

Carbon Offsetting and Communities: Can Nature-Based Voluntary Carbon Offsetting Benefit Scottish Communities?

Workshop report, University of Strathclyde - 13th September 2022

Authors: Hannon, M. J.*¹, Cairns, I., Combe, M., Cooper, E., Davidson, M., Kerr, F., McDonnell, A., Phillips, P., Potts, T., Reay, D., Roberts, J., Wharmby, C.

Executive Summary

This briefing note captures the outputs of a workshop, involving team members and guest speakers, from the University of Strathclyde led project: [Carbon Offsetting and Communities: co-developing alternative place-based voluntary offsets in Scotland](#). The project and workshop were co-funded by the [Scottish Universities Insight Institute \(SUII\)](#) and the [University of Strathclyde's Centre for Sustainable Development](#) COP26 Legacy Fund.

The all day workshop was held on 13th September 2022, to provide attendees with the opportunity to share their existing knowledge, in a bid to highlight where gaps in our understanding exist and help frame the focus of the project from the outset. We have organised these insights across the workshop's four organising themes:

1. *Fundamentals of voluntary nature-based carbon offsetting and its relevance to net-zero*
2. *Community impacts of voluntary nature-based carbon offsets*
3. *Policy challenges and solutions for voluntary nature-based carbon offsetting*
4. *Community nature-based carbon offsetting: next steps for research*

The key outcomes from the workshop are outlined below.

Fundamentals of voluntary nature-based carbon offsetting and its relevance to net-zero

- Globally, **carbon sequestration could account for a third of the carbon reductions necessary to meet net-zero^{2 3}**.
- The legitimacy and integrity of carbon offsetting received a boost following the issuance of **Article 6 from the COP26 summit in Glasgow, which provides a framework for international carbon trading**, although voluntary carbon trading is not covered by that regulation.

¹ Corresponding author: matthew.hannon@strath.ac.uk

² <https://www.nature.com/articles/d41586-021-01241-2>

³ <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.15873>

Cite as: Hannon, M. J., Cairns, I., Combe, M., Cooper, E., Davidson, M., Kerr, F., McDonnell, A., Phillips, P., Potts, T., Reay, D., Roberts, J., Wharmby, C. *Carbon Offsetting and Communities: Can Nature-Based Voluntary Carbon Offsetting Benefit Scottish Communities?*, Workshop Report University of Strathclyde, Glasgow, <https://doi.org/10.17868/strath.00083777>

- The growing confidence about the potentially critical role of carbon offsetting in delivering net-zero is also supported by the **expectation that the price of carbon will rise substantially**, with some estimates expecting an increase from around \$5.80 per tonne of CO₂-eq today, rising to between \$120-\$150 per tonne by 2050⁴.
- There is a growing consensus that offsetting should only play a role in cutting emissions once efforts to remove as many Scope 1 emissions as possible have been taken. **Offsetting should therefore focus on targeting residual emissions only.** This is important because it's **often easier for organisations to simply purchase emissions reductions rather than making structural changes to their high-carbon business model.**
- There are **five key principles for carbon offsetting** and these revolve around the need to:
 1. Demonstrate additionality;
 2. Not overestimate sequestration;
 3. Avoid double-counting;
 4. Demonstrate there is no association with environmental or social harm; and
 5. Demonstrate permanence over large time scales.
- Going forward, we may see the **offset market expand from woodland and peat into marine systems (i.e. blue carbon), saltmarsh, hedgerows etc.**⁵, considering Scotland has high stocks of carbon in ocean, although crucially the science and market is far less developed.

Community impacts of voluntary nature-based carbon offsetting

- **In Scotland, a growing demand for land – especially marginal land – has pushed up land prices**, across a range of land types (forestry, agriculture, estates etc.). For example, estate land saw a 119% increase in purchase prices in 2021 compared to 2020⁶.
- Whilst carbon offsetting and natural capital investments more broadly are considered to be drivers, **broader market trends towards timber and commercial forestry were considered to be the biggest drivers**, with much upland and grazing land being targeted for afforestation..
- **Off-market land purchases are commonplace**, with 64% of successful estate sales happened off market in 2021⁷. This potentially **undermines communities' right-to-buy**, because if land is sold off market, the community may not be aware of the opportunity and cannot therefore lodge their interest prior to sale. It also **limits transparency about who owns the land**, meaning communities may not know who to engage with or why engagement might be worthwhile. It also stymies communities' ability to hold land owners to account for their land management; offsets or otherwise.
- A combination of **fast-rising land prices and off-market land purchases are excluding many communities, individuals and local businesses from purchasing land.** Instead, these trends favour those with the financial, political and social capital necessary to purchase high-value

⁴ <https://www.bloomberg.com/professional/blog/global-carbon-market-outlook-2022-bulls-trump-bears/>

⁵ <https://www.gov.uk/government/news/innovative-nature-projects-awarded-funding-to-drive-private-investment>

⁶

https://www.landcommission.gov.scot/downloads/62543b9498bb1_Rural%20Land%20Market%20Insights%20Report%20April%202022.pdf

⁷ ibid

land off the open market. Consequently, we find significant activity from major organisations, for example with half of all estates purchased in Scotland in 2021 sold to corporate bodies, investment funds or charitable trusts, with a third of estates sold to overseas buyers⁸.

- **Rising land prices are also having a direct impact on house prices in rural Scotland**, making it harder to buy property. This is a particularly pernicious problem for rural Scotland, whose aging population desperately needs younger people to locate but these individuals and families may be discouraged from doing so if they can't afford to buy or rent housing.
- A particularly unique and concentrated pattern of land ownership in Scotland, alongside a highly unregulated land market and subsidies (e.g. grants, tax exemptions) for specific types of land-use, has meant that the **distribution of direct benefits associated with nature-based carbon offsets – and land ownership more generally – are likely to be enjoyed by the few, and not the many.**
- One adverse impact of nature-based carbon offsetting is the **potential for cultural erosion; whereby new forms of land use undermines traditional local practices.** This was likened to an 'economic clearance' in certain communities, where changing land-use and its associated traditional economic activities are 'cleared' to give way for new forms of land-use, such as eco-tourism.
- **Offsetting also presents various opportunities for rural communities, not least new avenues for generating revenue that can be invested to tackle rural challenges.** This is particularly true when one considers the premium attached to 'charismatic carbon', often associated with Highland offsetting schemes; a unique classification of carbon credits that are generated in a way that offer and demonstrate social and cultural benefits that particularly resonate with the buyer.

Policy challenges and solutions for voluntary nature-based carbon offsetting

- Tying future generations into a 100-year conservation "burden" is potentially problematic and communities may be reluctant to tie themselves to hosting an offset projects as a result. This raises a broader concern about the **relationship between the permanence of carbon sequestration – often stretching over centuries – and how embedded these projects are within local communities**, who are ultimately the custodians of these sequestration projects. If the project's design and the community's needs are at odds, then there is legitimate risk that land use may revert back to other forms of use in the future, threatening the permanence of the sequestered carbon.
- There is a growing recognition that the **climate crisis sits alongside a wider nature and biodiversity crisis.** A myopic focus on carbon reduction may ignore other similarly important crises. Safeguards are needed to encourage responsible land-use in the context of wider environmental, economic and socio-cultural needs. This includes **best-practice guidelines and protocols for management of and investment into natural capital.**
 - a) Examples include Scottish Government's [Interim Principles for Responsible Investment in Natural Capital](#) that aim to support "values-led, high-integrity, natural capital investment". Also, the Scottish Land Commission's [Protocol on responsible](#)

⁸ ibid

[natural capital and carbon management](#) that sets out “practical expectations for new and existing landowners, managers and investors to ensure that their approach to natural capital and carbon management recognises their responsibilities, as well as their rights, in relation to land and contributes to a just transition”.

- b) There is an open question about the value and practicality of converting such voluntary guidelines into more binding policy commitments.
- Communities may soon need to rely on **the sale of carbon credits, via aggregators, to enable them to enjoy the efficiencies and bargaining power of entering the market ‘at scale’**. It remains to be seen what organisational form such aggregators take and how these might benefit communities.
 - It remains unclear **who is liable for any premature release of sequestered emissions from voluntary offsetting project**, and in particular the negative impacts the mismanagement of offset projects might have on communities. Clearer guidelines are needed for mitigating potentially negative impacts on communities of poor offset project performance.
 - **Land ownership and property law:**
 - a) **Community right-to-buy** – Scotland has developed various community rights to buy, which can operate irrespective of whether the current land owner wishes to sell. These ‘absolute’ community rights’ to buy may apply (if approved by Scottish Ministers) in the cases of: 1) crofting land, 2) abandoned, neglected, or environmentally mismanaged land, and 3) when current land use is considered a barrier to sustainable development and is causing local harm where a buy-out is considered the only or most practicable way to resolve it. There is also a right to buy that allows communities to register an interest in targeted land to give them first refusal over that land if and when it is exposed for sale, which is of more general application. However, a **common obstacle is a community’s capacity to move swiftly and comprehensively to register interest in land that is available for sale**, often relating to limitations around financial and social capital.
 - b) **Responsible land management** – The current consultation relating to the [Land Reform Bill](#) on legislative changes including a proposal that would require owners of large-scale land holdings to publish a land management plan that embodies the principles for net zero, nature restoration goals and sustainable management. Also a potentially stronger role for the Land Rights and Responsibilities Statement, and non-compliance with the statement may possibly result in restricted access to public funding.
 - c) **Public interest test and notification of sale** – The [Land Reform Bill](#) consultation also includes a proposal for a new public interest test and a requirement for a notification of an intention to sell. The former may target both the buyer and seller in a dual approach, but it’s uncertain how this will play out.
 - d) **Transparency of ownership** - Separately, there is a new [\(Scottish\) Register of Controlled Interests in Lands](#) and a new [\(UK\) Register of Overseas Entities](#), with the former leading to greater transparency about who controls a landowning entity and the latter preventing the acquisition of land by overseas entities without declaring



who the such a party is. This may support any public interest test and create new opportunities for communities to step-in and taken on any failed land purchase.

- e) **Corporate law and the transfer of property ownership** - If a landowning corporate entity itself is transferred, then the land is a corporate asset owned by that company, which then comes under the control of the acquiring corporate entity. Consequently, a company owning land may be bought rather than the land itself, without any local community having the chance to buy it. Corporate law is generally reserved for the UK in terms of the devolution settlement, meaning this is not something that the Scottish Parliament can easily reform alone.
- Scottish Government will soon release its forthcoming **Just Transition Plans**, including land use and agriculture. These operate in an important but oft-overlooked space between sector-based policies and national plans and strategies. Research insights from community groups in the Northeast of Scotland, identified some common priorities and concerns, including:
 - a) **Community revitalisation**, including ownership of infrastructure assets and land, capacity building, and the decentralisation of energy;
 - b) **Jobs and skills** in net zero and diversification of local economies;
 - c) Alleviating **fuel poverty**;
 - d) A recognition of **green space** and its role in supporting health, wellbeing and climate adaption; and
 - e) Meaningful **participation and empowerment** was consistently raised.
- Community engagement is especially important for understanding complementary and/or contrasting perspectives on *what* and *who* land is for, and how best to manage a given tract of land. However, some provisions need to be made:
 - a) For a community to be able to engage, there needs to first be **a pathway for engagement and/or participation**. This pathway must acknowledge that barriers to participation should be recognised and responded to.
 - b) **A community's ability to effectively engage is contingent on their time, resources and social capital**, potentially imposing limitations on the extent of their engagement. **The aim should be to support communities to participate, share, or influence (i.e. empower) without adding any additional burden**. We must not assume that we can only engage with a community through community organisations – as a spokesperson for a given community – because this ignores communities that have not had the capacity to establish such organisations.
 - c) Engagement, with regards to **community owned or governed assets**, offers alternative opportunities and challenges for participation versus community engagement with projects led by an external partner.
 - d) **Focus on developing a shared vision of the future first is critical to then understanding how the management of a parcel of land could align with or deliver on those aspirations**. This then clearly ties land-use change (e.g. afforestation, peatland restoration etc.), and the way that land is governed (e.g. non-for-profit community, corporate etc.), to delivering on a specific desired outcome (e.g. community wealth, clean air, green space etc.).

- e) The boundaries of influence must be made clear, so **communities clearly understand how their engagement will influence the outcome**, or what routes for influence, governance, or ownership there might be, now and into the future.
- f) Finally, it is **important to 'close the feedback loop' through transparent communication** with the community about how their inputs have shaped outputs and outcomes.

Community carbon offsetting: next steps for research

Theoretical and empirical

- Examine ways to effectively implement **best-practice guidelines with respect to community benefit over generational timescales**, when the community and its landscape will inevitably evolve but the remit of the offset project may remain the same.
- Provide a **deeper understanding about how nature-based carbon offsets can support restorative justice**, by reconciling historical injustices wrought upon Scottish communities; both urban and rural.
- Develop a **clearer understanding of the interplay between voluntary nature-based carbon offset market designs, versus project designs**. How does the former dictate the design of the latter but also how might market design (e.g. regulations, protocols, incentives, verification standards) best support project designs, which prioritise lasting community benefit? Alternatively, how can *market* design be optimised to support the delivery of offset *project* community benefits?
- An **international review of voluntary nature-based carbon offset projects, standards and markets**, outlining their respective characteristics, community impacts and associated drivers/barriers.
- Provide a **clearer understanding of how carbon and biodiversity credits from individual offset projects might be 'bundled' or 'stacked'** ([von Hase and Cassin 2018](#)), to provide dual-benefit and income streams for communities.
- Examination of **novel forms of shared ownership and governance**, between communities and landowners, who are developing nature-based projects.

Methodological

- **Develop innovative methodologies to accurately map and quantify the various co-benefits of nature-based carbon offsetting** (e.g. water quality, flooding, pollination etc.) and issues arising from different land uses and how they are distributed across a population. Visualisation techniques will be important and a necessary tool for community/stakeholder engagement. This should also account for this distinction between public (e.g. emissions reduction) versus community benefit (e.g. local revenue).
- **Identify best-practice approaches to effectively engage with communities on the design and implementation of voluntary carbon offset project architectures, to maximize community benefit and empowerment**. This process needs to be truly inclusive and representative. Furthermore, alternative mechanisms are needed to enable communities to lead their own initiatives. Either way, not all communities want or can lead initiatives, but they can all be engaged and benefit, where they are impacted by a project.

Background

This briefing note captures the outputs of a workshop, involving team members and guest speakers, from the University of Strathclyde led project: [Carbon Offsetting and Communities: co-developing alternative place-based voluntary offsets in Scotland](#). The project and workshop were co-funded by the [Scottish Universities Insight Institute \(SUII\)](#) and the [University of Strathclyde's Centre for Sustainable Development](#) COP26 Legacy Fund.

Voluntary carbon offsetting offers a means of offsetting carbon emissions, by funding projects that deliver equivalent carbon emissions reductions or avoidance elsewhere⁹. These are commonly nature-based 'removal' offsets that sequester carbon, such as afforestation or peatland restoration project; the latter also able to attract 'avoidance' credits. Various aspects of the voluntary offset market are largely unregulated, not least in Scotland where it is experiencing significant and rapid growth.

Despite its growing popularity, it remains unclear whether voluntary nature-based carbon offset projects will provide Scottish communities with much direct benefit or control. The impacts of these offsets on communities are broadly unknown and associated policy and regulation may now require a major overhaul to ensure communities are not left behind. In this context, this project explores how voluntary nature-based carbon offset projects are impacting Scottish communities and how they could be (re-)designed to maximize place-based, community benefits in the future.

The all-day workshop was held on 13th September 2022, to provide attendees with the opportunity to share their existing knowledge, in a bid to highlight where gaps in our understanding exist and help frame the focus of the project from the outset. It also acted as a pre-cursor to an autumn field-trip visit to Loch Ness, in the central Highlands of Scotland, to visit to sites where voluntary nature-based carbon offset projects are being actively developed (see forthcoming report).

The workshop covered four overarching themes:

1. *The fundamentals of voluntary nature-based carbon offsetting and its relevance to net-zero*
2. *Community impacts of voluntary nature-based carbon offsets*
3. *Policy challenges and solutions for voluntary nature-based carbon offsetting*
4. *Community nature-based carbon offsetting: next steps for research*

The below offers a summary of the presentations and subsequent discussion between the project team members and invited guest speakers and is organised according to the workshop agenda, which can be found at the end of the document.

⁹ "Removal offsets are generated from activities that pull carbon out of the atmosphere, such as tree growth. Avoidance offsets are from activities that reduce emissions by preventing their released into the atmosphere such as stopping the conversion of grasslands to croplands and limiting timber harvest levels." ([ClimateTrust](#))

1. Session theme: Carbon Offsetting and net-zero

Overview: *This session examined the relationship between voluntary nature-based carbon offsetting and the net-zero agenda, exploring how offsetting works, the different types of offsetting, its relative importance to delivering on net-zero and the way in which we account for these.*

Prof. Dave Reay (Edinburgh) - Net zero and nature-based carbon offsetting

Professor Dave Reay joined online as a guest speaker, to provide insights into the relationship between carbon offsetting and net zero, and key issues which need to be addressed in order to align them.

Carbon sequestration, forestation and peatland restoration are core elements of the Scottish Government's Climate Change Plan, UK net-zero ambitions, as well as global plans in meeting the Paris climate goals. However, land is in high demand for a variety of eco system services in order to meet various challenges: carbon sequestration being just one of them.

The scale is potentially breath-taking, with some estimates that globally carbon sequestration will account for one third of the carbon reductions needed for net-zero^{10,11}. Article 6 from the COP26 summit addressed loopholes and set a framework for international carbon trading, however voluntary carbon trading is not covered by that regulation. In Scotland up to 10,000 hectares per annum of tree planting has been the typical level of afforestation achieved in recent years, and the 15,000 hectares target for this year is unlikely to be met. Furthermore, if ambitious carbon reduction targets are to be met, 18,000 hectares are needed from 2024/25 season onwards.

Peatland restoration targets of 20,000 hectares per annum is a serious challenge for Scotland, especially in terms of the capacity to deliver on this. The targets are not going to be achieved without mixed funding support from both the public sector and private sector.

In terms of how the sector is developed going forward, Reay was keen to stress three elements:

- **Additionality** asks would this have happened anyway and is key in woodland and peatland carbon codes and projects need to have a positive effect on net emission reductions.
- **Permanence** and making sure projects are designed for the long-term and can guarantee emissions are kept out of the atmosphere for significant timescales. Difficulties arise here as projects need to last centuries and longer for nature-based carbon sequestration, yet local communities will naturally evolve over hundreds of years, with different needs and priorities emerging over time. These may be at odds with values that the project's local communities hold today, which could pose a threat to its permanence.
- **Leakage** relates to concerns about how natural capital restoration for carbon capture may serve to displace high-emitting land-use practices elsewhere, thus undermining any net-reduction in carbon emissions. For example, rewilding traditional agricultural land in the UK

¹⁰ <https://www.nature.com/articles/d41586-021-01241-2>

¹¹ <https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.15873>

may reduce food production and in turn, increase reliance food imports, which carry a substantial carbon footprint (e.g. transportation).¹²

A related concern about carbon offsetting is its potential for cultural erosion, if due consideration is not given over to the full-range of economic livelihoods and cultural practices across the community. Without buy-in from local communities, there is a legitimate risk that land use will revert back to other forms of use in the future.

It is important that we understand that land is a finite resource and consequently, there needs to be really clear standards and regulations for how we determine how this land is used. For farming communities and landowners, people are unsure about land speculation and more specifically when to register with [Woodland Carbon Code](#), such as whether to wait or sell carbon credits now etc. This has cultivated a climate of uncertainty about when to trade these credits.

Finally, we must acknowledge how the climate crisis sits alongside a wider nature and biodiversity crisis. A myopic focus on carbon reduction may not necessarily support habitat restoration, especially if this leads to monoculture plantations of fast-growing Sitka Spruce. Safeguards that encourage responsible land-use in the context of wider environmental, economic and cultural needs should be embedded in planning frameworks, public grant award criteria and local development plans. These policies should sit alongside wider public carbon planning, which accounts for our changing land-use and landscape, ensuring this is rooted within a place-based narrative. It remains to be seen how Scotland's forthcoming updated Climate Change Plan will accommodate these opportunities.

With state commitments at a national and international level acting as market drivers, and organisations at every level with carbon targets, sequestration is happening and will happen at pace and scale. As it helps us tackle unavoidable emissions it can be a win for tackling climate change if it's done right. This project is crucial in understanding how this is done in a more sustainable manner and comes at a timely point where best-practice frameworks developed now can be useful for rest of UK and the world.

Discussion

The first question raised was around how we might deal with communities who have benefitted most from the degradation of natural capital over time – and caused most harm - but who are in the strongest position to deliver greatest carbon capture from natural capital restoration

Prof. Reay was keen to stress that this is a serious question with ethical implications worth considering. In the past, bad practice was rewarded and there was concern about some nations hitting as low a baseline as possible by accelerating deforestation so that they also had the most to gain (see [REDD](#)). Whilst bad practice is less likely to be rewarded today – see examples of plantations on peat bog in the 1970s/80s – the system doesn't particularly reward carbon capture and biodiversity improvements¹³.

He suggested that funding is mainly geared towards the restoration of fragments of woodlands, with premiums for biodiversity corridors and linking woodland to your planting schemes. These are considered to offer a biodiversity “bonus” but it is carbon offsets that drive most of the revenue potential. This is problematic and associated co-benefits around biodiversity (e.g. water quality,

¹² Another example might be the protection of woodland from deforestation but if demand for wood remains static, deforestation shifts elsewhere ([GreenBiz](#)).

¹³ Nor does it particularly reward natural regeneration versus intervention-led (e.g. planting).

flooding, pollination etc.) need to be accurately quantified and reported to evidence the value of aligning land-use that support carbon capture *and* habitat restoration.

Finally, a point was raised around blue carbon (i.e. marine), and the role different institutions such as the Crown Estate (Scotland) and coastal communities might play here. Reay was clear that marine systems will have huge role to play, and Scotland has high stocks of carbon in ocean, though crucially the science and market is far less developed. The priority for now may be best placed on the protection of known stocks of carbon and biodiversity, though there are strong parallels with land onshore for sequestration with livelihoods and communities reliant, in the same sense people need to be involved and the same principles apply.

Phillips reflected on these points remotely to make the following points about land speculation and the timing of carbon credit sales. He explained that there is nothing to stop landowners/managers (e.g. farmers) validating and even verifying [Peatland Carbon Code \(PCC\)](#) and [Woodland Carbon Code \(WCC\)](#) projects and holding on to Pending Issuance Units (PIUs) and Woodland Carbon Units (WCUs)¹⁴/Peatland Carbon Units (PCUs) until a time when they have: (i) greater assurances about whether they will need credits for e.g. insetting their own emissions; and (ii) greater clarity on carbon price in voluntary carbon markets. There is a bit of a misconception around ‘first-mover disadvantage’ - especially for peat - where in most upland contexts the opportunity cost of restoration can be quite minimal.

A lot of the uncertainty has more to do with what the future post-Brexit agriculture support system in Scotland will look like, how this might impact additionality and ‘stacking/bundling’ and whether going down the voluntary carbon offsetting route ties landowners/managers into long-term (30+ year) land uses that they come to regret or reduces optionality on their land.

Finally, Phillips echoed the need for metrics beyond carbon and greater clarity going forward about the ‘stacking/bundling’ of ‘value streams’ associated with land use.

Clare Wharmby (ECCI) – Carbon accounting and voluntary offsetting 101

Wharmby’s presentation offered an overview of how the whole carbon accounting and trading system works. She spotlighted key definitions and where difficulties in carbon markets arise.

Over the last five to six years there has been a serious growth in the carbon offsetting market and an associated rush to secure land for offsetting, as climate and net zero targets have become established. Crucially, a net-zero transition is about getting emissions down to the lowest amount and then offsetting the residual emissions¹⁵. Wharmby explained that ideally this means about 95% of greenhouse gas emissions are reduced directly, with only 5% offset. However, claims of carbon neutrality often mean organisations simply pay for carbon credits equivalent to their emissions, without taking action to reduce their own emissions.

Currently, Scotland bases its footprint on territorial emissions a small allowance for shipping and aviation; this does not therefore include products and services produced overseas. Issues often arise

¹⁴ See [Woodland Carbon Code explainer](#) for further explanation.

¹⁵ “Residual emissions’ are the emissions remaining after all technically and economically feasible opportunities to reduce emissions in all covered scopes and sectors have been implemented”(C40).

from the way in which corporate Scope 1, 2 & 3 emissions¹⁶ are counted. If a company has a physical footprint in Scotland, its activities will be included in Scotland's direct territorial emissions. In the context of offsetting, if a multi-national company purchases land in Scotland to offset its emissions, then Scotland would count this offset in its national balance, unless a corresponding adjustment is made. This is despite the project aimed at offsetting emissions based elsewhere in the world.

As we move into the 2030s and begin to focus more on the harder to decarbonise areas (e.g. buildings, transport, industry), the offsetting market is expected to grow substantially, with prices estimates showing an increase from around \$5.80 per tonne of CO₂-eq today, rising to between \$120-\$150 per tonne by 2050¹⁷.

Wharmby raised concerns about how difficult it will be to match real-world emissions with offsets. She illustrated this with the example of how one hectare of 50-year-old forest would - in one year - sequester the same carbon as produced by one return trip¹⁸ to New York City from the UK.

Carbon offsetting refers only to investment to support actions outside of an organisation's direct control boundary (i.e. beyond Scope 1 emissions, namely not in assets or on land that the organisation owns or controls). Investment in emissions reduction or removal projects outside an organisation's boundary can create a carbon credit, which is a certified and transferrable instrument that acknowledges one party has avoided or sequestered a tonne of carbon somewhere and another has acquired this instrument.

The function of any carbon offset programme (examples include Planet Vivo, Gold Standard) is to set standards and oversee accounting for compliance, this can then be verified by third party. There are Government and NGO programmes for both compliance and voluntary markets. Five key principles for offsetting revolve around the need to: 1) demonstrate additionality, 2) not overestimate, 3) avoid double-counting, 4) demonstrate there is no association with environmental or social harm, and 5) demonstrate permanence over large time scales.

As per the [Oxford Offsetting Principles](#), it is also important to flag the difference between carbon *reductions* and *removals*, whereby this project's focus on natural capital cuts across both. This is because it may avoid *reductions* in sequestration potential through avoiding further natural capital declines (e.g. avoiding deforestation) and *removals* through natural capital restoration (e.g. supporting afforestation) (Figure 1). For the former, the focus here is mostly on avoiding further declines in peatland, rather than forestry.

¹⁶ Scope 1 covers direct emissions from owned or controlled sources, such as fuel combustion, company vehicles etc. Scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed by the reporting company. Scope 3 includes all other indirect emissions that occur in a company's value chain, such as business travel, use of sold products, investments etc. ([Carbon Trust](#)).

¹⁷ <https://www.bloomberg.com/professional/blog/global-carbon-market-outlook-2022-bulls-trump-bears/>

¹⁸ Assumes 260 person occupancy of flight.

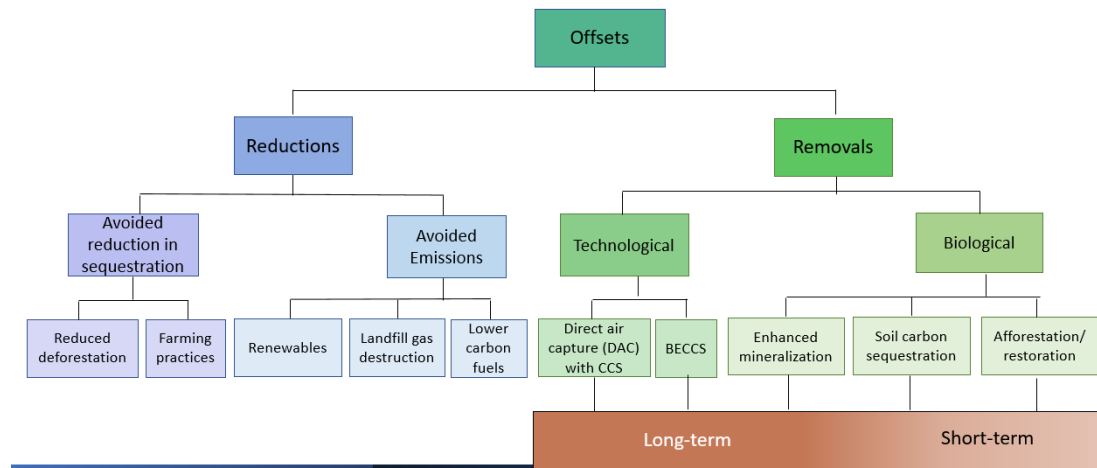


Figure 1: Flavours of carbon offsets (Credit: Clare Wharmby and Kira Myers of ECCI)

Discussion

Taking universities as an example, the discussion explored how organisations decide to use the land they have to reduce emissions through afforestation or renewable energy, as opposed to buying land and selling the carbon credits. Questions over how this is regulated were considered important, as often it's easier for organisations to 'buy' their way out of the problem for large proportions of their emissions versus making lasting changes to their business model, in order to reduce their organisational carbon footprint.

The theme of the organisational boundary was again raised and how it is defined. The position of subsidiary companies led to the questions around what degree of control do you need in a company for it be accounted within the parent organisation's footprint. The discussion pointed to the need for clearer methods to unveil the distribution of equity and associated distribution of governance, in order to define this.

Finally, the discussion turned to the broader accounting of carbon flows. With nearly all countries, regions and companies all setting net-zero targets, there needs to be an understanding of the overlap and underlap of where emissions are happening and in which geography they are accounted for. Problems can occur when organisations buy offsets in one country, to offset emissions located in another. Article 6 lays out some key guidance for compliance but does not cover the voluntary market, so the issue remains for this marketplace.

2. Session theme: Community impacts of nature-based carbon offsetting

Overview: *This session explored how the fast-growing nature-based carbon offsetting market is already impacting communities, focusing in particular on land ownership trends and wider economic and cultural implications.*

Emma Cooper (Scottish Land Commission) - Land market trends and challenges associated with the offsetting boom / Rural Land Markets

Cooper joined the project team a guest speaker, to provide an overview of the trends and challenges in the offsetting and rural land markets from the [Scottish Land Commission's \(SLC\)](#) perspective.

The SLC is a non-departmental government body, wholly funded by Scottish Government and with a board appointed by ministers. Its role is focused on “stimulating fresh thinking, supporting change on the ground and making recommendations to Scottish Ministers, where appropriate, for legislative and policy change across our three priority areas of work: reforming land rights, embedding responsible land ownership and use, and reforming land markets”¹⁹.

In the context of the emerging influence of carbon and natural capital in Scotland's land, SLC's three core areas of work relate to: 1) implications for the land market, 2) responsible practice and 3) community benefit. It seeks to apply the SG's [Land Rights and Responsibilities Statement](#) as outlined in the Land Reform Act (Scotland) 2016, whereby “land rights, responsibilities and public policies should promote, fulfil and respect relevant human rights in relation to land, contribute to public interest and wellbeing, and balance public and private interests. The framework should support sustainable economic development, protect and enhance the environment, help achieve social justice and build a fairer society”²⁰. Recent outputs include:

- Scottish Government's [Interim Principles for Responsible Investment in Natural Capital](#)
- SLC's [Protocol on Responsible Natural Capital and Carbon Management](#) – implementing the interim principles.
- SLC [Rural Land Market Insights Report](#) – changes and drivers in rural land market.

Ultimately, observations show the same level of land supply coming to market but a greater demand for land, serving to push up prices. This is also characterised by changes in buyer profile and motivations, which are driving demand. Timber and forestry were considered to be the biggest drivers, with some upland and grazing units being converted to forestry, followed by natural capital primarily through purchase of estates. The former is being driven by increases in timber prices and these projects often aren't using the [Woodland Carbon Code](#).

Some key facts and figures:

- **Forestry**
 - 54% increase in value of plantable land in 2020
 - 32% of sales in 2020 happened off-market compared to 11% in 2019
- **Agricultural**

¹⁹ <https://www.landcommission.gov.scot/about-us>

²⁰ <https://www.gov.scot/publications/scottish-land-rights-responsibilities-statement/pages/3/>

- 40% of farms were purchased by non-farming, such as lifestyle and forestry, buyers in the UK over the last 5 years
- 31% rise in Scottish farmland values in 2021 (6% across UK) due to long term investment potential of land increasing demand
- 60% increase in values in 2021 for poor grazing and grass land in Scotland, targeted for forestry
- **Estates**
 - 119% increase in purchase prices in 2021 compared to 2020
 - 64% of successful estate sales happened off market in 2021
 - 50% of all estates purchased in Scotland in 2021 were sold to corporate bodies, investment funds or charitable trusts, with a third of estates sold to overseas buyers

The ability of less wealthy buyers (e.g. communities, local businesses, farmers) to participate in the land market is being diminished by rising land values, as corporations take advantage of their superior financial capital to purchase land, and subsequently deliver offsets for the carbon credit market. Furthermore, off-market transactions hinder alternate options and transparency; most notably community buy-out (see later). Ultimately, this can result in decision making about the land being made at a remote distance from where the land is located.

SLC is now focused on four areas impacted by the current market dynamics. The first is, **responsible landownership** requires strengthening of the Scottish Land Rights and Responsibilities Statement principles and greater understanding on what support and regulation is needed for the development of mixed ownership and governance models, drawing on new investment that secures long-term benefits for communities.

The second is **community participation in the market**; a key issue considering the scale of ‘off-market’ sales. SLC is exploring whether certain categories of intended sale should be notified in advance and how this interacts with the community right-to-buy. This sits alongside how public interest bodies (e.g. Crown Estate, Forestry Land Scotland) can support the community acquisition of land, given their more substantial access to finance and organisational capacity; both critical to a swift response to land acquisition, when it becomes available for sale.

The third is **land-use decision making** and focuses on appropriate engagement and a public interest test, which identifies alignment of land management with public priorities and potential consequences of land use. Public support for net-zero may be damaged by practices in land management already happening, deterring communities who have no say over such practices. SLC is exploring the role of Regional Land Use Partnerships and Land Use Strategies can play in supporting more inclusive and place-based land use decision making.

The fourth is **market transparency and information**, which is ultimately about improving the breadth and depth of land ownership reporting, to help highlight key market trends, including the concentration of ownership across different types of landowner. Work being conducted with the [Royal Institution of Chartered Surveyors \(RICS\)](#) and [Land Register of Scotland](#) to consider this.

Bringing these priorities together, Cooper flagged the SLC’s Protocol on responsible natural capital and carbon management. It is designed to set out “practical expectations for new and existing landowners, managers and investors to ensure that their approach to natural capital and carbon

management recognises their responsibilities, as well as their rights, in relation to land and contributes to a just transition²¹. Its focus is across three key themes:

1. Community engagement and benefit;
2. Ownership and tenure; and
3. Environmental & biodiversity gains.

Discussion

The discussion initially explored the role of the existing planning system and current environmental impact assessment (EIA) requirements, in shaping how people manage land and wider environmental impacts. One challenge identified is that the regional bodies who manage coordinated land management are under resourced. The SLC's recent protocol for responsible natural capital and carbon management²² encourages biodiversity improvements, whilst the upcoming agriculture bill²³ will also tackle this area, so it is being dealt with to some extent. However, it is acknowledged that there is a greater potential for plugging gaps in the planning system, especially around land management.

The role of the SLC protocols outlining best practice was analysed. Particularly, whether the approach is voluntary in nature and designed to 'nudge' landowners towards best-practice, as opposed enforcement through legislation and/or regulation. Whilst the protocols are currently voluntary, there is a possibility that they will be integrated into other public policy, such as the aligning the award of public subsidies with the protocol. The Land Rights and Responsibilities statement may become an expectation for landowners depending on the outcome of the current [Land Reform in a Net Zero Nation Consultation](#). Further to this, [Scottish Government's Just Transition framework](#) outlines a direction for other policy areas and principles around the equitable distribution of benefits and costs.

A final point was made around the type of community engagement might be required when developing, implementing and educating citizens about these principles.

Dr. Magnus Davidson (UHI) – Opportunities and threats from carbon offsetting for Scotland's rural communities

Davidson focused on the rural community's perspective on carbon offsetting, with a specific focus on issues about the diversity of social, cultural and economic heritages found across rural Scotland.

Using [Scottish Government's Urban Rural Classification 2020](#), Scotland's rural areas account for a significant majority of the total land area, and about 17% of the population. There is great variation within rural communities across language, culture, demographics and community cohesion. Despite these differences, Davidson highlighted how many of these rural areas share some common characteristics, such as demographics, resources, types of employment etc., and associated challenges, such as fuel poverty, depopulation etc.

²¹ <https://www.landcommission.gov.scot/news-events/news/protocol-launched-for-responsible-investment-in-natural-capital>

²² <https://www.landcommission.gov.scot/news-events/news/protocol-launched-for-responsible-investment-in-natural-capital>

²³ <https://www.gov.scot/publications/delivering-vision-scottish-agriculture-proposals-new-agriculture-bill/>

He explained how the growth in the wide-spread use of the term ‘Green Lairds’ is indicative of the speed and scale at which land acquisition for environmental reasons (e.g. rewilding, carbon capture etc.) has unfolded. The unique and concentrated land ownership in Scotland, alongside a highly unregulated land market and subsidies (e.g. grants, tax exemptions) for specific types of land-use, have contributed to a situation where ownership to land is restricted to the few, not the many. This has had a knock-on effect, on the distribution of benefits associated with land ownership.

Threats to communities are a result of carbon and biodiversity incentives attracting new actors with little knowledge and understanding of the context of the land - and the people that inhabit it - that they acquire. This has the potential to negatively impact upon jobs, agricultural tenancies, housing, amenity space, gentrification of the countryside etc. He highlighted the threat of an ‘economic clearance’ in certain communities, where land-use is changed and its associated traditional economic activities are cleared to give way for new land-use, such as eco-tourism. Finally, he flagged the threat of rising land and housing prices in rural Scotland and how this is making it harder for many people to buy property. This is particularly pernicious problem for rural Scotland whose aging population desperately needs younger people to locate but these individuals and families may be discouraged from doing so if they can’t afford to buy or rent housing.

Having said this, there are key **opportunities for rural communities**, the first of which being the ability to raise new capital and revenue that can be used to tackle rural challenges. Interestingly, he outlined how we could see ‘charismatic carbon’²⁴ emerge from Highland communities; a special classification of carbon credits for those generated in places that offer desirable social and cultural connotations, which particularly resonate with the buyer.

Communities may in the future need to rely on the sale of carbon credits that are aggregated offsets from various projects in order to become a player at scale. There are parallels with the way ROCs have been aggregated and sold by communities. Shared ownership models, new and diversified employment opportunities, rural re-population and re-peopling can be added to this list of opportunities relating to offsets. Finally, there may be greater recognition of the role rural communities have to play in reaching net zero in terms of both energy and carbon sequestration.

Grasping these opportunities is not without **risks**. Echoing Reay, Davidson explained that the long-term management of sequestration projects is essential and must give consideration to whether there is capacity within communities to govern/manage these. Tying future generations into a 100-year conservation ‘burden’ is potential problematic and there may be a reluctance to tie a community to host offset projects as a result. Keeping the temporal focus, there are also difficult questions for communities about when to sell carbon credits to get the best price²⁵ but also about who they ought to sell to, from an ethical standpoint.

On balance, the challenges are currently greater than the opportunities for rural people, but this can be changed. There needs to be greater regulation and legislation to support more impactful reform, so that cultural implications and societal shifts are better handled. Finally, what is there to learn from

²⁴ As echoed by Stuart Goodall, chief executive of the Confederation of Forest Industries, these are projects that “deliver the best story” and capitalise on a narrative whose key characters are the people and place that have sequestered the carbon ([Business Green](#)).

²⁵ See Wharmby’s presentation and the indication that carbon credits will likely appreciate over time, rather than depreciate.

elsewhere in the world, global south communities are well placed to impart knowledge on resource struggles?

Discussion

Attendees discussed where the liability lies, if emissions are released prematurely from a carbon sequestration project, especially in light of the environmental changes likely to come about due to climate change. This is not currently being addressed and should be looked at, however if government commits to covering losses it may simply result in a transfer of public money into private hands.

Furthermore, we discussed the appetite for imposing principles and carbon offsetting projects on rural communities, resulting in a great pressure on their way of life. Rural communities can often feel that while a lot of emissions are created in cities and industrialised areas, the solution is laid at the feet of rural communities. The key point here is around ownership or imposition. It can often feel that the negative impacts of land change practices are felt in rural communities and positives are felt in urban communities, this is perhaps explained by their being greater knowledge of potential negatives from imposition of change. Equally, urban communities especially on lower income have little to no power over land use change and policy and this should be recognised as a point of commonality.

3. Session theme: Policy, legal and engagement challenges facing community carbon offsetting

Overview: *This session explored the various policy, legal and engagement challenges facing stakeholders associated with voluntary nature-based carbon offsetting. It explored the relative importance of these challenges, as well as some of the potential solutions in overcoming these.*

Prof. Matt Hannon (Strathclyde) – Interim Principles for Responsible Investment in Natural Capital

In the absence of Dr. Peter Phillips (Scottish Government), Prof. Hannon briefly outlined some key points. Scotland's [National Strategy for Economic Transformation](#) envisions what Scotland's economy looks like by 2032 and how can it contribute to a wellbeing economy. The [Interim Principles for Responsible Investment in Natural Capital](#) aim to support this strategy with a set of 'values-led, high-integrity, natural capital investment' principles, which are in line with Article 6 and carbon offsetting targets. There is a recognised shortfall in green finance to address nature restoration gap, and this is expected to come from a mix public, private and citizen finance. However, this emphasises that money from private sector needs to be socially responsible and prioritising wider public benefit.

On the back of the economic transformation strategy, the interim principles set out good practice for investing in natural capital. Building on existing mechanisms on [Woodland Carbon Code](#) and [Peatland Carbon Code](#). It should consider: a) both the positive and negative impacts, b) recognise and respond to local circumstances and c) be sensitive to uniqueness of local characteristics. Carbon management should be integrated with the delivery of wider environmental, social, and economic outcomes, whilst investment should deliver public, private and community benefit.

Investment and finance need to align their objectives with the needs of local communities to create shared benefits contributing to a Just Transition. Investment should demonstrate engagement and collaboration with communities, and we know questions of when and where is crucial. Early engagement should be sought with relevant communities and collaboration should be open with other landowners and public bodies. Additionally, investment should meet the six [UN principles for responsible development](#) and comply with Scottish Government's various policies on Just Transition, Fair Work, Land Rights & Responsibilities and Global Capital Investment. The principles also aim to better understand who owns the land, as there is a both missing data and mechanisms for finding this information. Furthermore, they are looking to support alternative options, including shared ownership and manage agreements, varied collaborations, and partnerships.

A recent policy paper, '[Understanding the local economic impacts of natural capital investment](#)', was highlighted as a next step in policy development; a project designed to "quantify the typical contributions to local economies, measured as output and jobs created, of four different natural capital investments".

Discussion

Attendees discussed how for government policies, recognition that community development, carbon offsetting and natural carbon - as represented in this project - are cross-cutting policy areas and consequently, the importance of having have consistent and complimentary policy approaches across different departmental policy packages.

Noting an earlier point on ‘charismatic carbon’, here impacts become more important, considering a tonne of captured carbon from a project in one community may be deemed more desirable to certain buyers than a tonne captured in another. However, it is not easy to quantify the “charisma of carbon”.

Malcolm Combe (Strathclyde) - Land Reform Bill

Combe provided an overview of the legislation and legal developments on land reform, describing the current phase as ‘Land Reform III’, after the Land Reform Acts of 2003 and 2016.

Firstly, he underlined why land ownership is so important, as it dictates the balance and distribution of power across our society. Citing [Glass et al. \(2013\)](#), Combe highlighted how property rights are “of fundamental importance as they have an impact on the status of the ‘ultimate resource’ from which all prospects for development, production and conservation in uplands are derived” (p.4).

Land reform developments can broadly be categorised into two themes:

- Changing the law for all landowners; and
- Changing who the landowner is.

In the first case, an example might include rights for responsible public access to undeveloped land, impacting all landowners. In the second, [community rights to buy](#) can be considered as measures towards changing who the landowner is or is likely to become.

The community right to buy found in Part 2 of the Land Reform (Scotland) Act 2003 incorporates a significant set of qualifying criteria, which must be satisfied in order to attain a pre-emptive right of first refusal. First, a functioning community body that is geared towards sustainable development has to be set up in advance, the community must then register interest in the land. If the land becomes available, then there is a ballot amongst the community to confirm interest, then consent to go ahead with the purchase is granted once Scottish Ministers decide the community acquisition meets public interest. There is no limit on the size of land, as long as it is local (although pricing implications for a large landholding may lead to a practical limitation, given the community will acquire the land at an agreed or set value).

This process is only engaged when the land itself is transferred. Consequently, if a landowning corporate entity itself is transferred, then the land is a corporate asset owned by that company, which then comes under the control of the acquiring corporate entity. Corporate law is generally reserved for the UK in terms of the devolution settlement, meaning this is not something that the Scottish Parliament can easily reform. Any “off market” corporate sales where the company is bought rather than the land itself can accordingly take place without any local community having the chance to buy it, but the incoming owner would still need to comply with the law (e.g. to publicise who controls it in terms of transparency rules). It can also be noted that there may be other consequences of owning land through a company, e.g. in terms of tax treatment or the application of the law of succession (inheritance).

There are also three stronger community rights to buy in Scots law, in the cases of: 1) crofting land, 2) abandoned, neglected, or environmentally mismanaged land, and 3) a narrower class for when land is considered a barrier to sustainable development and is causing local harm where a buy-out is considered the only or most practicable way to resolve the issues with that land.

By looking at the [Land Reform in a Net Zero Nation](#), Combe suggested that new and upcoming legislation is not about community buy-outs or who owns the land. Instead, the focus is on large-scale land holdings and opportunities for diversification of land use and arrangements, with 3,000 hectares posed as an initial benchmark for large-scale holdings. However, there may be exemptions for family farms, though questions remain for owners of multiple smaller holdings. It is also looking at a requirement to publish a land management plan and a potentially stronger role for the Land Rights and Responsibilities Statement, and non-compliance with that possibly resulting in restricted access to funding, although there remain questions about what kinds of penalties would be applied and who will be monitor proceedings.

Separately, there is a new [\(Scottish\) Register of Controlled Interests in Lands](#) and a new [\(UK\) Register of Overseas Entities](#), with the former leading to publicity about who controls a landowning entity and the latter preventing the acquisition of land by overseas entities without declaring who the such a party is.

Compulsory land management practices coming into effect will require land holders to produce and adequate plan addressing principles for net zero, nature restoration goals and sustainable management. Consequences for not having a plan will be strong, however reprimand may be circumvented if a very basic plan is submitted. Furthermore, a new public interest test, a requirement for a notification of an intention to sell and a focus on large land transfers. This may target both the buyer and seller in a dual approach, but it's uncertain how this will play out.

Discussion

Attendees explored the details around publicity for land sales where a community does not already have a registered interest in land. With owners having a proposed 30-day time period to notify local communities of an intention to sell, there is real difficulty for communities and bodies to act if they are not prepared. A challenge here from historical insights in community development is that groups often only rally to action once an asset becomes available, so the situation here requires foresight, capacity, and patience by setting up when they have no knowledge of when land will be sold. Furthermore, accounting for aging and depopulation trends, social capital is diminishing in some rural communities, thus making this onerous task even more challenging. Perhaps this is where alternative options such as working with landowners that want to do things differently while the land remains in existing ownership could come into play.

A further point centred on whether redistribution of land was hampered by the practice of primogeniture when land is passed to the next generation. Primogeniture doesn't exist in law anymore, i.e. land no longer automatically goes to the oldest male heir, but a land owner can write anything in a will and owing to a curiosity of Scottish legal development the disinherited spouse/civil partner and/or disinherited children of a deceased can only challenge such a bequest in relation to the moveable estate. As such, if you own land and want to bequeath that to one person, you can do so. Combe emphasised that reforms of laws of succession tend to 'get stuck' in parliament but there is a reference to succession reform in the new programme of government. Succession law has however contributed to concentration of land ownership and agglomerated land into large estates, because parcels of land are not separated amongst many different heirs from generation to generation.

Prof. Tavis Potts (Aberdeen) – Carbon, Communities, and the Just Transition Plan

Potts' presentation placed land-use within the context of an array of other challenges relating to net zero, not least people's relationship with place and other people.

Community empowerment and meaningful social dialogue - at a place-based level – are a crucial part of the journey to net zero. However, enduring challenges remain, especially around reaching the most marginalised communities and systematic & inclusive stakeholder engagement.

Scotland's Just Transition plan is overseen by the Minister for Just Transition, Employment and Fair Work, and advised by the independent [Just Transition Commission \(JTC\)](#), with four key areas covered: 1) appropriate planning, 2) equipping people with skills and education, 3) empower and invigorate communities and local economies, and 4) to fairly distribute benefits and burdens. We can soon expect the upcoming Just Transition Plans for different sectors to be released, including land and agriculture. Just Transition planning will operate in the space between sector-based policies and national plans and strategies. The renewed second term of the JTC has shifted the debate to include current cost of living crisis and identified sectors for focus, energy, buildings, transport & land.

Potts went on to share insights from various community land-based projects relating to a Just Transition. Gathering insight from community groups in the Northeast of Scotland, priorities and concerns were found around **community revitalisation**, including ownership of infrastructure assets and land, capacity building, and the decentralisation of energy. **Jobs and skills** in net zero and diversification of local economies and a focus on **fuel poverty** where also prevalent themes. Recognition and improvement of **green space** for its role in supporting health and wellbeing & climate adaption was important and finally, meaningful **participation and empowerment** was consistently raised.

Potts highlighted a further project that was focussed on the use of urban greenspace and the role of community owned land. This project unveiled the friction between industrial net zero developments, biodiversity and community amenity use. The case of the Torry locality in Aberdeen²⁶, where a community-managed wetlands is under threat for investments in Aberdeen's net-zero industries. This example demonstrated the range of narratives about what and who land is for, with lots of investment on the line. Tensions between providing jobs to industries in decline through developing new renewables, clashing with community health and wellbeing initiatives.

The final project Potts discussed explored approaches to accurately map varying benefits and issues arising from different land uses and how they are distributed in a population. By visually communicating to communities the multiple co-benefits of diverse nature, and what the net-costs are for local economic development activities, participants felt more informed and engaged.

Discussion

The discussion touched on the difficulties around community participation in the Just Transition, particularly with increased pressures around cost of living and capacity. Ambitious policy statements around the central role of communities and citizens needs to be backed up with place-based approaches and targeted funding for it, ultimately this takes time and effort and mainstreaming these kinds of methods is challenging.

²⁶ <http://www.ironsidefarrar.com/etz.htm>

Attendees then turned to how the Torry case study pointed to an example of where net zero developments have come into friction with community wellbeing. The idea of *spatial guilt* was explored, where communities who were protective over their local amenities - in this case green space - are blamed for blocking progress for a region. In this example, Torry did not particularly gain from the oil and gas boom in Aberdeen. In fact quite the opposite, as Torry hosted waste facilities for industry and the city at large, lost its historic waterfront in the 1970s, had an industrial water treatment works built, and lost its beach to the new national infrastructure harbour. This speaks to cycles of development and as issues such as this are internationalised, the Just Transition agenda faces real tests from policy to action. The idea of *restorative justice*²⁷ is a key element here and a recurring theme across many different communities affected by economic transitions.

We highlighted the potentially beneficial role of visualisation techniques in community development, as was used in Tavis' final example project. It offers greater understanding for development pathways and visual products can aide connection between communities and local planning authorities. Currently social and cultural elements currently have very little value in current natural capital thinking, visualisation techniques can help address this.

Dr. Jen Roberts (Strathclyde) – Engaging with communities to deliver net-zero

Roberts spoke about community and public engagement, as well as pathways for delivering community participation and ownership. She made reference to various experiences from across a range of projects in water and energy sectors, and from citizen assemblies.

Community participation is not only more likely to produce just and fair outcomes, it is also often the most effective thing to do in terms of sustainability and impact. However, the ability to effectively engage with or involve communities not only requires the development of a shared approach or shared outcomes, but is contingent on their time, resources and social capital, which can pose limitations on the extent of engagement. The aim should be to support communities to participate, share, or influence (i.e. empower) without adding any additional burden, which may naturally demand additional resourcing.

Roberts also warned against a common pitfall, which was to incorrectly equate public perception with community engagement or community acceptability. Furthermore, there is a distinction between community-led, co-created, participatory pathways, versus very basic levels of engagement. Particularly through experiences in the energy transition, place-based community-led engagements are most effective in terms of community acceptability and achieving a range of positive outcomes.

Community participation should aim to identify a shared vision for shared outcomes. The boundaries of influence and the balance of power sharing must be made clear - and could be set in partnership with communities - in addition to a transparent pathway for the engagement to shape, influence, or change a process, outcome or decision. As another participant explained, the community and land owner/manager should together identify opportunities to collaborate and share in the benefits of the land; meeting community needs and aspirations where possible.

History matters and shapes a community's culture and landscape. This also includes prior engagement with other stakeholders, not least because engagement fatigue and mistrust is a serious issue. There

²⁷ Defined as "what we can do to ameliorate past injustices and mitigate against future injustices" ([Bray and Ford 2021](#)).

needs to be more joined-up design so that the same questions are not being asked multiple times to the same communities, leading to fatigue and frustration of not being heard. In communities that have negative experiences of poor engagement and associated disempowerment – i.e. where developments have not meaningfully reacted to what people have said - there will likely be a narrative of distrust and repeat engagement. This is why it is important to ‘close the feedback loop’ through transparent communication with the community about how their inputs shaped subsequent outputs and outcomes. Phillips concurred, emphasising the importance of a clear pathway - from the engagement - through to impacting a decision, policy etc., or at least the scope for influence clearly bounded.

For carbon offsetting projects, due consideration must be given to community co-benefits associated with climate resilience, flood resistance, access to nature, repurposing of underused land etc. However, a ‘shared outcomes approach’ is helpful to answer questions of who is defining or deciding the co-benefits and how they are used. As important as funding is, procedural justice and involvement in processes are important to deliver for communities and develop less technocratic benefits.

Finally, Roberts warned that we also need to be aware that smaller or distributed initiatives (e.g. those that might be community initiated or led) might not benefit in the same way due the scale of carbon accounting schemes. Further, equally the source of carbon is important for community acceptability: *what* is being offset and by *who*. It is unlikely that ‘all carbon is equal’.

Discussion

The discussion centred on how to best manage community engagement managed in a way that recognises the tendency to idolise communities and community participation, with there being a risk that it may exacerbate inequalities in certain circumstances.

‘Participatory washing’ was flagged as a growing problem, where engagement and participation may not result in any meaningful outcome but a stakeholder can claim that the process has been ‘participatory’. Deliberative approaches, which target a representative selection of the population could be an important starting point to consider principles for voluntary carbon offsetting developments. Paid compensation is also important or supporting participation across all groups in society or within a community, and particularly underrepresented groups. Ensuring representative or inclusive participation can require particular recruitment effort: if community engagement is done in a rushed or light touch way it will typically fail to reach the most vulnerable or disengaged voices, and is unlikely to be ‘participatory’.

In order to achieve meaningful participation, there are questions of where responsibility lies and who resources it. There is a need to better understand what is suitable and possible at different scales and overcoming unnecessary bureaucratic barriers. Organised and energised communities, ready to work with a local authority or partner, will often find many hurdles to overcome before dialogue can officially begin, and this places enormous capacity strain on them. It was raised that if participation processes are so important, perhaps there needs to be stronger obligations or incentives to do so.

Davidson spoke to an example where the local development trust was given public funding for carrying out effective participation work after it was completed and then paid to roll out across the region. Roberts agreed that such community-led organisations can be excellent, but this can inadvertently drive inequalities; communities with such (resourced) community organisations present will further benefit - whereas those without will not.

The discussion turned to the extent to which the community must first be suitably informed about the matter at hand, prior to any meaningful engagement and elicitation of their views. It was emphasised that it was useful and important to start with co-design, asking communities what visions or aspirations they have of their area, and what changes might serve this, which brings community knowledge into the process by default.

How the issue at hand was framed from the outset was also considered very important to the type of information gathered via engagement. The example of car use was raised; people annoyed by lack of parking for cars, but if you ask what they want for the community often they will talk about better air quality, safer streets and roads. In short, there can be contradictions between long-term and short-term visions. This points to how one may first begin with a desirable outcome (e.g. clean air) and then work backwards to the action that could deliver this (e.g. fewer cars), rather than going straight into a short-term action. This is an important consideration when framing the type of community engagement and the kinds of outcomes it will yield.

4. Session theme: Next steps and desired outcomes

What are the most important issues we've covered today?

The importance of achieving community engagement effort in place-based context needed for decision making and thinking beyond the current generation. Potts' visualisation tools for this were warmly received, especially the idea of training communities to use those tools themselves, which in itself would build capacity.

Roberts's question of 'who defines the co-benefits we seek?' elicited some thoughtful debate, in particular about whether we should simply accept government priorities 'as is' or question their underlying foundations.

How should we take insights from today forward into our October field trip and beyond?

Ultimately, it is about how we can undertake better engagement. In the context of the principles of a Just Transition and community participation, there was a broader discussion about the role of regulation in shaping the extent to which natural capital is managed with integrity and who it benefits. Another area for possible regulation is on carbon offset buyers to demonstrate that they are taking actions to taking in-house carbon reductions seriously, prior to any purchase of offsets.

Codes and protocols leave significant room for interpretation around community and nature benefit. For existing projects, how are projects managed with respect to long-term commitments and impacts?

We should note the emergence of efforts to create 'bundled' credits with measured (as opposed to modelled or estimated) carbon offsets, biodiversity enhancement, natural flood alleviation and social capital. If the measurements become adequate (quite a bit to unpack here), this will create higher integrity products for the market. Comparing this with the 'stacking' approach, wherein different measured benefits from the same project are sold separately, is worth discussing.

Finally, Phillips added that it is important the project gets 'under the bonnet' of how case studies of Scottish nature-based voluntary carbon offsetting have practically managed their efforts relating to community benefits, i.e. what mechanisms have they used for community engagement, what types of benefit have they examined (e.g. funding, employment, training) etc. Ultimately, an important outcome of this project is identifying and learning from models of community governance of voluntary

nature-based carbon offsets that might have wider relevance to other aspects of Scotland's current and nascent natural capital markets.

What would a 'successful' project look like to you? What do you most want to get out of it?

If we can capture the importance of genuine community engagement in, and benefit from, natural capital development to long term sustainability, that will really help make the case for a positive use of the natural capital opportunity and to minimise its threats.

Offer a clearer indication of what best practice for engaging communities now looks like – collated in ways that will inspire communities and influence policy makers.

Provide a better understanding of what's happening out there in terms of projects exploring this; what they are doing and how? Bringing together partners and key case studies. What would be the ongoing role of enterprise agencies in Scotland in making this happen?

A focus on voluntary carbon offset project design; not market design. However, there is potential to critique emerging protocols and code for the voluntary carbon offset market. As noted on the natural capital interim principles, these are interim for a reason. This project should be able to help answer how principles are put into practice, how you actually do projects that provide community benefit in a way that is empowering and co-produced. Not just what it looks like at the end but what the methodological processes necessary to get there look like.



Agenda

- 9:00am** Tea and coffee
- 9:30am** Welcome and introductions (Prof. Matt Hannon)
- 9:45am** *Carbon offsetting and net-zero* (30 mins each inc. Q&A)
- GUEST SPEAKER Prof. Dave Reay (Edinburgh) – Net-zero and nature-based carbon offsetting (*online*)
 - Clare Wharmby (ECCI) - Carbon accounting and voluntary offsetting 101 (*in-person*)
- 10:45am** Tea and coffee
- 11am** *Community impacts of nature-based carbon offsetting* (30 mins inc. Q&A)
- GUEST SPEAKER Emma Cooper – Land market trends and challenges associated with the carbon offsetting boom (*in-person*)
 - Magnus Davidson – Opportunities and threats from carbon offsetting for Scotland’s rural communities (*online*)
- 12:00pm** *Lunch*
- 12:45pm** *Policy developments* (30 mins each inc. Q&A)
- Prof. Matthew Hannon (stand-in for Peter Phillips) - Interim Principles for Responsible Investment in Natural Capital (*in-person*)
 - Malcolm Combe (Strathclyde) - Land Reform Bill (*in-person*)
 - Prof. Tavis Potts (Aberdeen) – Just transition, communities and natural capital (*in-person*)
- 2:15pm** Dr. Jen Roberts – Engaging with communities to deliver net-zero (*in-person*)
- 2:45pm** Tea and coffee
- 3:00pm** ROUND TABLE: Next steps and desired outcomes (Prof. Matt Hannon)
- What are the most important issues we’ve covered today?
 - How should we take insights from today forward into our October field trip and beyond?
 - What would a ‘successful’ project look like to you? What do you most want to get out of it?
 - Any other partners we want to connect with going forward?
- 4:00pm** ENDS

Attendees

Format	Attendee	Role	Affiliation
In person	Prof. Matthew Hannon (chair)	Professor of Sustainable Energy Business and Policy	Strathclyde Business School, University of Strathclyde
	Prof. Tavis Potts	Chair in Sustainable Development and Environmental Governance	School of Geosciences, University of Aberdeen
	Dr. Iain Cairns	Lecturer	Strathclyde Business School, University of Strathclyde
	Malcolm Combe	Senior Lecturer, Department of Law	University of Strathclyde
	Dr. Jen Roberts	Senior Lecturer	Civil and Environmental Engineering, University of Strathclyde
	Clare Wharmby	Carbon Innovation Manager	Edinburgh Climate Change Institute
	Emma Cooper	Head of Land Rights and Responsibilities	Scottish Land Commission
	Finlay Kerr (note taker)	PhD student	Strathclyde Business School, University of Strathclyde
Online	Magnus Davidson	Research Associate: Environment, Economy, and Society	UHI North Highland
	Alan McDonnell	Conservation Manager at Trees for Life	Trees for Life
	Prof. Dave Reay	Professor of Carbon Management and Education	University of Edinburgh
Post-hoc feedback	Dr. Peter Phillips	Head of Natural Capital Land Management Policy	The Scottish Government