

# Public Document Pack

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To: Cllr Alasdair Ibbotson (Chair)

Councillors: Gillian Brockley, Steve Copple, Mared Eastwood, Chrissy Gee,  
Ian Hodge, Roz Mansell, Allan Marshall, Carolyn Preece, Dan Rose,  
Jason Shallcross and Sam Swash

11 January 2024

Dear Sir/Madam

**NOTICE OF REMOTE MEETING**  
**CLIMATE CHANGE COMMITTEE**  
**WEDNESDAY, 17TH JANUARY, 2024 at 10.00 AM**

Yours faithfully

Steven Goodrum  
Democratic Services Manager

The meeting will be live streamed onto the Council's website. The live streaming will stop when any confidential items are considered. A recording of the meeting will also be available, shortly after the meeting at <https://flintshire.public-i.tv/core/portal/home>

If you have any queries regarding this, please contact a member of the Democratic Services Team on 01352 702345.

## A G E N D A

### 1 **APOLOGIES**

**Purpose:** To receive any apologies.

### 2 **DECLARATIONS OF INTEREST**

**Purpose:** To receive any Declarations and advise Members accordingly.

### 3 **MINUTES** (Pages 3 - 8)

**Purpose:** To confirm as a correct record the minutes of the meeting held on 28 November 2023.

### 4 **LAND USE REVIEW – FOR BIODIVERSITY, CARBON STORAGE, AND FLOOD MITIGATION** (Pages 9 - 26)

**Purpose:** To receive a presentation on the work that is being carried out to assess the feasibility of schemes within the Council's land assets for resisting flood and drought while enhancing biodiversity and increasing carbon storage.

### 5 **CARBON EMISSIONS OF FARMING IN FLINTSHIRE** (Pages 27 - 36)

**Purpose:** To receive a report on carbon emissions associated with farming, and the role of the Council in influencing carbon positive agricultural practices.

### 6 **INQUIRIES UPDATE**

**Purpose:** To receive an update on the Committee Flood and Pensions Inquiries and discuss next steps

### 7 **FORWARD WORK PROGRAMME ITEMS AND PURPOSES** (Pages 37 - 46)

**Purpose:** To populate the Forward Work Programme for the Climate Change Committee.

***Please note that there may be a 10 minute adjournment of this meeting if it lasts longer than two hours***

## **CLIMATE CHANGE COMMITTEE** **28 NOVEMBER 2023**

Minutes of the Climate Change Committee of Flintshire County Council held as a remote meeting on Tuesday, 28 November 2023

**PRESENT: Councillor Alasdair Ibbotson (Chair)**

Councillors: Gillian Brockley, Steve Copple, Mared Eastwood, Chrissy Gee, Ian Hodge, Roz Mansell, Allan Marshall, Dan Rose, and Jason Shallcross

**APOLOGY:** Councillor Sam Swash

**SUBSTITUTION:** Councillor Mel Buckley for Carolyn Preece

**CONTRIBUTORS:** Councillor Dave Healey (Cabinet Member for Climate Change and Economy), Councillor Dave Hughes (Deputy Leader and Cabinet Member for Streetscene and the Regional Transport Strategy), Chief Officer (Planning, Environment and Economy), Programme Manager for Climate Change and Carbon Reduction, Climate Change Project Officer, and Business Development Manager

**IN ATTENDANCE:** Democratic Services Manager and Democratic Services Officer

### **27. DECLARATIONS OF INTEREST**

None.

### **28. MINUTES**

The minutes of the meeting held on 6 September 2023 were approved, as moved and seconded by Councillors Steve Copple and Dan Rose.

**RESOLVED:**

That the minutes be approved as a correct record.

### **29. DECARBONISATION OF SUPPLY CHAIN**

The Chair welcomed Roberta Bailey, Joint Procurement Business Partner for Decarbonisation, shared equally between Flintshire and Denbighshire County Councils, to the Committee. The Procurement Business Partner introduced herself and gave a brief overview of her role and objectives. She gave a presentation on Procurement Decarbonisation which covered the key points under the following headings

- Why
- When
- What
- How

The Procurement Business Partner for Decarbonisation responded to the questions and comments raised by Councillor David Healey around the achievement of genuine reductions in carbon emissions, and the need for compliance within the supply chain. She also responded to the further questions and points raised by Members around innovations in the construction industry, supply chain emissions, recording spend and use of the carbon calculator tool, and carbon footprint.

The recommendation in the report was moved by Councillor Dan Rose and seconded by Councillor Steve Cople.

**RESOLVED:**

That the presentation on Procurement Decarbonisation be received.

**30. INSTALLATION OF CABLE DUCTS FOR ON-STREET PARKING**

Councillor David Healey (Cabinet Member for Climate Change and Economy) gave a verbal update on the Council's current position regarding on-street electrical vehicle charging that had been provided to him by Deputy Leader and Cabinet Member for Streetscene and the Regional Transport Strategy. He referred to the challenges associated with on-street charging and the infrastructure to enable electric car users to charge their vehicles within designated locations across the County.

Councillor Ibbotson expressed a number of concerns and referred to cable gulleys, capital costs, and ongoing maintenance costs. He asked the Cabinet Member if there would be support for conducting a trial on the provision of EV charging points for on street parking. The Cabinet Member responded that in his view the costs associated with conducting a trial would be prohibitive given the Council's current financial position.

In response to the further concerns expressed by Councillor Dan Rose, Councillor David Healey confirmed that running charging cables across the pavement was not permitted in Flintshire at the current time.

Councillor Hodge queried the current take up and level of charges within the EV chargers in the Council's public car parks, compared to other providers.

Councillor Cople suggested modelling information on the impacts of a household switching to, for example, a heat pump, and also requiring energy for an EV charger – and how that would affect the grid capacity and associated costs to the household.

Councillor Chrissy Gee proposed that the Committee consulted with other local authorities to discuss how they addressed the matter and to learn from their advice and experience. Councillor Alasdair Ibbotson seconded the proposal and when put to the vote the proposal was carried.

Councillor Dave Hughes (Cabinet Member for Streetscene and the Regional Transport Strategy), suggested that a Task and Finish Group be set up to feedback recommendations to the Committee.

Councillor Healey expressed concerns around provision in rural areas and commented on the larger carbon footprint due to the lack of access to services and facilities and inconsistency around the public transport network.

**RESOLVED:**

- (a) That the Council's current position regarding on-street electrical vehicle charging be noted; and
- (b) That the Committee consults with other local authorities to discuss how they have addressed the matter and to learn from their advice and experience.

**31. FLINTSHIRE COUNTY COUNCIL CARBON FOOTPRINT UPDATE 2022/23**

The Climate Change Project Officer presented a report on the Council's carbon footprint for 2022-23. He provided a presentation on the Carbon Footprint 2022/23 Update which covered the following key points:

- Carbon Footprint 2018/9 to 2022/23
- Theme Emissions
- Methodology improvements
- Methodology improvements – procurement emission factors
- Climate Change Strategy Review- key items

In response to a question from the Chair the Climate Change Project Officer provided clarification around the data provided in the change in carbon emission factors from the Welsh Government.

The recommendation in the report was moved by Councillor Allan Marshall and seconded by Councillor Alasdair Ibbotson.

**RESOLVED**

That the progress made in the past year to improve data collection for the Council's carbon footprint be noted.

**32. ROUNABOUT PORTFOLIO SPONSORSHIP POLICY**

The Programme Manager for Climate Change presented the report. She provided background information and referred to the current Roundabout Portfolio Sponsorship Policy which was appended to the report. She explained that an amendment to the Policy was suggested in section 1.06 of the report to ensure that the Council's advertising policy will not accept sponsorship from fossil fuel products/companies. This allows the Council to show its support towards companies that share its ambitions towards climate change mitigation and

adaptation. She advised that there could be some impact related to the change as detailed in section 3.01 of the report.

Councillor Steve Copple spoke against the proposal to include reference to “fossil fuel” in the amendment to the Policy and suggested this be removed from the wording. Councillor Ian Hodge seconded this amendment.

Councillor Dan Rose spoke in support of the suggested alternative wording which was detailed in section 1.06 of the report.

Councillor Alasdair Ibbotson spoke against the amendment proposed by Councillor Copple.

When put to the vote the amendment was carried. The substantive motion (as amended) was that the Policy be amended to include the bullet point “In line with Flintshire County Council’s ambition to decarbonise the Council’s assets and services, and to encourage and influence the wider county to decarbonise, the Council will not be supporting companies or companies that provide products”.

Councillor Ibbotson spoke against the substantive motion. When put to the vote the motion was lost and therefore the recommendation was not taken forward.

### **33. UPDATE ON INQUIRIES**

The Chair provided an update on the Committee’s Flooding Inquiry and Clwyd Pension Fund Inquiry. He provided background information and read out a proposed list of people who would be invited to give verbal evidence at the sessions to address the Flooding Inquiry and Pensions Inquiry and the next steps.

In response to a question from Councillor Chrissy Gee the Chair advised that he would encourage local residents to submit their views.

In response to a question from the Programme Manager for Climate Change the Chair outlined the procedures to administer further enquiries.

#### **RESOLVED:**

That the update be noted.

### **34. FORWARD WORK PROGRAMME**

In considering the current Forward Work Programme which was appended to the agenda, the Chair invited Members to suggest any further items they wished to be included on the Programme by email to the Chair or Programme Manager for Climate Change.

#### **RESOLVED:**

That the Forward Work Programme be adopted.

**35. MEMBERS OF THE PRESS IN ATTENDANCE**

None.

(The meeting started at 10.00 a.m. and ended at 11.38 a.m.)

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**Chair**

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# Land Use Review

*Assess the feasibility of schemes within land assets for resisting flood and drought while enhancing biodiversity and increasing carbon storage*

# Presentation overview

- Background
  - Climate Emergency
  - Nature Emergency
- Project overview
  - Aims and objectives
  - Methodology
- Importance of the project
  - Ecological resilience
  - Carbon sequestration
  - Natural flood mitigation and resilience
  - Legislation and wider influence

# Climate Emergency

- Our planet is warming, leading to extreme weather events.
- The Paris Agreement – aim for global temperatures to stay below 2 degrees<sup>1</sup>.
- Welsh Public Sector has an ambition to reach net zero emissions by 2030<sup>2</sup>.

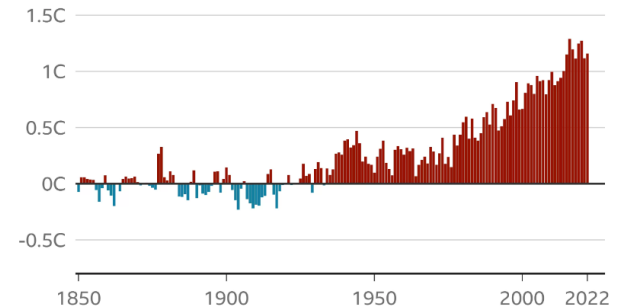


Figure 1: Change in annual average global temperature from pre-industrial levels (1850-1900) in degrees C. Source: Met Office.

- Land Use currently accounts for 12% of our greenhouse gas emissions and is the only emissions sector which has the current capability to remove emissions from the atmosphere<sup>3</sup>.
- Climate Change contributes to the loss and erosion of biodiversity, which in turn perpetuates the climate crisis.



Figure 2: Photograph demonstrating UK flooding. Source: Itv news.

<sup>1</sup>United Nations (2015). The Paris Agreement. <https://www.un.org/en/climatechange/paris-agreement>

<sup>2</sup>Welsh Government (2021), Net Zero Carbon Status 2030: Public Sector Route Map. <https://gov.wales/net-zero-carbon-status-2030-public-sector-route-map>

<sup>3</sup>Office for National Statistics (2022), Climate change insights, natural and rural environments, UK: November 2022. <https://www.ons.gov.uk/economy/environmentalaccounts/articles/climatechangeinsightsuk/november2022>

# Nature Emergency

- Of 240 countries, Wales is ranked 16<sup>th</sup> worst for nature loss<sup>4</sup>.
- On average populations of mammals, birds, amphibians, reptiles and fish have dropped by 69% since 1970<sup>5</sup>.
- 1 in 6 species in Wales are at risk of extinction<sup>5</sup>.

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Figure 3: Diagram demonstrating species reductions in the UK since 1970. Graphics from [5].

<sup>4</sup>Natural History Museum (2020.09.26). UK has 'led the world' in destroying the natural environment. nhm.ac.uk [Online]. Available: [UK has 'led the world' in destroying the natural environment | Natural History Museum \(nhm.ac.uk\)](https://www.nhm.ac.uk/news/uk-has-led-the-world-in-destroying-the-natural-environment).

<sup>5</sup>Burns, F, et al., 2023. State of Nature 2023, the State of Nature partnership, Available at: [www.stateofnature.org.uk](https://www.stateofnature.org.uk).

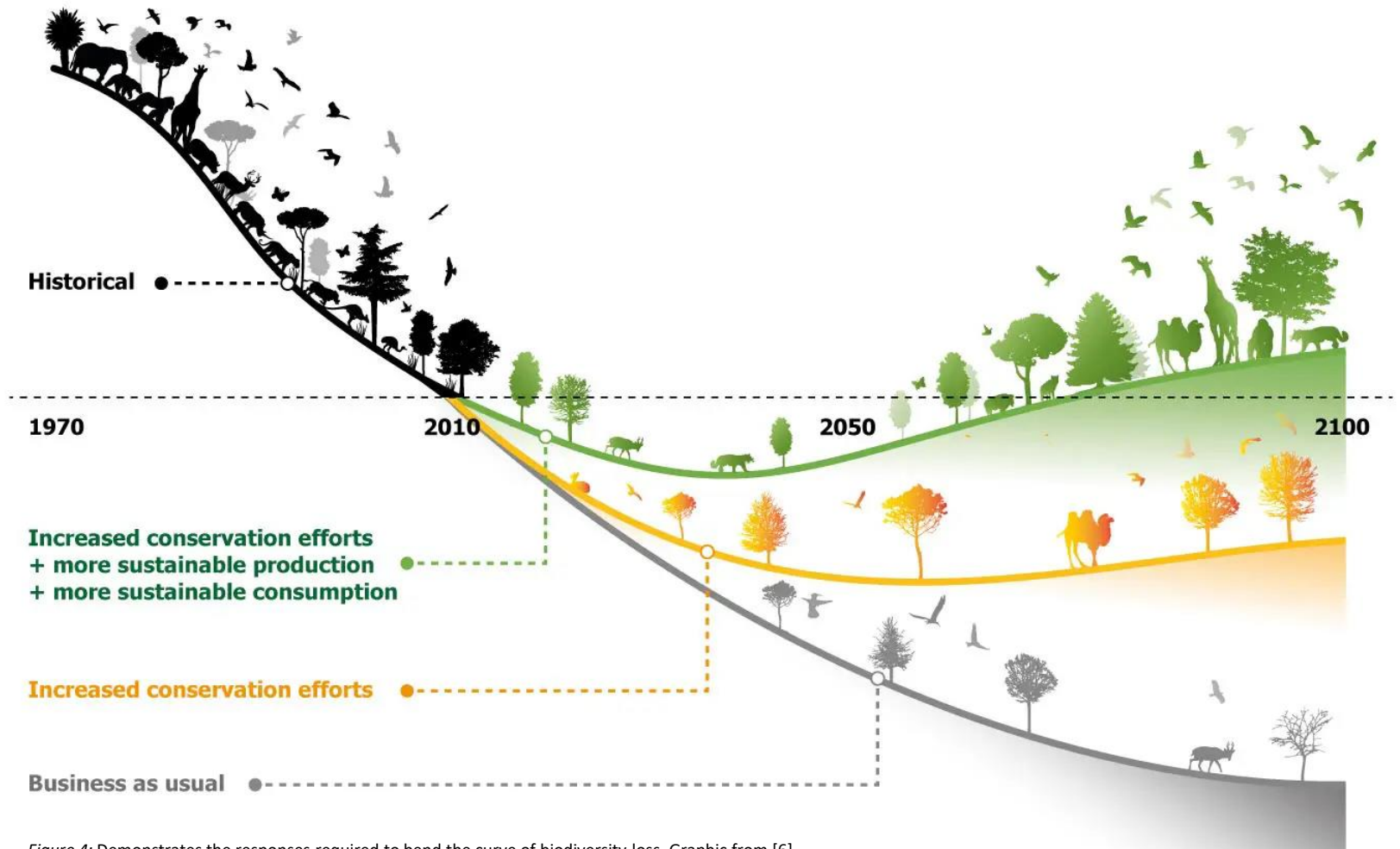


Figure 4: Demonstrates the responses required to bend the curve of biodiversity loss. Graphic from [6].

# Project aims and objectives

## Aim:

- Develop a list of priority sites for considerations for alternative use such as future carbon and/or biodiversity projects.

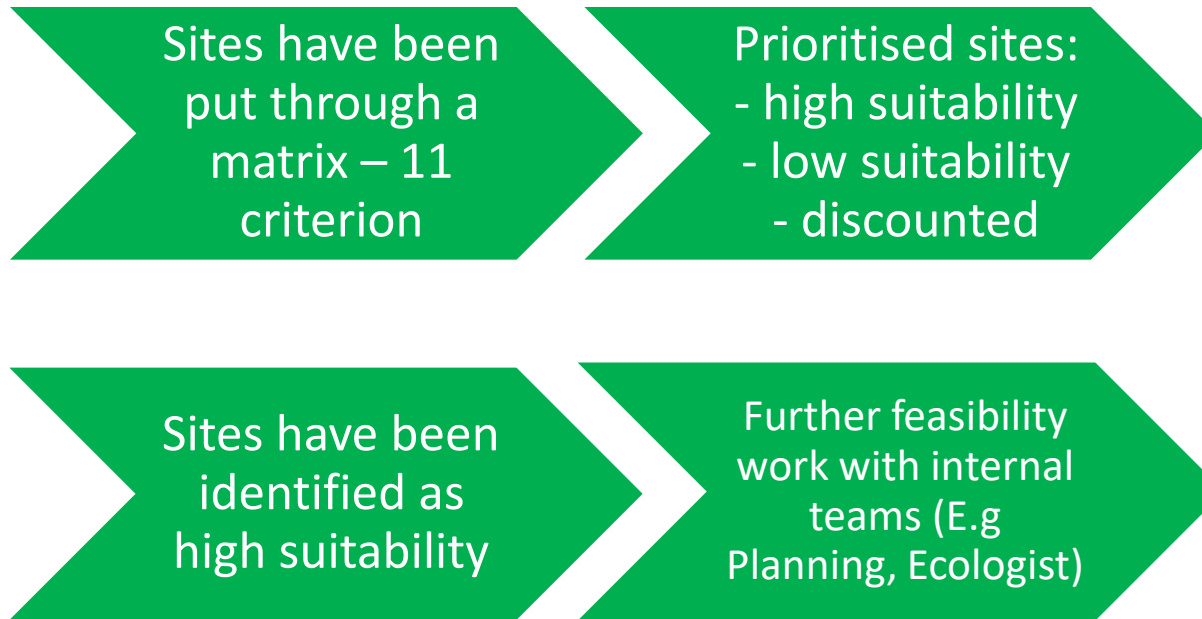
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## Objectives:

- Develop a matrix to assess sites
- All sites need to be included in the developed matrix
- Identify suitability sites
- Develop a land use report

# Methodology

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# Ecological resilience – 30 x 30

## Biodiversity deep dive



The Minister for Climate Change led a deep dive into Wales' approach to implementing the Convention of Biological Diversity (CBD) Global Biodiversity Framework target, to protect at least **30%** of the land and **30%** of the sea by **2030**.

The Biodiversity Deep Dive sought to develop a set of collective actions we can take immediately to support meaningful delivery of the **'30 by 30'** goal, recognising the capabilities we have in Wales, and reflecting our duties under the Wellbeing of Future Generations and Environment Acts.

## Biodiversity Deep dive<sup>7</sup>:

- Protecting at least 30% of the land and 30% of the sea by 2030
- 8 recommendations

### There were eight recommendations

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<p><b>1 Transform the protected sites series so that it is better, bigger, and more effectively connected:</b></p> <ul style="list-style-type: none"> <li>• Expand and scale up Nature Networks programme</li> <li>• Completing the Marine Protected Area network</li> <li>• Develop a Nature Networks Map for key focus areas</li> <li>• Increase delivery capacity of National Peatland Action Programme.</li> </ul>	<p><b>2 Create a framework to recognise Nature Recovery Exemplar Areas and Other Effective Area-based Conservation Measures (OECMs) that deliver biodiversity outcomes:</b></p> <ul style="list-style-type: none"> <li>• Establish Nature Recovery Exemplar Areas</li> <li>• Explore the role of new IUCN defined status of OECMs.</li> </ul>	<p><b>3 Unlock the potential of designated landscapes (National Parks and Areas of Outstanding Natural Beauty) to deliver more for nature and 30 by 30:</b></p> <ul style="list-style-type: none"> <li>• Support NPs and AONBs to develop prioritised action plans for nature restoration.</li> <li>• Realign Designated landscapes priorities to enhance and accelerate nature delivery</li> </ul>	<p><b>4 Continue to reform land and marine management and planning (including spatial) to deliver more for both protected sites and wider land/seascapes:</b></p> <ul style="list-style-type: none"> <li>• Develop strengthened guidance for Policy 9 of Future Wales</li> <li>• Strengthen the policy protection afforded to SSSIs</li> <li>• Implement a spatial approach to marine planning.</li> </ul>
<p><b>5 Build a strong foundation for future delivery through capacity building, behaviour change, awareness raising and skills development:</b></p> <ul style="list-style-type: none"> <li>• Integrating the skills and expertise needed for nature recovery</li> <li>• Include actions to tackle the nature emergency into the overall climate change behaviour change programme</li> <li>• Improve education and awareness of the nature and climate emergency and actions individuals and organisations can take.</li> </ul>	<p><b>6 Unlock public and private finance to deliver for nature at far greater scale and pace:</b></p> <ul style="list-style-type: none"> <li>• Develop a clear policy position on private investment in nature recovery</li> <li>• Explore sustainable funding mechanisms and opportunities to support work delivering the marine component of 30 by 30</li> <li>• Increase public investment in nature's recovery by ensuring the response to the nature emergency is integrated across government departments.</li> </ul>	<p><b>7 Develop and adapt monitoring and evidence frameworks to measure progress towards the 30x30 target and guide prioritisation of action:</b></p> <ul style="list-style-type: none"> <li>• Establish a monitoring and evidence task group.</li> </ul>	<p><b>8 Embed Nature Recovery in policy and strategy in public bodies in Wales:</b></p> <ul style="list-style-type: none"> <li>• Revise the Natural Resources Policy and our National Biodiversity Strategy</li> <li>• Strengthening delivery of the NRP and Section 6 of the Environment Wales Act to support the mainstreaming of delivery.</li> </ul>

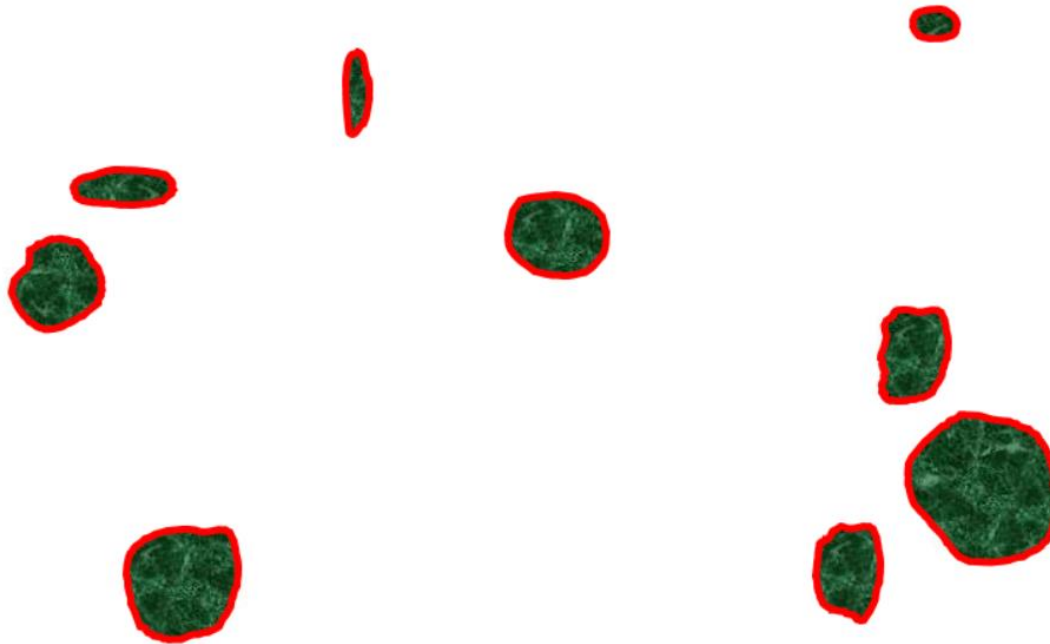
o.d.l. © Crown copyright 2022. W046238

Table 1: The 8 recommendations developed during the biodiversity deep dive to support natures recovery. Amended from [7].



# Ecological resilience – Habitats Network

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Protected sites<sup>8</sup>:

- Often not in good condition
- Sites are impacted by wider habitat loss
- Sites impacted by fragmentation

Figure 5: Demonstrates the impact of fragmentation on our priority sites created by J.Latham/NRW. Based [8].

# Ecological resilience – Habitats Network

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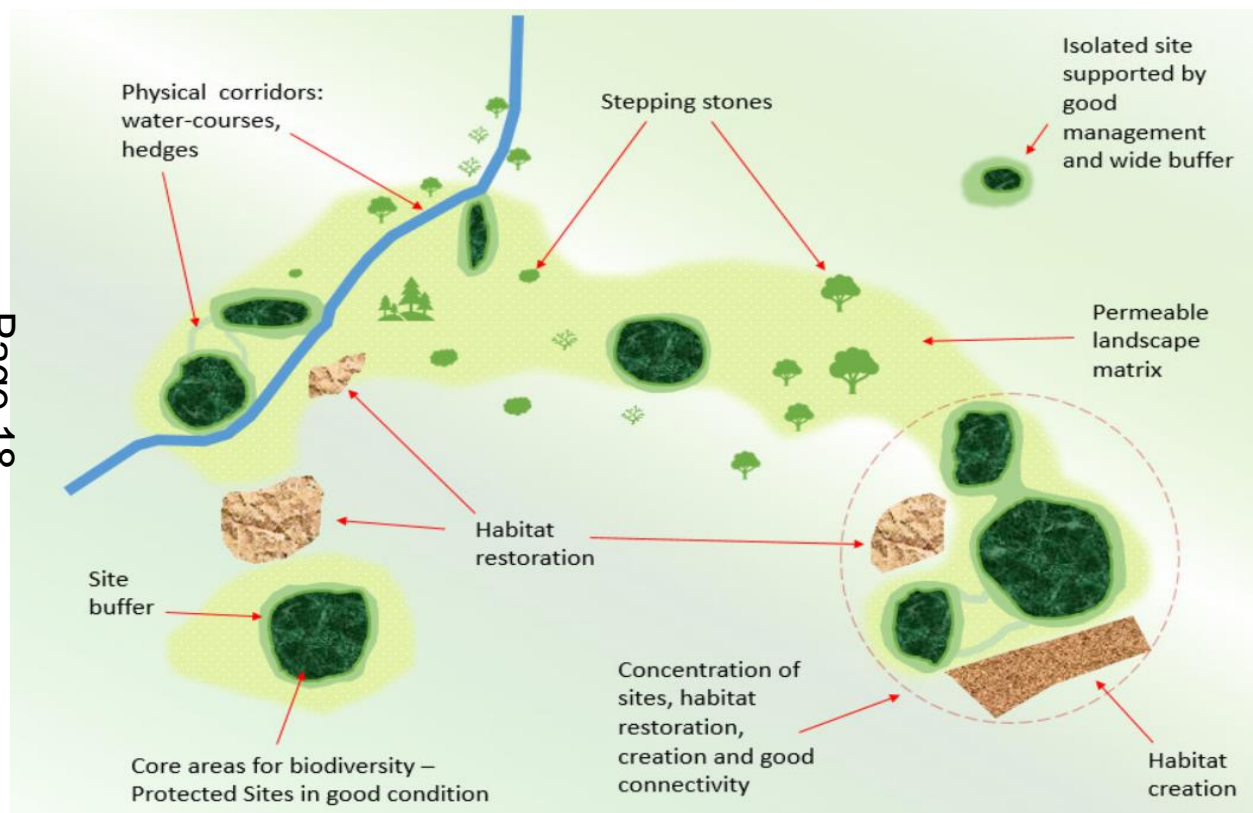


Figure 6: An idealised ecological network created by J.Latham/NRW. Based on [8].

## Nature Network<sup>9</sup>:

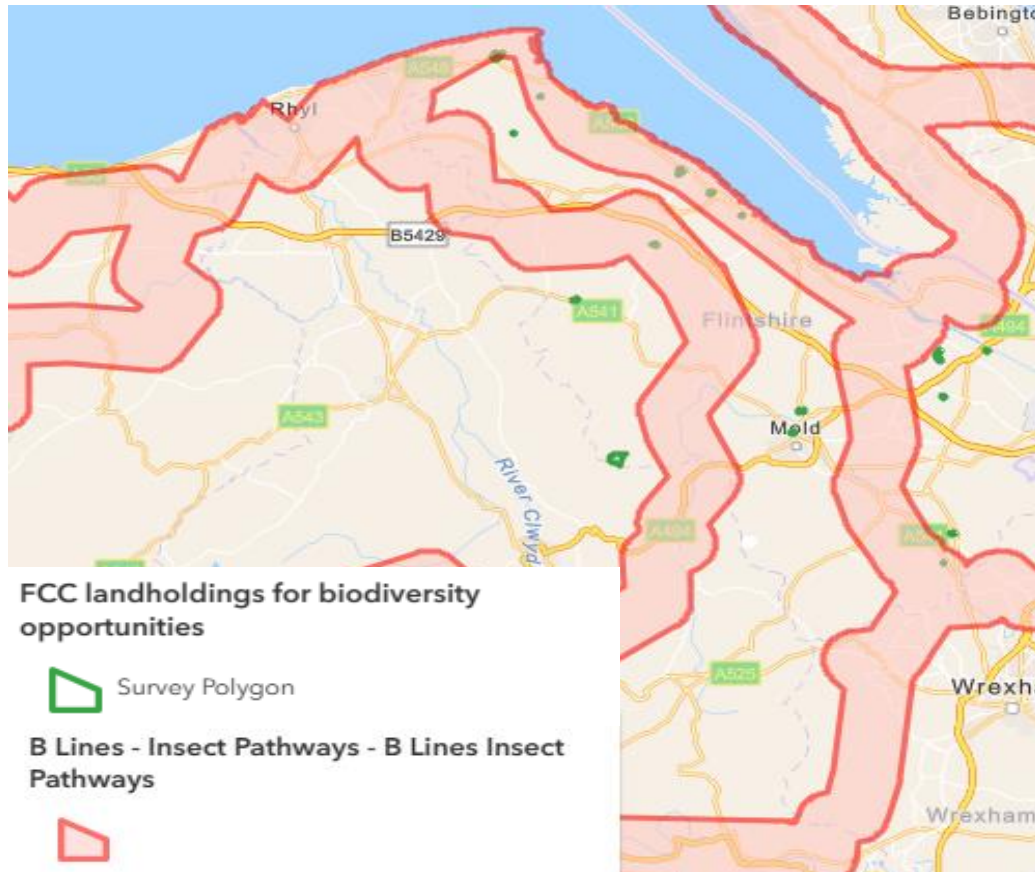
- 3-year programme
- aims to address the nature emergency in Wales

<sup>8</sup>Isaac, N.J et al., 2018. Defining and delivering resilient ecological networks: Nature conservation in England. Journal of Applied Ecology, 55(6), pp.2537-2543.

<sup>9</sup>Natural Resources Wales (2023.April, 11). *Nature Networks - information on nature projects*. naturalresourceswales.gov.uk. [Online]. Available: <https://naturalresourceswales.gov.uk/about-us/what-we-do/our-projects/nature-projects/nature-networks-information-on-nature-projects?lang=en>.

# Ecological resilience – B-Lines

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- Over 97% of all flower-rich grasslands have been lost since the 1930s<sup>10</sup>.
- B-lines is a network of 3-kilometre-wide insect pathways<sup>11</sup>.
- Reduce the impact of climate change on UK pollinators<sup>11</sup>.

Figure 7: Demonstrates buglifes network of insect pathways connecting the best remaining wildflower-rich habitats in relation to high suitability site locations. Taken from [

<sup>10</sup>Stevens, D. P., Smith, S. L. N., Blackstock, T. H., Bosanquet, S. D. S., Stevens, J. P. 2010. Grasslands of Wales. A survey of lowland species-rich grasslands, 1987–2004. University of Wales Press, Cardiff.

<sup>11</sup>Buglife (2021). B-Lines. <https://www.buglife.org.uk/our-work/b-lines/>

# Carbon sequestration

Flintshire County Council 2018-2030 Emissions

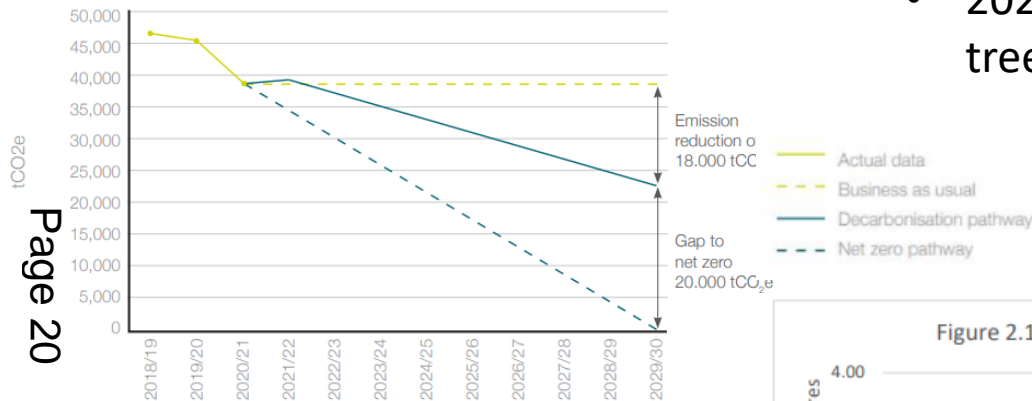


Figure 8: Flintshire County Council's projected emissions to 2029/30. Taken from [12].

- 2016 – 2020 only **1,470** hectares of new planting in Wales<sup>11</sup>.
- Current methodology estimates that FCC land sequesters **1,510** tCO<sub>2</sub>e per year<sup>11</sup>.

- 2022-2023 (financial year) **1,083** ash trees were felled by our tree team.

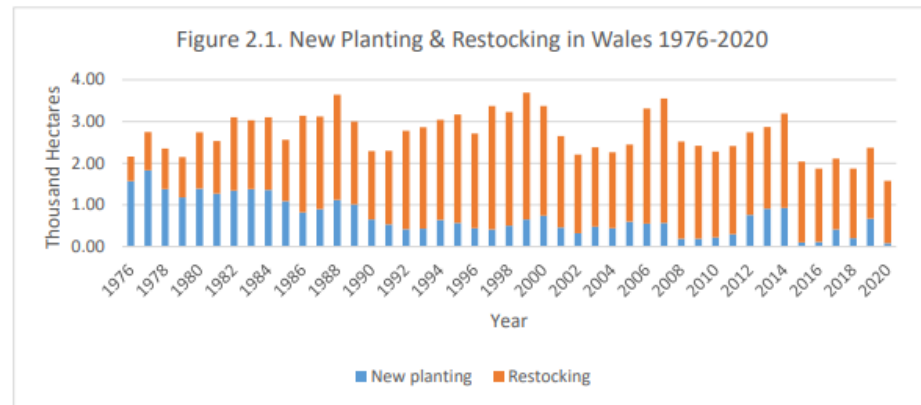


Figure 9: Planting & restocking in Wales 1976–2020, thousand hectares per year. Taken from [13].

<sup>12</sup>Flintshire County Council (2022, Feb. 15). *Climate Change Strategy*. Flintshire.gov.uk. [Online]. Available: <https://www.flintshire.gov.uk/en/PDFFiles/Climate-Change/Climate-Change-Strategy-2022-2030.pdf>

<sup>13</sup>Forestry Commission (2020) *Forestry Statistics 2020*. [www.forestryresearch.gov.uk/tools-and-resources/statistics/forestrystatistics/forestry-statistics-2020/](http://www.forestryresearch.gov.uk/tools-and-resources/statistics/forestrystatistics/forestry-statistics-2020/)

# Climate risk & adaptation

- 2023 had the heaviest March rainfall in England & Wales

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Figure 11: Flooding experienced in Flintshire School.

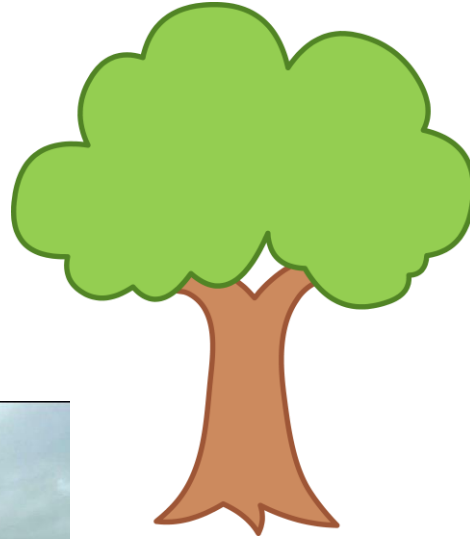
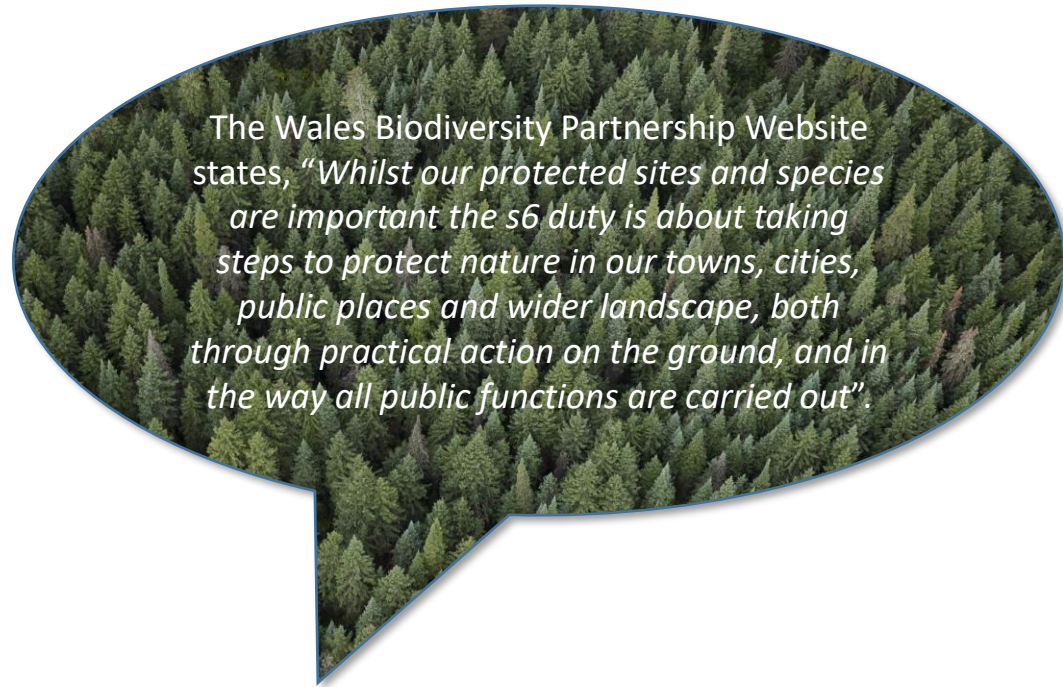


Figure 10: Wildfire on Horseshoe Pass and Llantysilio Mountain, Denbighshire in 2018. Source: Shropshire Star.

- Nature-based solutions can help to reduce extreme weather events caused by climate change

# National and Regional Policies

- Section 29 of Environment (Wales) Act 2016 on carbon budgeting
- Section 6 of the Environment (Wales) Act 2016
- The Well-being of Future Generations (Wales) Act 2015
- Bionet NRAP
- Climate Change (Wales) Regulations 2021



# Council policies

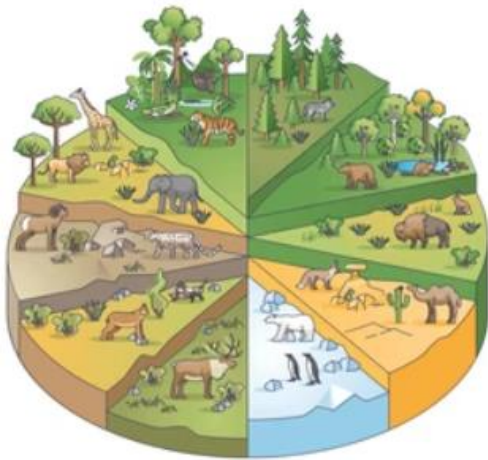
- Council plan
- Climate change strategy
- Asset management plan



Source: Stock images

- Biodiversity and Ecosystem Resilience Duty Delivery Plan
- The Urban Tree and Woodland Plan

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Source: Stock images

# A joined-up approach



- Climate change has caused major changes to nature on land and at sea.
- Well-designed nature-based climate mitigation measures have positive impacts for nature
- Healthy ecosystems generate many benefits for people
- Reduced impact of storms, flooding or coastal erosion.
- 47% of carbon stocks are found within existing protected areas<sup>14</sup>.
- Restoring degraded sites in the network will protect carbon stocks and, in some cases, increase them via sequestration.

Figure 12: Climate and biodiversity team coming together to create nature-based climate mitigation across the county. (a) Tree planting. (b) Wildflower meadow creation with the help of primary school pupils. (c) Creation of a shelterbelt at Flint Solar Farm to reduce the impact of future storms.



# Contact

Any other questions, please contact:

[Climatechange@flintshire.gov.uk](mailto:Climatechange@flintshire.gov.uk)

[Biodiversity@flintshire.gov.uk](mailto:Biodiversity@flintshire.gov.uk)

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## CLIMATE CHANGE COMMITTEE

<b>Date of Meeting</b>	17 <sup>th</sup> January 2024
<b>Report Subject</b>	Carbon Emissions of Factory Farming in Flintshire
<b>Cabinet Member</b>	Collective Responsibility
<b>Report Author</b>	Chief Officer Planning, Environment & Economy
<b>Type of Report</b>	Operational

### EXECUTIVE SUMMARY

Agriculture contributes 8.6% of total greenhouse gas emissions in Flintshire, with 1.6% of carbon dioxide, 55.6% of methane and 64.2% of nitrous oxide emissions coming from the sector.

Information regarding farming and factory farming practices in Flintshire is difficult to source, and so it is not possible to detail the number and location of intensive agriculture and their emissions. However, data for Wales in 2016 states the majority (53%) of agricultural emissions are enteric (methane from cow and sheep digestion).

There are a number of carbon reduction activities available which focus on livestock nutrition, waste, and land management; however, these are generic in this report and further investigation is required to determine which actions are most suitable to farming in the county.

Lastly, considering what we as a Council can do to influence positive agricultural practices across the county.

### RECOMMENDATIONS

1	To support engagement with tenant farmers on Flintshire County Council land to understand their farming practices and activities to address climate change.
2	To support engagement with the National Farmers Union (NFU) and known companies, and private farmers, to understand how we can engage and promote best practice across the county.

## REPORT DETAILS

### 1.00 EXPLAINING THE REPORT

1.01 Across the county of Flintshire there are carbon emissions from a number of different sources including: Industry, Commercial, Domestic energy, Road transport, Railways, Public Sector and Agriculture. The chart below shows a breakdown of these emission sources from 2014 - 2019.

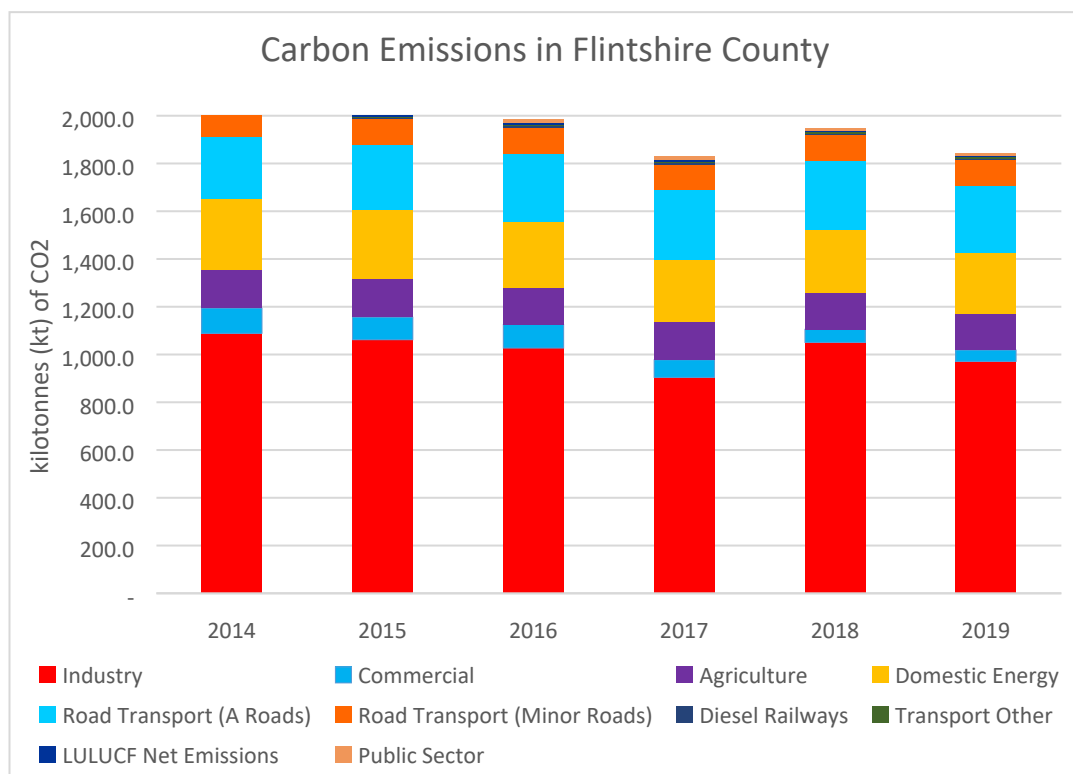


Figure 1: Emission sources of Flintshire county 2014-19. Raw data from <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021>

As can be seen in the chart, emissions from Agriculture account for a small percentage of the total emissions of the county – the largest contributors being Industry, Road transport and Domestic energy.

1.02 Figures for Flintshire in 2021 show that Agriculture contributes to 8.6% of greenhouse gas emissions in the county, emitting 163,200 tCO<sub>2</sub>e.

GHG Emissions (ktCO <sub>2</sub> e)	CO <sub>2</sub> e	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O
<b>Flintshire Total</b>	1898.9	1659.8	191.6	47.5
<b>Flintshire Agriculture</b>	163.2	26.1	106.6	30.5
<b>Agriculture Share</b>	8.6%	1.6%	55.6%	64.2%

Figure 2: Table demonstrates share of emissions from Agriculture in Flintshire. Raw data from <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021>

When individual greenhouse gases are taken into consideration, Agriculture is a relatively small contributor of carbon dioxide emissions, but a significant contributor of methane and nitrous oxide, both of which are strong

	greenhouse gases (28 and 273 times more warming than carbon dioxide respectively).				
1.03	<b>Agricultural Emission Sources (ktCO<sub>2</sub>e)</b>	<b>CO<sub>2</sub>e</b>	<b>CO<sub>2</sub></b>	<b>CH<sub>4</sub></b>	<b>N<sub>2</sub>O</b>
	<b>Electricity</b>	4.4	4.3	0.1	0
	<b>Gas</b>	3.8	3.7	0.1	0
	<b>Other</b> (solid and liquid fuels)	16.1	15.8	0.1	0.2
	<b>Livestock</b> (animal related)	121.4	0	106.3	15.1
	<b>Soils</b> (fertilisers, urea, and liming)	17.5	2.3	0	15.2
	<b>Total</b>	163.2	26.1	106.6	30.5
	<p><i>Figure 3: Table demonstrates sources of GHG emissions within agriculture. Raw data from <a href="https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021">https://www.gov.uk/government/statistics/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics-2005-to-2021</a></i></p> <p>Figures show the sources of greenhouse gas emissions in Flintshire’s agricultural sector. The majority of emissions come from livestock in the form of methane and nitrous oxide, with soils as the second largest contributor mostly in the form of nitrous oxide due to activities such as fertiliser application.</p>				
1.04	While information is not available to determine the largest source of agricultural emissions in Flintshire, in Wales over half emissions (53%) are from enteric sources (methane from cow and sheep digestion).				
1.05	<p>7 poultry farms have been identified in Flintshire which likely produce broiler chickens (meat). These systems house large numbers of birds with controlled environments and high-protein feed.</p> <p>There are 45 dairy farms in Flintshire registered to the Food Standards Agency (as of 1 January 2024). It is not known what systems each farm uses.</p> <p>There is little information on the number of sheep farms in Flintshire, however they are unlikely to utilise intensive methods. There are no known examples of the intensive rearing of pigs.</p>				
1.06	Research suggests animals raised in intensive systems are more ‘environmentally efficient’ than extensive systems as they are more productive for a given quantity of emissions and land.				
1.07	<p>Typical sources of carbon emissions in the agricultural sector are:</p> <ul style="list-style-type: none"> <li>- Buildings and Machinery</li> <li>- Enteric (animal digestion)</li> <li>- Imported livestock feed (supply chain emissions)</li> <li>- Manure</li> </ul>				

	<ul style="list-style-type: none"> <li>- Fertiliser</li> </ul>
1.08	<p>There are a number of activities that can reduce agricultural emissions and these have been evidenced in good practice across the nation.</p> <p>They include:</p> <ul style="list-style-type: none"> <li>- Amino Acid supplementation with reduced protein levels in poultry can maintain animal productivity with reduce nitrogen in waste, as well as reducing demand on imported feed</li> <li>- Lipid supplementation in feed can reduce methane production in the rumen.</li> <li>- Concentrates instead of forages (containing increased starch) can reduce methane production through chemical competition for hydrogen but may be nullified by land use change for production of concentrates.</li> <li>- Improving forage quality and availability (via grazing management) can reduce emissions intensity (not necessarily absolute emissions) as the animal becomes more productive.</li> <li>- Forages rich in tannin such as Birdsfoot trefoil have been shown to lower methane emissions from housed sheep by 33% compared to those offered perennial rye grass.</li> <li>- Grazing on herbs such as chicory and plantain have seen methane reductions in cattle and sheep compared to rye grass and white clover.</li> <li>- Other possibilities are macro-algae and 3-NOP which can reduce methane production but are awaiting developments of technologies for commercial scale up and/or further research to address food safety and environmental concerns before regulatory approval can be granted.</li> <li>- Deforestation-free feed</li> <li>- Alternative feeds such as insects for poultry</li> <li>- Improved animal health and fertility</li> <li>- Controlled storage of manure</li> <li>- Manure Acidification</li> <li>- Anaerobic Digestion of Manure</li> <li>- Improved soil fertility using nitrogen-fixing cover crops.</li> <li>- Precision application of fertilisers</li> <li>- Energy efficiency works within farm buildings</li> <li>- Renewable energy systems on farm buildings</li> <li>- Agri-voltaics utilising land for renewable energy generation and agriculture</li> <li>- Correct Maintenance of farm equipment</li> <li>- Use of non-fossil fuels in farm equipment and vehicles</li> <li>- Planting of trees and hedgerows</li> </ul>
1.09	<p><b>Welsh Government Sustainable Farming Scheme (SFS)</b></p> <p><b>Introduction</b></p> <p>The Sustainable Farming Scheme (SFS) sits within the Agricultural (Wales) Act 2023 and is currently being developed by Welsh Government. Its purpose is to replace the Basic Payment Scheme by rewarding farmers who subscribe to taking action on their farm that makes them more sustainable.</p>

	<p><b>Time-frames</b></p> <p>The SFS transition phase will begin on the 1<sup>st</sup> April 2025, phasing out BPS and introduce payments from SFS. The transition phase is due to be completed on 31<sup>st</sup> March 2029.</p> <p><b>Principles and Outcomes</b></p> <p>The Sustainable Farming Scheme falls under Welsh Government’s Sustainable Land Management principles. Objectives of these principles are:</p> <ul style="list-style-type: none"> <li>- Produce food in a sustainable manner.</li> <li>- Mitigate and adapt to climate change.</li> <li>- maintain and enhance the resilience of ecosystems and the benefits they provide.</li> <li>- conserve and enhance the countryside and cultural resources, promoting public access and engagement with them.</li> </ul> <p>The scheme focuses on the “land-sharing” principle where sustainable activities are integrated into farming (e.g., nitrogen fixing species in crop rotations, multi-species swards for grazing animals and soil management). Land with low agricultural and habitat value can be used for activities such as large-scale tree planting.</p> <p><b>Sustainable Farming Activities</b></p> <p>In the scheme, there are several activities farmers can do to receive payments, such as monitoring, soil management, animal health and habitat creation.</p> <ul style="list-style-type: none"> <li>- Precision application of fertilisers, reducing farm inputs</li> <li>- Soil Accounting and Nutrient Management (supported by testing and monitoring)</li> <li>- Crop rotations to improve soil health and fix nutrients (e.g., Nitrogen)</li> <li>- Multi-species swards for grazing livestock</li> <li>- Renewable energy generation on buildings</li> <li>- Animal Health Improvement Cycles for greater animal productivity and reduced inputs</li> <li>- Habitat Management and Creation to sequester carbon and support nature</li> <li>- Ponds, scrapes and other flood management that can sequester carbon</li> </ul>
1.10	<p><b>How can the Council influence change?</b></p> <p>The Council can work with tenant farmers in Flintshire to make them aware of SFS and the positive practices that can be utilised to support this and the Council’s own ambitions towards net zero carbon.</p>

	<p>There are ever growing examples where farmers are embracing a move towards low carbon practices, and these can be promoted to others to share best practice and also learn from mistakes.</p> <p>By identifying common council objectives with SFS and their location, it is possible to link with nearby farmers to widen the impacts (e.g., Larger connected area of tree planting across neighbouring land, supporting sequestration, biodiversity and flood management).</p> <p>Lastly, through engagement with member groups and agricultural organisations such as NFU, the Council can better understand the challenges the industry faces in transitioning to low carbon, to help to influence change and support where it is needed.</p>
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<b>2.00</b>	<b>RESOURCE IMPLICATIONS</b>
2.01	Staff time from the Climate Change, Biodiversity, and Estates teams will be required to engage with tenant farmers and external organisations.

<b>3.00</b>	<b>CONSULTATIONS REQUIRED / CARRIED OUT</b>
3.01	Not Required/ None

<b>4.00</b>	<b>RISK MANAGEMENT</b>	
4.01	<p>The lack of local information on farming and factory farming in Flintshire makes it difficult to understand what emissions reduction activities would be suitable in the region.</p> <p>Poor understanding of emission reduction activities may produce negative environmental and financial impacts.</p>	
4.02	<b>Ways of Working (Sustainable Development) Principles Impact</b>	
	Long-term	Positive: Climate Change Committee will be informed of the council's progress towards Net Zero Carbon by 2030 as well as successes and barriers involve. In doing so, Climate Change Committee will be informed enough to advise and support on potential solutions to barriers identified.
	Prevention	Positive: The report highlights the significant greenhouse gases from the agricultural sector, helping to identify and prioritise relevant reduction actions



	Integration	Positive: The report begins to create an understanding of emissions across the county, supporting the action CCL15 set within the Council's Climate Change Strategy Action Plan
	Collaboration	Positive: Working with the estates team to establish contact with tenant farmers in Flintshire
	Involvement	Positive: The report highlights the need to further understand the agricultural practices in Flintshire and will require engagement with agricultural stakeholders to achieve this.
4.03	<b>Well-being Goals Impact</b>	
	Prosperous Wales	Positive: Agricultural efficiencies can reduce costs to farmers in the form of reduced feed or solar generation.
	Resilient Wales	Positive: Resilience can be increased through reduced energy demand and reliance on feed and fertiliser.  On-farm efficiencies can help farmers become more resilient to cost increases, and improved management of grazing land (e.g. introducing varieties of cover crop) can improve soil fertility.
	Healthier Wales	Positive: Reduced nitrogen emissions improve air quality
	More equal Wales	Neutral: No impact identified.
	Cohesive Wales	Neutral: No impact identified.
	Vibrant Wales	Neutral: No impact identified
	Globally responsible Wales	Positive: Potential reduction of agricultural emissions can contribute to the mitigation of climate change.

<b>5.00</b>	<b>APPENDICES</b>
5.01	None

<b>6.00</b>	<b>LIST OF ACCESSIBLE BACKGROUND DOCUMENTS</b>
6.01	<ul style="list-style-type: none"> <li>• UK local authority and regional carbon dioxide emissions national statistics: 2005 to 2019 <a href="https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019">https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019</a></li> <li>• Business Wales article on GHG emissions within poultry industry part 1 <a href="https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/part-2-greenhouse-gas-emissions-environmental-impacts-poultry-industry">https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/part-2-greenhouse-gas-emissions-environmental-impacts-poultry-industry</a></li> <li>• Business Wales article on GHG emissions within poultry industry part 2 <a href="https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/part-2-greenhouse-gas-emissions-environmental-impacts-poultry-industry">https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/part-2-greenhouse-gas-emissions-environmental-impacts-poultry-industry</a></li> <li>• AHDB article on soil fertility <a href="https://ahdb.org.uk/knowledge-library/cover-crops-to-improve-soil-fertility">https://ahdb.org.uk/knowledge-library/cover-crops-to-improve-soil-fertility</a></li> <li>• Farming Connect article on nutrition in reducing emissions <a href="https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/reducing-greenhouse-gas-emissions-ruminant-farming-part-1-nutritional-strategies-reduce-enteric">https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/reducing-greenhouse-gas-emissions-ruminant-farming-part-1-nutritional-strategies-reduce-enteric</a></li> <li>• University of Oxford article on environmental impacts of intensive and extensive systems <a href="https://www.leap.ox.ac.uk/environmental-impacts-intensive-and-extensive-systems">https://www.leap.ox.ac.uk/environmental-impacts-intensive-and-extensive-systems</a></li> <li>• WWF white paper on solutions to responsible sourcing, regenerative agriculture and feeding innovations <a href="https://www.worldwildlife.org/publications/solutions-to-meet-the-need-for-feed">https://www.worldwildlife.org/publications/solutions-to-meet-the-need-for-feed</a></li> </ul>

<b>7.00</b>	<b>OFFICER CONTACT DETAILS</b>
7.01	<p><b>Contact Officer:</b> Ben Turpin – Climate Change Project Officer  <b>Telephone:</b> 01352 703393  <b>E-mail:</b> ben.turpin@flintshire.gov.uk</p>

<b>8.00</b>	<b>GLOSSARY OF TERMS</b>
8.01	<p><b>Basic Payment Scheme (BPS):</b> Income support paid to farmers. You are paid per hectare of eligible land used for farming.</p> <p><b>Carbon Dioxide Equivalent (CO<sub>2</sub>e):</b> the equivalent amount of carbon dioxide that would produce the same amount of global warming over a 100 year timescale.</p>

**Concentrate:** Type of animal feed that is used with another feed to improve the nutrient balance of the total feed.

**Emission Intensity:** The quantity of greenhouse gases per unit of product. Not to be confused with absolute emissions which is the total greenhouse gases of a farm.

**Enteric Emissions:** The greenhouse gas emissions that are produced by the animal's digestive process.

**Extensive Systems:** Farming practices which have low inputs of labour, fertiliser and capital into the land (e.g., sheep grazing)

**GHG emissions:** Greenhouse gas emissions

**Intensive Systems:** Farming practices which have high inputs of labour, fertiliser and capital into the land (e.g., broiler chicken factories)

**Land Sharing:** Land-based sustainable activities are integrated with farming on that same land (e.g., mixed species swards for grazing livestock)

**Mixed Systems:** A mixture of crop production alongside raising livestock

**Net Zero Carbon:** Emissions of greenhouse gases are balanced by the removal of greenhouse gases from the atmosphere such as by trees, peatland and carbon capture and storage technologies.

**Rumen/Ruminant:** Animal that chews the cud regurgitated from its rumen (cows and sheep)

**Sequestration:** Removing carbon dioxide from the atmosphere and then storing it, usually through environmental processes such as photosynthesis, absorption by soil, oceans etc.

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## CLIMATE CHANGE COMMITTEE FORWARD WORK PROGRAMME

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
25 <sup>th</sup> Jan 2023	Climate Change Programme Overview and Progress	To receive an update from the Programme Manager – Climate Change & Carbon Reduction	Alex Ellis – Programme Manager	
Page 37	Motion – Carbon Footprint of Homeworking	<ol style="list-style-type: none"> <li>1. To recommend that Cabinet reviewed the Home Working Policy, establishing a coherent and climate-informed framework for the council.</li> <li>2. To recommend to Cabinet that a study was commissioned in respect of total net emissions from homeworking, in the form of a survey of Flintshire staff as per Welsh Government guidance</li> <li>3. To recommend that as an interim measure pending the completion of a review of the climate evidence, the council should allow anyone who wished to work from the office in Winter to do so, particularly considering rising heating costs, and</li> <li>4. To instruct the Chair to write to the Welsh Government’s Climate Change Minister requesting that a mechanism that accurately reflected seasonal variation in net homeworking emissions was included in the guidance for</li> </ol>	Cllr Ibbotson	Recommendations to be forwarded to Cabinet.

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		<p>assessing emissions, such that the council was not penalised for taking steps to reduce total emissions at the expense of those that show on its own figures.</p>		
<p>Page 38</p>	<p>Motion – Print free Council</p>	<p>The Committee recommended to Cabinet that a policy be implemented across all departments setting out that printing should only be considered where:</p> <ul style="list-style-type: none"> <li>● There is a statutory requirement to provide information in printed form.</li> <li>● A disabled staff member or service user requires material in printed form because they are disabled.</li> <li>● A staff member or service user required material in printed form because they are digitally excluded.</li> <li>● The relevant Chief Officer had directed that a paper backup of the document was necessary for service resilience, or</li> <li>● For the purposes of advertising a service or change in service to the public; and</li> <li>● That all paper, toners, inks and consumables procured be</li> </ul>	<p><b>Cllr Rose</b></p>	<p>Recommendations to be forwarded to Cabinet.</p>

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		<p>made of recycled materials and recycled after use.</p> <ul style="list-style-type: none"> <li>The committee also called on the Cabinet to initiate an efficiency review of the current stock of printers owned or operated by the council with a view to rationalising these to the minimum strictly necessary.</li> </ul>		
Page 39	Motion – Columbaria in Flintshire Managed Cemeteries – Environmentally Friendly Bereavement Services	<ol style="list-style-type: none"> <li>To recommend to Cabinet and the Environment &amp; Economy Scrutiny Committee that Flintshire County Council offer Columbaria as an option for residents as part of its suite of bereavement and burial services.</li> <li>To recommend to Cabinet and the Environment &amp; Economy Scrutiny Committee that Flintshire County Council explore the viability of offering other environmentally friendly burial options, such as Resomation, in the longer term</li> </ol>	<b>Cllr Swash</b>	Recommendations to be forwarded to Cabinet.
	Motion – Flood Resilience and Adaptation	<ol style="list-style-type: none"> <li>That the inquiry be established by the Committee on the basis set out as outlined in the motion</li> </ol>	<b>Cllr Ibbotson</b>	That the Chair of the Committee progress the recommendations above.

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		2. That provision is made for an oral evidence session, including a venue, in either April or May.		
Page 40	Motion – Clwyd Pension Fund Divestment - 1	1. That the Committee commissions an inquiry into the climate performance and targets of the Clwyd Pension Fund.  2. That this inquiry shall take written and oral evidence as set out in section 3.  3. That the inquiry will report back to the committee at the July meeting.	<b>Cllr Ibbotson</b>	That the Chair of the Committee progress the recommendations above.
<b>Tues 28<sup>th</sup> March</b>	Climate Change Programme Review	To review and approve the areas of focus within the programme for the coming year.	<b>Alex Ellis, Programme Manager</b>	
	Policy on EV charging infrastructure for off street parking	That the Cabinet Member for Streetscene be asked to report to this Committee and the Environment & Economy Committee on the feasibility of offering the installation of cable ducts between houses and the street to enable owners of electric	<b>Cllr Ibbotson</b>	Recommendations to be forwarded to Cabinet



Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		vehicles without off street parking to safely run cables across pavements, with the cost of these to be met by the resident in the same way as dropped kerb installations. To ask the Cabinet to adopt a policy of enabling all council tenants to have install, or have installed on request, electric vehicle charging points at home.		
Page 41	Hydro power and Milwr Tunnel	Cllrs Healey & Bithell to lead discussion on Milwr tunnel and the potential of hydro power within Flintshire.	<b>Cllr Eastwood</b>	
<b>Tues 23<sup>rd</sup> May</b>	Thermal energy utilising former coal mines	Cllr Allan Marshall to lead discussion on thermal energy and potential within Flintshire. Recommend to Cabinet and Environment Overview & Scrutiny Committee to take note of the above report and widen scope on what represents renewable energy capture systems in Flintshire.	<b>Cllr Marshall</b>	Recommendations to be forwarded to Cabinet.
	Reaching out to wider community on Climate Change	To discuss content of Communication & Engagement Plan for Programme and agree approach for Committee engagement with young people.	<b>Cllr Healey</b>	Programme Manager to implement feedback into Plan

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
<b>Tues 18<sup>th</sup> July</b>	Climate Change Programme Communication & Engagement Plan	To adopt the Communication & Engagement Plan for the Climate Change Programme	<b>Programme Manager Climate Change</b>	
	Local Area Energy Plan update	To receive an update on the development of the Flintshire County Energy Plan and contribute to stakeholder engagement.	<b>Programme Manager Climate Change</b>	Programme Manager to collate feedback and forward to ARUP
	Feasibility of bioreactors for grass arisings/food waste	To receive a report on the opportunities and constraints with the use of anaerobic digestion for grass arisings.	<b>Cllr Rose</b>	
<b>Page 42</b>	Planning changes to incorporate requirements for Passivhaus/solar/EV charging	<p>To receive a report on the opportunities and constraints present in current planning policy in relation to incorporation of carbon reduction methods.</p> <p>That Members note the content of this report and the planning framework available to facilitate renewable energy development and carbon reduction via the planning system.</p> <p>That a letter be sent to the Minister for Climate Change to outline the Committee's frustrations in terms of Planning legislation around how far this could be pushed as far as solar panels and minimum standard of energy security.</p>	<b>Cllr Rose &amp; Cllr Mansell</b>	Committee to prepare a letter to the Minister for Climate Change.
	Hydrogen provision and hydrogen fuelled vehicles	To receive an update on the development of the 'Hydrogen Hub' in	<b>Cllr Eastwood</b>	

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
		providing a source of hydrogen for Flintshire's future energy needs.		
<b>Wed 6<sup>th</sup> Sept</b>	Welsh Government Heat Strategy Consultation	To discuss the Welsh Government's Heat Strategy and record comments to include in the coordinated response.	<b>Programme Manager Climate Change</b>	Programme Manager to collate feedback and respond to consultation
<b>Page 43</b>	Review of catering facilities – mandatory plant based meals	To receive a report on the current school provision and ongoing work by Welsh Local Government Association to revise existing statutory guidance on healthy eating in maintained schools.	<b>Cllr Rose &amp; Cllr Preece</b>	
	Carbon offsetting – tree planting	To receive a report on the current status of carbon offsetting within Flintshire's land assets, and support the development of a land use analysis decision flow chart for the management of its land assets.	<b>Cllr Mansell &amp; Cllr Ibbotson</b>	
<b>Tues 28<sup>th</sup> Nov</b>	Decarbonisation of supply chain	To receive an introduction from the new Joint Procurement Low Carbon Business Partner.	<b>Programme Manager Climate Change</b>	
	Installation of cable ducts for on-street parking	Update on the potential installation of cable ducts to enable householders without off-street parking to safely charge electric vehicles, as discussed at the March meeting.	<b>Cabinet Member for Streetscene &amp; Regional Transport Strategy / Chief Officer for Streetscene &amp; Transportation</b>	

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
	Flintshire Council Carbon Footprint 2022-23	To receive a report on the updated carbon footprint for the Council.	<b>Programme Manager Climate Change</b>	
	Zero Carbon Advertising Policy	Drafting a policy that Council will not accept advertisements for fossil fuel products/companies. Sponsored roundabouts, etc.	<b>Cllr Bithell</b>	
	Inquiries Update	Update and next steps on the public inquiries	<b>Cllr Ibbotson</b>	
<b>17<sup>th</sup> Jan 2024</b>	Carbon emissions of factory farming in Flintshire		<b>Cllr Turton</b>	
<b>19<sup>th</sup> March 2024</b>	Policy on use of commercial offsets for carbon offsetting	Use of commercial offsets for carbon offsetting	<b>Cllr Ibbotson</b>	
<b>28<sup>th</sup> March 2024</b>	Climate Change Programme Progress Report	To receive an update on progress within the climate change programme, and identified areas of focus for the coming year.	<b>Programme Manager Climate Change</b>	
	Use of Bio-diesel for fleet	Feasibility of the use of biodiesel for fleet. How is FCC currently supplied with diesel for its fleet and whether either bio-diesel or HVO biodiesel could be supplied and used instead, and the potential provision of fuel to employees/members (CCM2, CCM5, CCM6).	<b>Cllr Eastwood</b>	
	Contingency Planning for extreme heat	To discuss contingency planning for extreme heat with North Wales Councils' Regional Emergency Planning Service	<b>Cllr Ibbotson</b>	

Date of meeting	Subject	Purpose of Item	Responsible/Contact	Actions
25 <sup>th</sup> June 2024	Feasibility of leasing car park spaces to third party companies for vehicle charging	Feasibility of leasing car park spaces to third party companies so that they may install electric car charging points at strategic places within the County (CCM3)	Cllr Eastwood	
<b>Separate workshop</b>	Climate Adaptation – identifying risks and mitigation	To discuss the risks of a changing climate to Flintshire county, and consideration of mitigation in adapting to the changes in the climate.	<b>Programme Manager Climate Change</b>	Early Dec workshop
<b>Site visit Opportunities</b>	Danger point – new climate change theme Parc Adfer – energy from waste School site visits			

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