cirentain.org.uk/ • The Robin on demand minibus. • Stroud District Council operates a "try before you buy" electric bike scheme to encourage people to try it themselves. • Jenny Figueiredo at Oxfordshire County Council is leading a project to install charging points in small local car parks. • Blenheim Palace offer discount tickets for people who arrive via public transport: https://www.blenheimpalace.com/visitus/green-travel/
	Transition to renewables	<ul style="list-style-type: none"> • Case studies: Cotswold Distillery - water capture, charging centre on the Fosse way. • https://www.climatebonds.net/

		<ul style="list-style-type: none"> ● Low Carbon Hub is working with 40 community energy groups, so have lots of expertise in local engagement: https://www.lowcarbonhub.org/ ● Southill Community Solar Farm (West Oxon) and in the CNL. Sec106 payments to CNL Board annually to help conserve and enhance the natural beauty of the Cotswolds. ● Southern Electric (SSEN) produces data to street level on ECV, heat pumps & EPC. ● Distribution Future Energy Scenarios Collecting lots of data on connection requests for generation (PV, hydro etc) and modelling on adoption of technology. ● JCB/Lord & Lady Bamford Hydrogen development. ● £1m GCC air quality and action fund for council buildings.
	Energy efficiency	<ul style="list-style-type: none"> ● Bath and West Community Energy has just run a good green open homes event, and some of those properties will (just) have been inside the bottom edge of CNL area. BWCE in Bath will be happy to share a playbook on green open homes events for CNL or other parties to use. ● WODC and CDC are considering sensitive heritage retrofit. ● Energy Solution Oxfordshire is providing building assessments: https://www.energysolutionsoxfordshire.org/ ● Swaffham Prior Heat Network: https://www.bouygues-es.co.uk/energy/swaffham-prior-heat-network ● Berkeley Tech College is training people for installing heat pumps etc. to increase capacity. ● Stroud DC energy saving advisors. ● Current government scheme for free insulation for 300,000 properties. ● Energy funding schemes for low income households e.g. HUG 2.
Food & Drink	Sustainable diets	<ul style="list-style-type: none"> ● Meat Free Monday. ● Sustainable restaurant association: https://thesra.org/ ● Cotswolds Plus - Local Visitor Economy Partnership (LVEP) has sustainability business practices focus - action plan currently being drafted to influence business. ● Farmers Markets.
	Food waste	<ul style="list-style-type: none"> ● Stroud Food Network are trialling a Gleaning Network - harvesting surplus food from farms and redistributing it to the community. ● 'Too Good To Go' food reduction app works with local businesses and is great for locals to reduce food waste. ● Riverford campaign - supermarket standards, and unreliability of contracts due to demand changes. ● Biogen - collection of restaurant etc. waste - turned into compost and renewable energy sources.

		<ul style="list-style-type: none"> ● Box schemes - barriers are price and lack of information on how to use vegetables. ● FarmEd composting schemes. ● Community composting schemes e.g. Alderton allotments Community fridges. ● Marsha Llewellyn [Marsha.Llewellyn@publicagroup.uk] - Officer for Cotswold District Council (Waste & Recycling) - can provide data and info about food waste. ● WRAP: https://wrap.org.uk/taking-action/food-drink/initiatives/food-waste-reduction-roadmap ● GCC do some community composting schemes as part of their Greener Gloucestershire work strand.
	Production and distribution	<ul style="list-style-type: none"> ● Gloucestershire County Council seasonal campaigns. ● Cotswold Grain Network. ● Cotswolds Tourism is already running a scheme connecting suppliers to accommodation. ● https://www.cotswolds.com/trade/business-support/business-directory ● Gloucestershire Root, Fruit & Grain Society. ● "Fir Farm" Mobile Slaughtering Unit, Gloucestershire: https://firfarm.co.uk/mobile-slaughter-unit/ ● Supply chain synergies report UK - Forum & Oxford Farming Conference report: https://www.forumforthefuture.org/supply-chain-synergies ● GREAT Project - promoting agro-ecological/regenerative farming (Gloucestershire Regenerative Env Ag Transition) ● Farming in Protected Landscapes (FiPL) grant funding available for various initiatives.
	Technology and innovation	<ul style="list-style-type: none"> ● Farming in Protected Landscapes (FiPL) engaging with farmers/land managers, offering information, suggestions, knowledge from existing projects/tech. ● Cotswold Climathon, engagement and innovation. ● Cotswold green leaf scheme - finished in approximately 2013. ● https://www.foodmanufacture.co.uk/Expertise/Promotional-Features/Decarbonising-the-food-beverage-manufacturing-in-dustry-a-path-to-sustainable-heat-and-carbon-reduction#:~:text=By%20usin ● Businesses such as Blenheim Palace and Daylesford Organic are already investing in Sustainability: https://www.blenheimpalace.com/sustainability/ ● Existing resources: https://www.foundation-earth.org/about-us/ (environmental food labelling) also https://www.forumforthefuture.org/Pages/Category/food ● Contact NFU and Hartpury about local carbon agri-tech. ● RAU Innovation Village (plan) and Farm491 at the Alliston Centre. ● Return deposit cup schemes with cafes. Cotswold Cup CIC and Shrewsbury Cups are examples. This could be expanded to food containers (done in London).

		<ul style="list-style-type: none"> ● Refill App. ● Gloucestershire FWAG working with the sustainable food trust - working with farmers on a pilot to get carbon baseline. ● Using new spaces to grow food. Mushrooms in car parks: www.bbc.co.uk/news/av/business-49928362 ● Gloucestershire have a LEP subgroup on agri-food and rural business skills - new strategy just published. ● Cotswold Lakes Brewery using waste bread. ● The Long Table, Stroud. ● Rural Estates Manager for Gloucestershire County Council [Jill.MATTHEW@gloucestershire.gov.uk] ● Food for Life scheme for public sector procurement. ● Farming Technology Fund, access to this from farmers.
<p>Transport</p>	<p>Cycling and walking</p>	<ul style="list-style-type: none"> ● TfL has a map of concentric circles showing the distance walking vs tube/other travel means. ● Cotswolds Tourism works with influencers and media to highlight walking and cycling using younger people, inclusion and diversity. ● Cotswolds Tourism produced a 7 day cycling tour of the area and circular hubs: https://www.cotswolds.com/things-to-do/cycle-tour-day-7-cirencester-to-stroud-p1975063 ● Cirencester College offers free courses on bike maintenance and increasing confidence. ● National Trails promotion for Cotswold Way and Thames Path - was a VisitEngland Discover England project - see research: https://www.visitbritain.org/research-insight ● Active travel: https://www.gloucestershire.gov.uk/thinktravel/ https://www.oxfordshire.gov.uk/residents/roads-and-transport/connecting-oxfordshire/active-travel-0 ● Welcome walkers scheme e.g. Winchcombe, Kings Stanley: https://walkersarewelcome.org.uk/towns-history-winchcombe/ ● Simon Smith CNL liaising with Cotswold Mountain Biking around GPX routes. ● Transition Malvern Hills - have a successful E Bike hire. ● A417 old road will be repurposed to have segregated pathways for walking and cycling. ● Traffic free cycle routes in development i.e. from Cheltenham to Andoversford and onwards to Stow In Wold. ● Cotswold Canal project - think about walking and cycling elements: https://cotswoldcanals.org/about-us/the-canal-restoration-project/ ● Windrush bike project (Witney)/Access Bike (Stroud). ● Great Northern Route - 800km of traffic free route between Gloucestershire CC investment in cycling: https://www.gloucestershire.gov.uk/transport/gloucestershire-local-transport-plan-2020-2041/cycling-and-walking-infrastructure-plans/ ● CNL initiative to take guided walks for muslim women who come out to CNL sites by minibus, took some time to gain traction, but is now successful.

		<ul style="list-style-type: none"> ● Cycling Sisters - reaching groups that might not normally cycle. ● Gloucestershire Community Rail Partnership (GCRP) - Getaway Programme Active Travel for young people linked with rail with a confident traveller programme. ● Sabrina Way - Long Distance Riding Association.
	Visitors and other	<ul style="list-style-type: none"> ● https://trainripper.co.uk/ developed with the rail operators and CRP. ● Cotswolds Tourism/Local DMOS run a campaign to discover what is on your doorstep. ● Review of data and visitor perceptions: https://globalnews.booking.com/climate-community-and-choice-bookingcom-reveals-the-trends-shaping-sustainable-travel-in-2022/ ● Hannah - toolkit working with 8 businesses, working with EWR. ● Round table of destinations considering a shuttle linked to rail - Hannah. ● Oxford Bus - building a possible route around the Cotswolds - follow up with Hannah. ● Lake District has a good example of transport from stations. ● Buses on demand e.g. Stroud. ● Cotswolds Plus LVEP are currently drafting sustainability transport and active travel plans. ● Ref Cotswold discoverer pass. ● Attractions such as Blenheim Palace offer discounts for using public transport, bike, walks: https://www.blenheimpalace.com/visitus/getting-here/
	Car use	<ul style="list-style-type: none"> ● Cotswolds Tourism worked with Trip Advisor and Shell recharge to highlight using EV around the area: https://www.tripadvisor.co.uk/Articles-IsInR8YkitB0-Recharge_adventures.html ● Daylesford staff shuttle bus. ● Rural co-wheels? eg https://malvern hills-carclubs.org.uk/ ● MAAS Finland - 'Mobility as a service' ● Lots of car clubs already exist e.g. in Oxford. ● Oxfordshire consultation on transport hubs has just closed ● Gloucestershire "Older Drivers Forum" and their driving safer for longer. ● The Robin community connections bus - great knowledge, resources and comms network. ● Youth Transport Survey ● Review of parking in Cotswold DC: https://news.cotswold.gov.uk/news/council-to-create-a-plan-for-the-future-of-car-parking-in-the-district ● Active travel fund (Stroud) e.g. encouraging village halls to implement bike parks.

	Public transport – trains & buses	<ul style="list-style-type: none"> ● GRCP have designed https://trainripper.co.uk/ as a resource. ● Tourism services e.g. open top services such as new Stagecoach service in Peak District (Peak Sightseer) - could something similar be trialled in Cotswolds? ● Dial up bus services operate in some rural areas e.g. Forest of Dean. ● Trial happened 2023 via GRCP connecting up Slimbridge with Cam & Dursley train station. ● Oxfordshire CC is planning transport hubs (interchanges) with ebikes, car clubs etc. including micro hubs in rural areas. ● VisitEngland focus on sustainability including connectivity for final mile. ● Surveys undertaken by GCRP and Stroud Youth Council of young people's views on public transport - strong support.
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Appendix 2: List of Organisations and businesses who attended workshops

None of the workshops would have been possible without the participation and expertise of so many stakeholders, land managers and farmers, specialists/advisers and of course the CNL Board and team. We would like to thank them for their time and incredibly valuable input and information to produce such detailed outcomes and to help shape the next steps for the CNL Board, and for wholeheartedly taking on this challenge and wanting to remain working together to collaboratively tackle this net zero by 2050 challenge.

Company	Job Title
August Farms	Owner
BBN	Member
Ben Arthur Media	Filmmaker
Box Parish Council	Councillor
Boyd farms	Director
Broadfield Farms	Assistant Farm Manager & Estate Manager
C&R FOOTE	Farmer and Caterer
CCRI	Research Assistant
CCRI, University of Gloucestershire	Professor of Innovation for Sustainable Agriculture
Claire Thayers and Associates	Manager
Climate Action WG	Chair
Climate Leadership Gloucestershire	Countywide Climate Change Coordinator
Cornbury Park Estate	Estate Manager
Corsham Town Council	Environmental Officer
Cotswold Conservation Board	Land Management Lead
Cotswold Conservation Board	Partnerships and Fundraising Lead
Cotswold District Council	Head of Climate Action
Cotswold National Landscape	Biodiversity Net Gain Programme Officer
Cotswold Voluntary Wardens	East District Chair
Cotswolds Conservation Board	Board Members
Cotswolds National Landscape	Access and Volunteers Lead
Cotswolds National Landscape	Board Members x 4 and Chair

Cotswolds National Landscape	Chairman Avon Valley Wardens
Cotswolds National Landscape	Chief Executive
Cotswolds National Landscape	Communications Lead
Cotswolds National Landscape	Community Outreach Officer
Cotswolds National Landscape	Farm Engagement Lead
Cotswolds National Landscape	Farming Engagement Officer
Cotswolds National Landscape	Finance & Administration Assistant
Cotswolds National Landscape	Glorious Cotswold Grasslands Project Officer
Cotswolds National Landscape	Grants and Outreach Officer
Cotswolds National Landscape	Head of Finance
Cotswolds National Landscape	Head Warden
Cotswolds National Landscape	Nature Recovery Lead
Cotswolds National Landscape	Planning & Landscape Lead
Cotswolds National Landscape	Programme Support Officer
Cotswolds National Landscape	Project Officer
Cotswolds National Landscape	Trails and Access Officer
Cotswolds National Landscape, WODC	CNL Board member, WODC District Councillor
Cotswolds Tourism	Tourism Manager
CPRE Gloucestershire	Chair
CPRE Gloucestershire	Vice-Chairman
CPRE Gloucestershire	Trustee
Creative Sustainability (CIC) - Gloucestershire Youth Climate Group Project	Youth Climate Group Facilitator
Crucible	Founder
CVW central	Chair
Defra	Policy Advisor x 2
Equine Ecologist	Owner/Consultant
Farm	Proprietor

Farm	Owner
Farm	Resident on farm
Farming and Wildlife Advisory Group	Farm Environment Adviser
Farming and Wildlife Advisory Group South West Ltd	Senior Farm Environment Adviser
Forestry Commission	Business Development Advisor
Forestry Commission	Land Use Advisor
FWAG SW/GFFP	Sustainable Food Places Coordinator Gloucestershire
GCC	Rural Estate Manager
Gloucestershire Community Rail Partnership CIC	Executive Director
Gloucestershire County Council	Countywide Climate Change Coordinator
Gloucestershire County Council	Head of Environment and Waste
Gloucestershire County Council	Local Government Officer
Gloucestershire County Council	Principal Transport Planner
Gloucestershire County Council	Senior Planner
Gloucestershire County Council	Sustainability and engagement officer
Gloucestershire County Council	Transport Planning Officer
Gloucestershire County Council	Tree Project Manager
Gloucestershire County Council - GL1 2TG, Gloucester - NMO - 1	Sustainability and Engagement Officer
Gloucestershire Local Nature Partnership	Local Nature Partnership Manager
Gloucestershire Wildlife Trust	Head of Nature Recovery Zones
Gloucestershire Youth Climate Group	Core Panel Youth Representative
Graduate RAU	Unemployed
GRCC	Community Capacity Builder
Guiting Manor Farms Ltd.	Farms Director
GWR	Transport Integration Manager
Hart Partners	Sustainability manager

J J Mann & Co	Farmer and a partner
James Gillies Consultancy	Advisor
Just Farm	Farmer
Kent Downs AONB	Strategic Projects Lead
Low Carbon Hub	Business Relationships Manager
Low Carbon Hub	Social Impact Director
ME & YH Nicholas	Farm Partner
MHP Design Ltd	Landscape Architect
Midcounties Co-Op	Head of Energy Efficiency
Monkton Farleigh Parish Council	Councillor
Multiple	Company Director
N/A	CDC Cabinet member Planning and Regulatory Service
N/A	Retired
National Association for AONBs	Nature Recovery Coordinator
National Association for AONBs	NbS Officer
National Association for AONBs	Policy and Advocacy Manager
National Highways	A417 Project Director
National Parks Partnerships	Nature based solutions project manager
Natural England Defra	Land Management Adviser
NH Associates	Consultant
Nicol Nuts	Land owner
North East Cotswold Farmer Cluster	Facilitator
Oxfordshire County Council	Landscape Specialist Officer
Oxfordshire County Council	Zero Carbon Council Manager
Oxfordshire County Council	Zero Carbon Oxfordshire Policy Lead
Oxfordshire Local Nature Partnership	LNP Manager
Penleaf Limited	Director
Publica	Climate Change Manager

Royal Agricultural University	Associate Director of Commercial Services
Royal Agricultural University	Doctoral International Teaching Fellow
Royal Agricultural University	Head of Planning, Data and Business Intelligence
Self employed	Gardener
SJ Phillips and Sons	MD
Soil Association	Senior Policy Officer x 2
Soil Association Certification	Certification Officer
South Gloucestershire Council	Councillor
Southill Community Energy	Director
St Andrews Parish Council	Deputy Clerk - Climate Crisis Committee
Stagecoach UK Bus	Assistant Commercial Manager
Stroud District Council	2030 Community Action Officer
Stroud District Council	Chair of Environment Committee
Stratford District Council	Councillor x 2
Stroud District Council	District Councillor x 2
Stroud District Council	Strategic Lead for Nature Recovery & Biodiversity
Strutt & Parker	Associate Director
Strutt & Parker	Land Agent
Strutt & Parker	Senior Associate Director
Tea Smart Photography	Photographer
Temple Guiting Parish Council	Parish Councillor
Tewkesbury Borough Council	Borough Councillor, and Cotswold National Landscape Board member
Transition Chipping Norton	Trustee
Transition Stroud	Co-Director
University of Gloucestershire	CCRI and LNP Board member
University of Warwick	Student
WA3RM	Sustainability Consultant

Warwick District Council	Principal Planning Policy Officer
Warwick District Council	Team Leader Climate Change
Warwick District Council	Planning Officer
West Oxfordshire District Council	Cabinet Member
West Oxfordshire District Council	Biodiversity Officer
West Oxfordshire District Council	Executive Member, Climate Change
WhiteAvon Consultancy Ltd	Farm Business Consultant
WhiteAvon Consultancy Ltd	Farm Business Consultant
Wild Oxfordshire	Nature Recovery Lead
WODC	Councillor
Worcestershire County Council	County Councillor
Worcestershire County Council	Head of Planning and Transport Planning
Wychavon District Council	District Councillor
Zulu EcoSystems	Director

PATHWAY TO NET ZERO OVERVIEW

