CLIMATE CHANGE COMMITTEE

Date of Meeting	19th March 2024
Report Subject	Commercial Carbon Offsets
Cabinet Member	Collective Responsibility
Report Author	Climate Change Project Officer (Climate Change Programme)
Type of Report	Operational

EXECUTIVE SUMMARY

The Council has a target to become Net Zero Carbon by 2030. In order to become net zero carbon, the Council must reduce its emissions from its assets and services, as much as is viable, and any residual emissions must be offset through use of land to absorb and store carbon (usually tree planting). The emission reduction pathway shown in the Council's Climate Change Strategy predicts that approximately 20,000 tCO_2e may still be emitted by the council by 2030.

Commercial carbon offsets allow a country, organisation or individual to pay to have emissions prevented or removed elsewhere that are equal to their own emission outputs (e.g., trees are planted in another location somewhere in the world on behalf of the purchaser). As a result, some organisations claim to be carbon neutral, and future net zero carbon claims will likely require the purchase of offsets that remove carbon dioxide from the atmosphere for long periods of time.

Carbon offset projects typically occur in low-income and developing countries and are required to meet particular standards set by various organisations. Offsets can be in the form of tree planting, protection of existing forest, installation of renewable energy and improved cooking methods to name some examples, with many claims of co-benefits such as reduced household air pollution and support for biodiversity.

However, there are a number of issues presented by offsets such as the finances required to compensate for ongoing organisational emissions, a lack of local co-benefits and in some cases a lack of credibility and impact.

RECOMMENDATIONS	
1	The Council should not purchase carbon removal offsets while carbon reduction and sequestration opportunities exist, irrespective of the 2030 net zero carbon target.
2	Only when all carbon reduction opportunities have been exhausted, or are not viable, should the Council consider the purchase of removal offsets to become net zero carbon. In such a case, the Council should prioritise offset projects that are local and meet robust standards/backed by UK Government.

REPORT DETAILS

1.00	EXPLAINING THE REPORT
1.01	**Background** The Council has a net zero carbon target of 2030. In order to meet this target, the Council is continuing to reduce emissions and investigating opportunities to increase land sequestration. Any Council emissions that remain once land sequestration is taken into account, would require carbon removal offsets in order to achieve net zero carbon. The carbon emission pathway in the Council's Climate Change Strategy (CCS) predicts 20,000 tCO_2e may still be emitted by 2030.

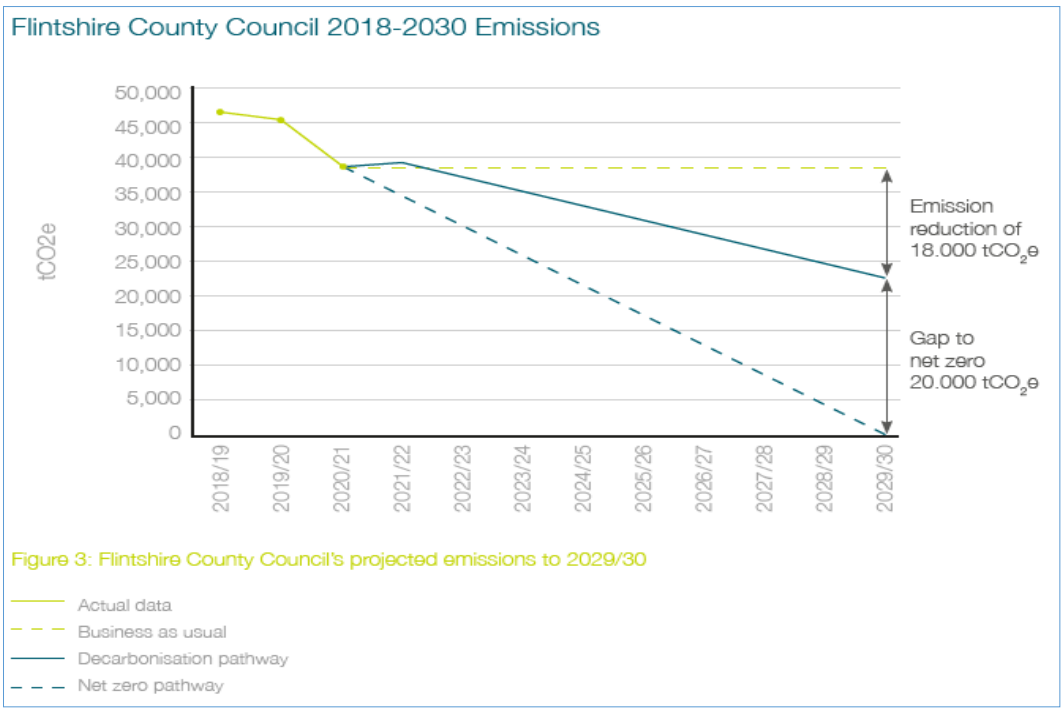

Image 1 *Council emissions pathway between 2018-2030*

1.02	**Purpose** This report presents information on commercial carbon offsets, such as the standards they should meet, examples of their use, and the benefits and drawbacks.
1.03	A carbon offset is where a country, organisation or individual compensates for the carbon emissions they produce, by paying for carbon emissions elsewhere to be prevented from occurring, or removed from the atmosphere. Offsets are purchased through carbon credits which are a token representing the avoidance or removal of greenhouse gas emissions. One credit typically represents one tonne of carbon dioxide (tCO_2). These credits are created by a project verified by a particular standard which is then sold to another country or organisation who wish to offset the emissions they produce. Depending on the type of offset credit (avoidance or removal), that country or organisation can then claim carbon neutrality or net zero carbon. Many offsetting activities take place in emerging markets or developing countries, whereas buyers of offsets are typically located in higher-income countries. In theory, this should provide additional resources to invest in sustainable development around the world, while also enabling recipients to decarbonise more quickly.
1.04	There are a number of programmes and standards for supporting action, making carbon neutral claims and verifying carbon offsets. These include: **United Nations REDD Programme** REDD is a climate change mitigation solution developed by Parties to the United Nations Framework Convention on Climate Change (UNFCCC). REDD goes beyond simply deforestation and forest degradation and includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks. **PAS 2060 – Carbon Neutrality Claims** The PAS 2060 - Carbon neutrality verification provides a recognised method of substantiating genuine carbon neutral claims made by an organisation. The standard claims to help organisations demonstrate sustainability credentials, help combat climate change and align with the United Nations Sustainable Development Goals (UNSDGs). **Gold Standard & Verra Verified Carbon Standards– Global Offsets** The Gold Standard is a voluntary carbon offset program focused on progressing the United Nation's Sustainable Development Goals (SDGs) and ensuring that project's benefit their neighbouring communities. It was developed under the leadership of the World Wildlife Fund (WWF), HELIO International, and SouthSouthNorth, with a focus on offset projects that

	provide lasting social, economic, and environmental benefits (carbonoffsetguide, 2024). Verra's Verified Carbon Standard (VCS) Program is the world's most widely used greenhouse gas (GHG) crediting program. It drives finance toward activities that reduce and remove emissions, improve livelihoods, and protect nature (Verra, 2022). Projects are subjected to independent auditing by Verra and qualified third parties. **Woodland Carbon Code UK** The Woodland Carbon Code (WCC) is the quality assurance standard for woodland creation projects in the UK, and generates high integrity, independently verified carbon units. Backed by the Government, the forest industry and carbon market experts, the Code provides woodland carbon units here in the UK. The Woodland Carbon Code offers two types of offsets. The first is the **Woodland Carbon Unit (WCU)** which is where a tonne of CO_2 is being sequestered in a verified woodland. Organisations can purchase these to only offset their UK-based emissions. The second type of offset is called a **Pending Issuance Unit (PIU)** which is effectively a 'promise to deliver' a Woodland Carbon Unit (WCU) in future, based on predicted sequestration. It is not 'guaranteed' and cannot be used to report against UK-based emissions until verified, however, it does allow organisations to plan to compensate future UK-based emissions. **The Peatland Code UK** The Peatland Code is an example of natural capital financing for restoration. UK peatlands are a significant store of carbon, however, due to historical degradation these habitats are currently net emitters of carbon emissions. The code is a voluntary standard for UK peatland projects wishing to market the resulting reduced emissions from peatland restoration. The scheme is accredited by UKAS, and like the Woodland Carbon Code, is recognised in the UK government's Environmental Reporting Guidelines and offers **Peatland Carbon Units (PCU)** and **Pending Issuance Units (PIU)**.
1.05	A carbon credit is a verifiable and purchasable carbon offset which relates to emission avoidance or removal. Credits typically represent one tonne of carbon dioxide.
1.06	Examples of carbon avoidance offsets are: **Aldi UK & Ireland** Aldi purchases carbon offsets (some examples below) through an organisation called ClimatePartner. These offsets are equivalent to Aldi's scope 1 and 2 carbon dioxide emissions, meet international standards and allow Aldi to claim Carbon Neutrality.

- 120 MW solar plant in the city of Ahmedabad, India. Produces renewable electricity as well as creating jobs for local people and offers regular training to employees.
- Cookstoves in Nigeria are cleaner and more efficient, producing less smoke.
- Forest Protection in Indonesia protects habitat and promotes ecosystem health through reforestation in degraded areas. Other support with this project includes water systems, solar lighting, libraries and more.

Allstar Business Solutions

- Through its Ecopoint membership programme, users of Allstar cards have their carbon emissions mitigated.
- Allstar have bought from 44 Woodland Carbon Code projects as part of the Ecopoint programme.

Evian

- Carbon neutral in April 2020 certified by the Carbon Trust.
- Evian have been able to achieve this by continuously measuring and reducing carbon emissions at each stage of the bottle's lifecycle.
- The remaining emissions are offset through the work with Livelihood Funds. Livelihood funds mission is to support the effort of agricultural and rural communities to restore the natural ecosystem that are the foundations of their livelihood, food security and income.
- 130 million trees have been planted as a result.

Gold Standard

Gold Standard has a marketplace webpage detailing a number of projects where carbon credits can be purchased. Fees are based on one tonne of carbon dioxide offset. Examples are:

- Improved Cookstoves for Rural Zambia ($20.00 /tonne): More efficient cookstoves are provided to communities, helping to reduce demand on inefficient fuels as well as improving reducing the impact on air quality.
- 300 MW Solar PV Plant at Bhadla, Rajasthan ($12.00 /tonne): Large scale solar project displacing demand from the Indian energy grid which is mainly dominated by fossil-fuels.

Woodland Carbon Code UK

- The Woodland Trust acquired 13.8ha of land to expand the current Coed y Foel woodland in Ceredigion and has since sold WCU offsets through the Woodland Carbon Code. The project includes diverse woodland species and associated habitats as well as strengthen hedgerow.
- Woodland Carbon Code Pending Issuance Units (PIUs) cost in the region of £10-20 tCO_2, and Peatland Code PIUs are on average £24 tCO_2.

1.07	Benefits of carbon offsets: - Projects can support low-income communities with jobs and training to manage projects and/or provide them with improved technologies. - Cleaner cookstoves can reduce household air pollution (HAP), reducing risk to respiratory health - Support biodiversity and provide threatened species with habitat through forest planting alongside timber production - UK programmes exist, with the Woodland Carbon Code backed by the UK Government
1.08	Drawbacks of carbon offsets: - New offsets required purchasing for any newly generated emissions drawing finance away from emission reduction opportunities. - Projects that produce carbon credits are often located far from the organisation, typically in the global south, therefore co-benefits of projects are not felt locally - Offsets may disincentivise an organisation to further reduce their carbon emissions. - Disease, wildfires and illegal deforestation pose a risk to sequestered carbon for which an organisation has paid credits for. - Projects have been found to overestimate benefits of offsets, such as exaggerating deforestation risk when purchasing offsets to protect forests. This can risk greenwashing. - Auditors hired by project developers and market competition can create a conflict of interest and risk the impact and transparency of offset projects. - Offset projects may utilise the planting of monocultures which have few other co-benefits such as biodiversity, and also increases risks to disease
1.09	The Science-based Targets Initiative's (SBTi) cross-sector pathway states the need for emission reductions of at least 90% by no later 2050 from 2020 levels, and long-term carbon reduction targets should be aligned to this date or sooner. The SBTi Net Zero Standard states that after an organisation has achieved its long-term target, it must use permanent carbon removal and storage to counterbalance the final 10% or more of residual emissions that cannot be eliminated. A company is only considered to have reached net zero carbon when it has achieved its long-term science-based target and neutralized any residual emissions.
1.10	To achieve Net Zero Carbon by 2030, the Council would have to purchase carbon removal offsets to compensate for the carbon emissions that cannot be balanced by sequestration on its own land. This practice would be required each year as the Council will continue to produce some emissions within its operations. Despite the various co-benefits of offsets such as supporting low-income communities in other countries, the council should carefully consider the

	risks (greenwashing, lack of impact and transparency), and use of public funds for carbon offsets and how opportunities to reduce emissions further may be impacted, which themselves may have other direct and local co-benefits. A more ethical approach would be to extend the target year for achieving Net Zero Carbon and continue to reduce the Council's carbon emissions, rather than utilising commercial offsets.

2.00	**RESOURCE IMPLICATIONS**
2.01	Financial - When carbon offsets are required after all carbon emission reduction and sequestration opportunities are exhausted. The carbon offsets would need to be paid annually on an ongoing basis for as long as the residual carbon emissions exist.

3.00	**CONSULTATIONS REQUIRED / CARRIED OUT**
3.01	None

4.00	**RISK MANAGEMENT**
4.01	The recommendations will ensure that the Council continues to address its responsibilities to reducing carbon emissions at source. Avoiding the use of carbon offsets while carbon reduction opportunities are still available will ensure finances are used more responsibly which reduces the risk of greenwashing accusations, and ensuring co-benefits of further reductions are gained. Risks from Carbon Offsets themselves are present (e.g., effectiveness and permanence). As the offsets market matures, risks will be better known allowing for more informed decision-making.
4.02	**Ways of Working (Sustainable Development) Principles Impact**

Long-term	Negative: Purchasing carbon offsets to soon means more funding is spent on offsets as well as directing funding away existing carbon reduction measures.
Prevention	Positive: Good quality removal offsets will ensure the council meets Net Zero Carbon and no longer contributes to global emissions.
Integration	Neutral: Offsets will provide no impact.

	Collaboration	Neutral: It is unlikely the purchase of carbon removal offsets improves collaboration
	Involvement	Neutral: It is unlikely the purchase of carbon removal offsets improves collaboration
4.03	**Well-being Goals Impact**	
	Prosperous Wales	Negative: Unnecessary carbon offsets are likely to divert unnecessary spend away from the council and Flintshire
	Resilient Wales	Neutral: There are unlikely to be any direct benefits in Flintshire and Wales as a result of using carbon offsets. However, positive impacts may be felt more generally as climate change is addressed.
	Healthier Wales	Negative: Unnecessary use and funding of offsets may prevent other carbon reduction opportunities and their co-benefits being realised (e.g., improved urban 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: Becoming net zero carbon through the use of high-quality carbon offsets can mitigate against climate change as well as other co-benefits.

5.00	**APPENDICES**
5.01	-

6.00	LIST OF ACCESSIBLE BACKGROUND DOCUMENTS
6.01	1. Climate Change Strategy https://www.flintshire.gov.uk/en/PDFFiles/Climate-Change/Climate-Change-Strategy-2022-2030.pdf 2. United Nations REDD Programme UNREDD Programme (un-redd.org) 3. PAS 2060 Carbon Neutral Standard PAS 2060 - Carbon Neutrality | BSI (bsigroup.com) 4. Gold Standard The Gold Standard 5. Verra Verified Carbon Standard Verified Carbon Standard - Verra 6. World Wildlife Fund (WWF) WWF - Endangered Species Conservation | World Wildlife Fund 7. South South North SouthSouthNorth – Towards climate resilience 8. Woodland Carbon Code Home - UK Woodland Carbon Code 9. UK Government Environmental Reporting Guidelines Environmental reporting guidelines: including Streamlined Energy and Carbon Reporting requirements - GOV.UK (www.gov.uk) 10. The Peatland Code UK Peatland Code | IUCN UK Peatland Programme (iucn-uk-peatlandprogramme.org) 11. Aldi UK & Ireland Carbon Neutrality Our Environment - Carbon Neutrality - ALDI UK 12. Allstar Woodland Code Allstar Business Solutions - UK Woodland Carbon Code 13. Allstar EcoPoint Programme Home - Allstar EcoPoint 14. Evian Sustainability Climate Impact & Reducing Our Carbon Footprint | evian® 15. Goldstandard Marketplace Projects – Gold Standard Marketplace 16. Clean Cooking Alliance Health | Clean Cooking Alliance

	17. Gold Standard – Planting Biodiverse Forests in Panama Planting Biodiverse Forests in Panama – Gold Standard Marketplace 18. UK Government – Reporting Greenhouse Gas Removals and Emissions from Domestic Woodland Creation Guidance on reporting greenhouse gas removals and emissions from domestic woodland creation (publishing.service.gov.uk) 19. Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon Overstated carbon emission reductions from voluntary REDD+ projects in the Brazilian Amazon | PNAS 20. Quality Assessment of REDD+ Executive Summary Quality-Assessment-of-REDD+-Carbon-Crediting-EXECUTIVE-SUMMARY.pdf (berkeley.edu) 21. Planting Monocultures Carbon Offset Schemes Only Make Sense With Mixed-Species Forests | Earth.Org 22. Science-based Targets Initiative (SBTi) Technical Summary https://sciencebasedtargets.org/resources/files/Pathway-to-Net-Zero.pdf 23. Science-based Targets Initiative (SBTi) Net Zero Standard https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf

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

8.00	**GLOSSARY OF TERMS**
8.01	**Carbon Credit:** A measurable, verifiable emission reductions from certified climate action projects. A credit is typically the value of 1 tCO_2 which another organisation purchased to balance their carbon emissions. **Carbon Neutral:** Carbon Dioxide neutral only, where offsets (either avoided or removals) can be used to balance the carbon dioxide emissions of an organization or any uniquely identified subject such as a specific activity, product, service, building, project or event. **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. **Offsets (Avoided):** Avoided emissions are when a company pays another entity to not do something that would have resulted in greenhouse gas emissions or pays to change practices to emit less carbon.

	Offsets (Removal): Carbon dioxide that already exists in the atmosphere is removed through such methods as tree sequestration. **Permanence**: The period of time that a carbon removal project can keep the carbon dioxide it is stored out of the atmosphere (e.g., 100 years). **Sequestration**: Removing carbon dioxide from the atmosphere and then storing it, usually through environmental processes such as photosynthesis, absorption by soil, oceans etc. **TCO_2e**: Tonnes of carbon dioxide equivalent.