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The Cheviot, the Stag and the Black, Black Carbon

Natural Capital, the Private Finance Investment Pilot

and Scotland's Land Reform

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26 May 2023

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Foreword by Ailsa Raeburn

Chair of Community Land Scotland

Alastair McIntosh has been a leader in the debate on land reform and community ownership, and not just in Scotland, for many decades. His catalysing of the Eigg buyout and Harris quarry campaigns brought huge dividends for those communities who have since gone on to be international bywords for community sustainability, resilience and innovation. Community Land Scotland and our community members are in his debt not only for the manner in which he articulated the change that was possible but for the tireless support he continues to give to local people looking for a different, more empowered and accountable future.

The genesis of this Paper came about following discussions at the Scottish Universities Insight Institute Conference in March this year and was inspired by Alastair's open discussions with one of the new so called 'Green Lairds' – Highland Rewilding. It was to both Alastair's and the Highland Rewilding lead, Jeremy Leggett's credit that these discussions were played out in public. It gave us all the chance to think about some of the issues emerging from the huge rush to carbon and rewilding in the Scottish land market. And the effects this could have in the short and long term on local people and communities.

It was originally intended just to be a short piece but what soon became clear were the many strands of Scottish public policy impacted by the changes – from community empowerment and wealth-building, to rewilding, to the Just Transition to Net Zero and attracting private finance. A much longer researched and evidenced piece has developed, which ranges across all of these issues and asks some extremely important questions about what land is for; who makes the decisions and who benefits; where does and should offsetting sit in our transition to Net Zero and how far should society 'commoditise' nature. Are there assets that should belong to everyone in Scotland, not just those rich or powerful enough to have the millions to spend to control them? How much agency do communities living in areas affected by these land ownership changes have over decisions that affect their everyday lives?

When we seem stuck in the cost of living and energy permacrises and are facing huge challenges around climate change and biodiversity, it is very tempting to focus on the short term. What Alastair does so well in this Paper, is to force us to think about the long term, the future of the generations that follow us and what sort of Scotland, rural Scotland in particular, we want to leave behind. Apart from our people, Scotland's land is its most important asset. We need to be very careful that the short term 'carbonanza' – the rush to monetise Scotland's precious assets - doesn't leave its people behind. I hope Alastair's paper encourages you to think about some of these questions too.

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Community Land Scotland supports the need for radical land reform and has in recent years published occasional Discussion papers which can contribute to understanding, provoke and encourage discussion on issues relevant to the land question in Scotland. The research undertaken for any of these papers and any statements and views expressed in them as a result are the sole responsibility of the authors. Community Land Scotland is not obliged to publish any contributions it receives or responses to the papers it publishes.

The Cheviot, the Stag and the Black, Black Carbon

Natural Capital, the Private Finance Investment Pilot

and Scotland's Land Reform

Alastair McIntosh

Executive Summary

The Cheviot, the Stag and the Black, Black Carbon discussion paper reviews the recent Nature Scot announcement that it has entered into a Memorandum of Understanding (MoU) with a group of private finance houses. The MoU gives state backing to a market in which private investors secure returns for their investment, in theory driven substantially by the sale of carbon credits. These credits are generated through the sequestering of carbon (currently through tree planting or peatland restoration) which is then packaged and sold by the tonne to end users wishing to offset their own individual or corporate greenhouse gas emissions. To date, the big players have been businesses wanting to burnish their corporate responsibility credentials and get ahead of the carbon taxes and stricter emission controls that we need globally, to slow down climate change. Private individuals have also been able to buy offsets for their aviation or domestic fuel use but on a much smaller scale.

This is of course a simplification, for ease of understanding, of what is a complex process. It's also now very big business. The World Bank states that emissions trading systems, both compulsory and voluntary, rose by 60% in 2021 to $84 billion. Scotland is one of many countries in a rush to capture some of this global investment, which delivers a new revenue source to landowners in return for activities that sequester carbon. It currently has a land market that is largely unregulated and open to anyone globally to invest. However, as the Paper explains, if it is not governed carefully this new carbon rush could '**land Scotland's rural communities with a fresh driver of upheaval, disempowerment and depopulation.'**

The Paper aims to shed light on this complex and often opaque regulatory and private agenda, with the hope that unintended consequences (at least at Scottish Government policy level) can be minimised and opportunities for local people can be maximised. It discusses the conflict between offsetting being pursued as a policy instrument for hoped-for greater planetary good – and the strong scientific and psychological arguments that it can be illusory to the point of being counterproductive. Offsetting as an approach, can pander to the vanity of high consumers of carbon and other emissions. It allows them **in a style of modern-day religious indulgences** to atone for their carbon 'sins.' But it fails to grapple with the social implications of major land use changes, and the impact on a community's latitude of agency in choosing its own future - the principle of Free, Prior and Informed Consent.

The NatureScot MoU outlines a form of private finance initiative (PFI) that the public purse does not have to repay. It calls this a “private finance investment pilot” (PFIP), as it is borrowers rather than the Government that will have to repay. It aims to make loans available from the financial institutions (the investors) to landowners – be they private individuals, NGOs, communities or public land holdings - to plant trees or restore peatland. It’s not clear why Nature Scot and the Government felt the need to intervene in such a public way in what would normally be private arrangements between landowner and banker. Unless, of course, it was to give confidence to the markets, signalling that public tax payer funded subsidies and the tax advantages that underpin so much of this work were ‘in the bag’, but possibly limiting the freedom of the Scottish Government to U-turn at a later date.

Scotland is already experiencing rapidly rising land values, apparently driven by a surfeit of global capital looking for safe havens. As a country we enjoy relative political stability and have little regulation, especially compared to other similar domains. Importantly for the intelligent long-term investor, we are also relatively insulated from near to medium term climate change, being mostly well above sea level and enjoying a cool temperate climate. Therefore, Scotland’s market advantages are numerous and these are easily capitalised. Agents are reporting record breaking prices. **It’s a Klondike economy both driven by and to the benefit of speculative private investors**. The market-making Green Finance Initiative Report, written by financiers, for financiers, set an estimate of £20 billion for Scotland to meet its nature finance gap. The Scottish Government has relied on this Report which is thinly presented, unverified and contested. A Report which is driving public policy which, in turn is driving huge changes in the land market, ownership and use. A Report which gives credibility and justification for the ‘unicorn’ investors like Oxygen Conservation, rapidly expanding their footprint in Scotland to **‘prove that the natural environment can pay to protect and restore itself’.**

The NatureScot MoU is accommodated to this corporate approach. It mentions confidentiality 38 times, but community only 3 times. Given the Bute House Agreement commitments to the public ownership of key natural assets, the MoU deserves the epithet ‘**the corporate tail wagging the quango dog.’** It uses the language of a patron-client relationship where “there will be several opportunities for communities to engage” in designing benefits to be delivered “for” them, but with little apparent understanding of what authentic community agency really means. The expression “several opportunities” stirs unease, as if it ticks the corporate ‘social license to operate’ box. It shows no understanding of community empowerment or the historical and present reasons why Scotland has a rolling programme of land reform. It shows no convincing engagement with community self-reliance in using its assets to build wealth, or self-determination that might pass the acid-test of having power of veto.

As stated, according to NatureScot the investment returns demanded by the financiers will significantly derive from the sale of carbon offsets. The FAQs give an assurance “an ethical framework will be developed” to ensure that the buyers of carbon credits “are legitimate businesses who have credible carbon reductions pathways in place.” But at the same time, it lodges the caveat that “it will be for the carbon offtaker to decide who to sell credits to.” There are growing concerns over the approach to and benefits from carbon offsetting. Not least of these is the eventual buyer of the carbon – **is it really an end user that has exhausted every possible route to reducing emissions?** Or a buyer that sees purchasing offsets as cheaper than reducing emissions, or as the latest ‘marketing wheeze’ to obscure what they are doing elsewhere in their business? It can be all of these things. There is no regulation of end users, but if NatureScot can develop such a framework it could be pioneering. As matters stand, offsets can be a licence to carry on with business as usual – to continue to pollute. Above all, they don't align sequestration timelines with investment timelines with geological timelines. They look good on marketing material, but fail to challenge the consumerism that is a leading cause of climate change.

The Paper asks whether Nature Scot took an openly consultative and closely examined approach to some of these issues before proceeding with the MoU. The publicly available records reveal little of the background decision making, except to say that the aim was to address "the twin crises of biodiversity loss and climate change". An initial Board in principle discussion appears to have taken only five months to a full public sign off, with a Green Minister photographed surrounded by five representatives of investment interests, addressing **land use changes for communities that are designed to be permanent**?

Discussions with NatureScot as this paper neared completion brought out that the policy was driven not by the private financiers, but by the Scottish Government's National Strategy for Economic Transformation, the Scottish Biodiversity Strategy and the Climate Change Plan. Further, that the MoU was signed off not by the Board, but on the authority of a single NatureScot director. Given the substantive public discussion that has taken place over the twelve weeks since the press launch, more NatureScot or other Scottish Government communication in the public domain would have been helpful. Perhaps hard-pressed executives doing what they thought best to "act now!" on climate change led to the agency running up against some very human limitations. Every sympathy, if so. But if so, it needs sorted out to craft a collaborative future with less risk of running into policy conflict and goals divergence.

There are of course other routes that could and should have been considered. The original £20bn nature finance gap claim should have been rigorously tested, given the sums involved. Opportunities to look at Scotland's land – not as a market surface over which capital has free play, but the ground for living on which communities and not bankers should take precedence - should have been explored. Given the permanence of these changes, there should have been public debate with affected people to discuss the options. At least with the recent much criticised HPMA proposals, there has been a public consultation enabling people to input their say. None of this has happened here.

Any public debate also needs to consider the **amount** of land that will be required to service the offsetting economy. One international study led by Aberdeen University concluded that just to tackle less than 10% of by nature-based solutions while consumption carries on at current rates would require about half of the world's crop land. They concluded that it **makes much more sense to stop emissions 'before the tailpipe'** than to attempt to chase after it once it's gone. A recent planting scheme of 240 Ha in Skye is estimated to sequester 64,000 tonnes of carbon over a 95-year period. What does this mean to the person on the street? It means that these 240 Ha of land will be tied up for an initial 95-year project duration, and then in theory permanently, just to offset the carbon produced by 40 jumbo jet return trips from London to Sydney.

As 'unicorn' companies size up Scotland's investment potential in the fashionable name of 'rewilding', the Scottish Land Commission have been explicit in their concerns over the **unusually speculative income forecasts and risks** this carries – not only for investors but for staff, residents and communities. For those investors wishing to scale up - perhaps to owning as many as 20 estates in one example – they also warned of a growing concentration of landed power, threating to **roll back 20 years of land reform in Scotland**.

Scotland's 500 or so land trusts of varying types and sizes prove that they can be well capable of and highly motivated towards ecological restoration, living more gently with the land if not entirely from it, and that government has a crucial enabling role. The 'rewilding' agenda, however, shows evidence of justifying its urgency on grounds of climate change, but treats huge swathes of rural Scotland as a colonial '**terra nullius'** requiring the helicoptering in of external experts to impose their own view of what the land should look like and be without considering working hand-in-hand with what communities, hammered by housing price rises, see as the equally important imperative of repeopling. From sheep to deer to Sitka to renewables and now to carbon credits – it's a common thread of experts knowing what is best, whilst at the same time extracting local wealth and marginalising local experience, except where it might usefully provide culture washing.

What then is the solution? What can contribute towards international pressures for carbon sequestration as a part of, if not "the solution" to tackling climate change, while at the same time attracting finance that can work with communities of place and not trample them? Land market regulation would slow down some of this activity and require potential purchasers to establish their 'bona fides' and demonstrate their acquisition is in the broader public interest. Giving communities more power to step in and buy assets would also help redress the balance. Attaching stringent conditions to any form of public subsidy that ostensibly supports carbon sequestration would help. Requiring investors, landowners and land managers to fairly share the opportunities as well as the challenges of a Just Transition to Net Zero would seem only reasonable. But a culture of handouts '**like sweeties to a child to stop it crying**' or of patronising culture washing hand-in-hand with greenwashing cuts very little ice when effective control is exercised from outwith communities.

Recognising the need for an approach to balance political and economic realities with ideals, and **not wishing to jeopardise the better for want of the best**, recognising also work being done by the community at Tayvallich in Argyll to negotiate with their incoming landowner, Highlands Rewilding, this paper proposes a new set of standards for thinking about landownership, the Olympic framework. The *Bronze Standard* is conventional landlordism where a rural community has very little power. The *Gold Standard* is the ideal of community landholding, which currently accounts for getting on for 3% of Scotland's territory. But as a middle way, and hopefully in time a stepping stone to *Gold*, would be a *Silver Standard*. Here, and to go hand-in-hand with working with the agenda of nature restoration, the community and the landowner agree **a Memorandum of Understanding that gives both rights and powers**. These could include rights of pre-emptive purchase at economic valuation of land or buildings needed by a community for its social wellbeing, rural housing burdens placed on properties to prevent their selling on for holiday lets, and democratically accountable governance on local management boards.

The *Silver Standard* falls short of gold perfection. But relative to bronze it shines. If developed with agencies like the Scottish Land Commission, Community Land Scotland and, of course, NatureScot with its justified passion around biodiversity and climate change, it could become **a new norm of private land ownership and public support** in populated rural areas of Scotland. For communities to have an MoU with an incoming landowner could be one of the **conditions to lever certain types of public funding or planning permissions**. Given the alternative of *Bronze* and very often, the unreachability of *Gold*, the *Silver Standard* could offer a win-win all round. It could be very good, not least, for ecological restoration. These are early days. But against a backdrop where many communities are experiencing a loss of control due to money pouring in from "away", here might be an opening of the way.

We live in a world, both rural and urban, **where many people's lives are disembedded and disembedding**. We become more and more fragmented in our capacity for cohesion. Both in Scotland and far forth of these shores, this has weel-kent roots. Roots of historical oppression, roots of sustained inequality. We then so easily displace our yearning for identity, for belonging and for meaning into consumerism; into the vacuous reality by which "to have is to be". But it makes the Earth a wasteland, and climate change cannot be tackled in isolation from such an unsettling analysis. Scotland's rolling programme of land reform therefore matters far beyond just agriculture, or forestry, or land economics. It matters, because the land and nature wild and free **restores our human sensibility, our capacity to feel**. But people must be integral to that. We too are nature in our human nature, or as an island poet put it: as 'real people in a real place'. It calls us back to what gives life. I see no easier way.

Acknowledgements

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References and Hyperlinks

As this is a discussion paper with some time-sensitivity, I have gone light on the labour of referencing, mostly providing just a link with a short description. These were checked on 15 May 2023. Where they run to more than a line or so I have generally applied a URL shortener.

Accountability

The author takes sole responsibility for the content and views expressed in this paper and they do not necessarily reflect those of Community Land Scotland.

Author

Alastair McIntosh BSc MBA PhD, is the author of books including *Soil and Soul: People versus Corporate Power* (Aurum, 2001), *Hell and High Water: Climate Change, Hope and the Human Condition* (Birlinn, 2008) and *Riders on the Storm: the Climate Crisis and the Survival of Being* (Birlinn, 2020). He is a former director of the Centre for Human Ecology, a fellow of the Schumacher Society, a co-founder of the original Isle of Eigg (land) Trust, and an Honorary Senior Research Fellow (professor) in the Co of Social Sciences, University of Glasgow.

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Natural Capital, the Private Finance Investment Pilot and Scotland's Land Reform

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Introduction

This discussion paper was commissioned by Community Land Scotland as a result of two public interventions that I had made around themes of carbon offsetting, land reform and communities of place. It explores the £2 billion "private finance investment pilot" for nature recovery as announced on 1 March 2023 by NatureScot, the Scottish Government's "nature agency", better known to many by its continuing legal title, Scottish Natural Heritage (SNH). Here I shall refer to the private finance investment pilot as a *PFIP*, but would point out that in much public discourse it has already been referred to as "the NatureScot PFI", but this overrides some important nuances of intent.

I have been asked to point out that I come at this as a onetime director of the Centre for Human Ecology, previously Scotland's first visiting professor of human ecology at the University of Strathclyde and currently an honorary professor in the College of Social Sciences at the University of Glasgow. I have had a lifelong involvement in community development and land reform as represented in books such as *Soil and Soul* (Aurum 2001), and two of my books concern the science and policy implications of climate change, most recently *Riders on the Storm* (Birlinn 2020).

This paper takes the NatureScot PFIP as a springboard to examine "rewilding", the financialisaton of nature, and the counterproductive effects that can be expected if permanent land use changes are imposed upon communities. The paper unpicks how the UK's carbon markets work as a driver of investor interest, the scientific validity of greenhouse gas offsetting and how, between a *Gold Standard* of community land ownership, and a *Bronze Standard* with little power of self-determination under private ownership, a *Silver Standard* could emerge. Empowered by a Memorandum of Understanding this could give communities enhanced leverage with their landowners, providing greater latitude of agency in moving incrementally towards the *Gold Standard,* consistent with Scotland's rolling programme of land reform. Finally, suggestions are made as to how the Scottish Government, including its agencies such as NatureScot and the Scottish Land Commission, could activate instruments of public policy such as forestry subsides and planning permission to open out fresh vision towards community led sustainable development: this, for the common future of both nature and people.[1]

As we will see, this is driven by wider Scottish Government policy and explicitly so, in the light of the Bute House Agreement of September 2021 to share power with the Scottish Green Party. The PFIP aims to create new woodlands both to restore biodiversity and capture carbon in response to the climate change crisis. Most people would probably agree that this is a laudable aim. Scotland's plants, wildlife and habitats play a crucial part in keeping our planet liveable, beautiful, and in their own right, other species have a right to enjoy existence. Depending on how ecological restoration is carried out, it can enrich local communities in so many ways.

The main stated driver for investors is the sale of carbon credits from the woodlands, these for "offsetting" greenhouse gas emissions. But private money means private agency and, with that, come implications for land ownership and control that are both emergent and potentially large. The World Bank states that the value of emissions trading systems (ETS) exceeded carbon taxes for the first time in 2021.[2] Their value rose by nearly 60% over the previous year to $84 billion. Of this, the annual "voluntary" sector of the market exceeds $1 billion. This is what concerns us in this paper, and specifically, where individuals or companies pay to plant trees as a way of going "green". Both statutory and voluntary ETS are expected to sustain rapid growth as part of meeting global targets to reduce carbon emissions that overheat the earth. However, the unintended consequences of NatureScot's £2 billion deal, in part moved by offsets trading as a new revenue incentive, could land Scotland's rural communities with a fresh driver of upheaval, disempowerment and depopulation.

This paper attempts to shed light on this complex and often opaque area. It does so in the hope that unintended consequences can be minimised, and as offsetting is happening anyway, opportunities for communities can be optimised. It also explores wider concerns. Not least, while offsetting is justified as a policy instrument for the greater planetary good, there is also a strong scientific and psychological argument that it can be illusory, to the point of being counterproductive. Arguably, it panders to the vanity of high consumers who feel sanctioned to carry on consuming and emitting greenhouse gases, while buying in to offsetting measures that are methodologically highly questionable. For communities on the ground in Scotland, the introduction of a new upwards driver of land prices and one that, as we will see, entails landowners committing to normally "permanent" changes in future land use, raises questions of whether or not communities have "free, prior and informed consent" (FPIC) in the matter. The concern that a lack of safeguards in such respects might reduce communities' latitude for agency is why, borrowing from the playwright John McGrath, I have titled this paper *The Cheviot, the Stag and the Black, Black Carbon*.

I have found the structuring very difficult. One needs to understand a lot to understand a little, but I have tried to make this light upon my general reader by weaving in metaphor and anecdotes, and the heavier sections can be skimmed with the loose threads hopefully pulling themselves together

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[1] "The Question of Community and 'Rewilding'", Bella Caledonia, 31 January 2023: https://bellacaledonia.org.uk/2023/01/31/the-question-of-community-and-rewilding/. This led to an invited presentation at the *Community Carbon Offsetting* conference of the Scottish Universities Insight Institute, University of Strathclyde, 23 – 24 March 2023: https://bit.ly/42MV1qf. I am not in any institution's employment and my financial accountability is listed annually at: https://www.alastairmcintosh.com/aft.htm#Table. I am a longstanding member of the Scottish Crofting Federation, an advocate of land reform as can be seen in the publications listed on my website, and it is my view that nature will not be protected intergenerationally unless communities of place can take responsibility – the ability to respond – as upheld by the legislative, support and incentive structures of democratic governments.
[2] World Bank, ETS: https://openknowledge.worldbank.org/server/api/core/bitstreams/2b951a76-5fdf-5fc9-8162-5a7d6c841ff5/content

later. The complex interactions of government and corporations with social and ecological systems amidst rapidly emerging change are not everybody's daily currency. The road to green nirvana is paved with good intentions, but with traps and trolls along the way that can subtly undermine well-intentioned effort. What look like simple solutions can prove, with hindsight, to have been simplistic, leaving others to suffer their unintended consequences further down the road. Those engaged in policy development and execution can be invidiously caught between administrative cultures of tick-the box compliance and performance monitoring on the one hand, and the clamouring politics of the reassuring soundbite on the other. Moreover, the individuals involved, and especially those working in public service, may not have a high degree of freedom in the options that they exercise. Accordingly, I have tried to understand NatureScot's surprising March 2023 announcement in its wider political and scientific context, but in so doing, having to question some fundamental aspects of the framing.

Furthermore, my own capacity for understanding in this fast-emerging field has been exercised. I am grateful for the dozen or so advisors who have read parts of the text or otherwise commented on surrounding issues. I apologise for the residual shortcomings. Also, as my own understanding has built up in iterative layers so has my written structure. With that non-linear proviso, it looks like this:

- Sections 1 – 4: the NatureScot PFIP and the global, UK and Scottish political contexts of carbon offsetting as a response to climate change.
- Sections 5 – 7: the framing of natural capital and sustainable development in both international and Scottish context.
- Sections 8 – 9: rewilding, impacts on indigenous communities, and an Olympic Framework of Bronze, Silver and Gold Standards of community agency in land tenure.
- Section 10 - 12: Carbon credits, the UK's Woodland Carbon Code and its financial drivers.
- Section 13 - 14: the UK's Peatland Code and questions of permanence, land grabbing and FPIC.
- Section 15: the scientific validity of "net zero" and messaging around carbon offsetting.
- Section 16: vision for land reform, goals convergence, the realisation of human potential, and the reconstitution of communities of place with sustainable lifeways.

1. The Scottish Government's PFIP with the bankers

On 1st March this year, NatureScot, issued a press release announcing a £2 billion private finance pilot (PFIP).[3] It pictured Lorna Slater, co-leader of the Scottish Greens and Minister in the Scottish Government for Green Skills, Circular Economy and Biodiversity, surrounded by representatives of financial institutions.

A Memorandum of Understanding (MoU) had just been signed and was billed as being "now in place". Part of the surprise was that, as another Green MSP Ross Greer had expressed it in June 2022, "the Scottish Green Party is anti-capitalist, committed to the replacement of this ruinous economic system with a model of eco-socialism which puts people and planet first, not profit."[4]

[3] NatureScot PFIP press release: https://presscentre.nature.scot/news/gbp-2billion-private-finance-pilot-potential-vital-step-in-restoring-scotlands-woodlands
[4] Ross Greer in BC: https://bellacaledonia.org.uk/2022/06/14/the-scottish-greens-in-government/

Moreover, the Bute House Agreement between the SNP-led Scottish Government and the Greens gave no forewarning of any impending PFIP.[5] On the contrary, its emphasis is on forestry and woodland development "that is owned by the public, for the public, for the long-term. This prioritises access, nature restoration and protection and other public benefits." In 2021 the Scottish Government's Just Transition Commission report stated:[6]

> An inclusive transition ensures people have a say in climate action and strengthens local economies. A just transition is shaped by Scotland's citizens, not imposed on them. It energises social partnerships and local democracy and develops places and communities that are designed for net-zero and improved wellbeing.

Instituting a PFIP as a main plank of the Government's afforestation agenda does not seem well aligned with that commitment.

In the course of enhancing biodiversity by restoring woodlands, the PFIP states that it will "sequester 28 million tCO2e over the next 30 years". For those new to such terminology, *tCO2e* means the emissions of multiple kinds of greenhouse gases - mainly carbon dioxide, methane and other gases such as are used in industry - but expressed in a standardised unit of tonnes (t) equivalent (e) of the atmospheric warming potential of carbon dioxide (CO2). All up, the press release held that the PFIP would have the effect of "positioning Scotland as a world leader in nature restoration through *natural capital* investment" (my italics). This bold positioning demonstrates the PFIP's paradigmatic intent.

An appended set of FAQs describes how the agreement emerged from a "Finance for Nature" event at COP 26 in Glasgow, 2021. This advanced the case that private capital for nature restoration could facilitate drawing down atmospheric carbon emissions from burning fossil fuels. As trees capture carbon dioxide and turn it into wood and other products, the carbon would be gradually locked back into the living fabric of the earth, and ultimately, into its geological fabric in the form of soils (including peat), sediments and one day, into the rocks themselves from whence the carbon in the first place came.

The PFIP is not the kind of PFI that the Scottish Government would have to repay. While the delivery mechanisms are not specified in the available documentation, it would appear that they entail loans to landowners from the financial institutions – what we will loosely refer to here as "the bankers". What, then, is the point of having an MoU with the Scottish Government, especially given that it seems that there is no intention for it to handle funds directly? After all, suitably sound borrowers can go to banks whenever they wish. Perhaps the main point is marketing. For both the bankers and the government, notwithstanding any strains of "anti-capitalist", the signal is given that Scotland is open to private investment. To the bankers in the business of attracting investment, this is very valuable. Not least, they would see it as limiting the government's ability to U-turn later, for example, by regulation or taxation.

If we have qualms, we should be honest about the matter. Any of us with a pension, savings, loans, a mortgage or life insurance is complicit in the mixed economy system of most modern democracies.

[5] Bute House Agreement: https://www.gov.scot/news/agreement-with-scottish-green-party/
[6] Just Transition Commission report: https://www.gov.scot/publications/transition-commission-national-mission-fairer-greener-scotland/documents/

In these, elements of free markets interact with private property rights, albeit with varying degrees and effectiveness of state oversight. While it may not be everyone's choice, it is broadly speaking the advanced capitalist model for which, especially since the late 1970s, the greater part of the UK has wittingly or unwittingly voted.

However, emergent market dynamics can have both intended and unintended consequences. Money is power. On the land, power conditions public perceptions, possibilities and policy. It affects the flows of wider providence. It either block the flows of life, like a stone in the river. Or if shared and owned responsibly, it helps to open up the flows of life within the semi-permeable system boundaries that defines an ecosystem or community.

"Ecology" is the study of plant and animal communities. "Human ecology" is therefore the study and practice of human communities. It addresses the interactions between our social and our natural environments. To heal a fractured world therefore involves both natural and human ecology. But in ecology, everything is niche. One size cannot fit all because every size must be fitting to its own specific circumstances; and these, nested cumulatively together in One World.

What would be the PFIP's drivers for the bankers? After all, here was a declaration for a sum equivalent to 4% of the Scottish Government's expenditure in the fiscal year ending 2023. One of NatureScot's FAQs popped the question boldly. It asked: "Who will make money from this?" It answers:

> In line with the interim principles on natural capital investment, this partnership will aim to deliver significant and lasting community benefit from these projects. Land managers will also derive an income from the projects, providing long term security for rural businesses. We will design the investment in a way that also creates jobs and delivers benefits for nature, the local economy and tourism. Our investors will also make a return on the investment from the sale of carbon credits.

But who owns and therefore controls the vastly greater part of Scotland's land? Is this a recipe for genuine community empowerment and real agency, or for yet more landed patronage and that, at best? It could be both or either, but land ownership and therefore, an interface with Scotland's well-established principles of land reform and community empowerment requires explicit recognition and understanding. Scotland is already experiencing rapidly rising land values. These appear to be driven by a surfeit of capital looking for safe havens. To both financial institutions and the wealthy global elite, Scotland is relatively politically stable. It is geographically and culturally a part of Europe with good communications, yet perhaps conveniently for some, currently at arm's length from the EU. It has a relatively unregulated land market for international investors as, subject to compliance with UK transparency rules about investment by overseas entities, anyone can buy land in Scotland. And importantly for the astute long-term investor, in common with much of Canada, New Zealand and Ireland, it is relatively insulated from near- to medium-term climate change, being mostly well above sea level and bestowed of a cool temperate climate. Such attributes tick all the boxes for hot money.

The downside for who just want to carry on living here, and working together to improve their lives, is that those self-same attributes acquire a "market capitalised" value in the eyes of speculators. As investment rises, land values inflate. What was once less-favoured land begins to turn a buck. The Spring 2023 Scottish farmland market review of the land managers, Strutt and Parker, describes "record-breaking prices" paid for land "seen as prime for commercial forestry or carbon projects."[7] It describes how many sellers "chose to take advantage of the uplift in value ... for land to sequester carbon or for commercial timber production (in some cases both)". This trend, however, cooled off in the autumn and winter of 2022, "a possible result of changes in the rules surrounding the attribution of carbon credits to commercial plantations, together with a high supply of suitable land and purchasers having met their annual targets/spent their budgets." Nevertheless, "Looking forward, we expect supply to increase, but demand will continue to outweigh supply and keep prices firm."

The Scottish Land Commission's (SLC's) rural land market report found that, across 2021-2022, the value of tree "plantable" land rose by 54% (p. 24). Although the acreages of land traded had remained similar to previous years, the average value of a Scottish estate that changed hands in 2021 was £8.8 million: that, a staggering 87% increase over the previous year (p. 5).[8] As this paper was about to go to press the SLC issued its corresponding 2023 report. This confirmed that "natural capital investment motivations remain widely discussed and are a key driver in the market." It confirmed that changes to the Woodland Carbon Code's "additionality" rules as of October 2022 had "cooled" some of the previous years' interest. Land demand for commercial forestry remains the dominant driving force. Nevertheless, "stronger regulation of emerging carbon and nature markets is essential for land use change to contribute to a just transition."[9]

Across the range of driving factors, Scotland's land Klondike is both driven by, and to the benefit of, speculative private investors. It is probably not a Ponzi scheme because, as Mark Twain put it, "Buy land, they're not making it anymore." Such hoarding offers absolutely nothing to communities on the ground. On the contrary, the danger made explicit by Strutt and Parker's and the SLC's figures is that land prices are inflating further and further beyond their reach. As they bloat, a driver is created for knock-on effects on house prices and the expectations of the rentier classes. All this is to the detriment of the poor. It erodes the fabric of community. As the crofting historian James Hunter is fond of quoting, from Isaiah 5:8: "Woe unto them that join house to house, that lay field to field, till there be no place, that they may be placed alone in the midst of the earth!"

2. NatureScot's confidential MoU and carbon credit sales

The 1st March press release gave no link to any Memorandum of Understanding, this being a formalised "gentleman's agreement" that states alignment, and intentions, but is legally binding only if and where specified. Probably drawing on his knowledge of government and Freedom of Information, it took the former Scottish Green Party MSP, Andy Wightman, in an excoriating blog post,[10] to obtain and publish the MoU.[11] A word search within it reveals "community" to have no mention. "Communities" has three passing mentions. However, the eight-page document mentions

7 Strutt and Parker markets: https://bit.ly/41Fv3Ej
8 SLC Land Market Report 2022: https://bit.ly/3M6vK3x
9 This SLC report (22 May 2023) came too late for analysis here: https://www.landcommission.gov.scot/news-events/news/high-demand-and-rising-prices-continue-to-limit-access-to-scotlands-valuable-rural-land?p_slug=news
10 Wightman blog on NatureScot PFIP: https://andywightman.scot/archives/4947
11 NatureScot PFIP MoU: https://andywightman.scot/wp-content/uploads/2023/03/MoU_NatureScot_Hampden_Palladium_LOIM-_FEB2023.pdf

"confidential" or "confidentiality" fully 38 times, and its longest section, comprising a quarter of the text, is dedicated to the ins and outs of specifying the terms of secrecy.[12]

Why does this matter? Because it supports concerns around a clash of cultures between public accountability and commercial occlusion. Specifically, and with a broad sweep that could preclude most transparency, it specifies that "confidential information includes all business information, documents, records, financial information reports, intellectual property, product/service specifications, technical information and forecasts" that are marked "confidential". And even some that are not (9:c). As such, it is a circular definition. "It means just what I choose it to mean - neither more nor less," said Humpty Dumpty to Alice.

"No party may make or permit a media release, announcement or public statement about this MoU, without the written consent of the other Parties" (9:i). In other words, it's the corporate tail wagging the quango dog, because, "This MoU is the Confidential Information of each Party" (9:d). That said, there is acknowledgement that NatureScot is subject to the requirements of the Freedom of Information (Scotland) Act 2022. However, it will consult with the other Parties prior to any release of information, and take into account whether commercially sensitive information is exempt from disclosure (11). As such, we might be on the merry-go-round.

We're told that while certain clauses like "confidentiality" and "intellectual property rights" are legally binding, others "are not intended to be and are not legally binding on the Parties and do not give rise to legally binding rights and obligations." These are merely "indications of the current intention of the Parties and may change." In other words: it's a big deal, but maybe not that big a deal. Perhaps, more a posting of the banns than full-blown marriage? Perhaps, still time for communities to rise, and call out in proclamation: "It should have been me!"

After all, according to the press release's FAQs:[13]

> All partners are committed to delivering genuine and long-lasting community benefit from the investment. Partners will be speaking to communities in the project areas to find out what their needs are and to identify the best structure to deliver benefits.

This, too, invites unpacking. "Partners" is used at the start of the press release to mean "financial partners". Elsewhere, it is used ambiguously, but out of 19 references to partners or partnerships, only one refers explicitly to "local partners". What is meant by "communities" is similarly undefined. One might hope that it means communities of place, and not merely a community of partisan interest, such as the community of local landowners.

One of the bankers, Lorenzo Bernasconi of Lombard Odier, seems to speak of four levels of agency. The press release quotes him: "We look forward to bringing our expertise and collaborating with

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[12] In previewing a draft of this paper during the week of publication, albeit over an admittedly but necessarily limited timespan of three working days, NatureScot took issue with this paragraph. I rest it for the reader to form their own opinion. They wrote, pers. com. 24 May 2023: "This section is misleading as it ignores the legal requirements to ensure confidentiality of both intellectual property and the financial / personal details of parties to the investment set out in the GDPR legislation and law on intellectual property rights. It implies that we are trying to 'hide' information from the public, when in fact the MoU simply ensures that all parties abide by those laws. All other information will be available on request to interested parties and indeed we have already released several hundred pages of data in response to FoI requests."

[13] NatureScot PFIP FAQs (foot of page): https://presscentre.nature.scot/news/gbp-2billion-private-finance-pilot-potential-vital-step-in-restoring-scotlands-woodlands

these partners to deliver on this vision, while supporting local communities and a high-integrity market for private investment into nature."

In other words, there are 1) the private investors; 2) a "we" being the financial institution; and 3) the "partners", who appear to be public agencies and presumably the landowner clients who borrow from the banks. In this triune – the lenders, the bankers and the borrowers - power resides to "deliver on this vision". Lastly, and at the receiving end, there are, 4) the supported "local communities".

The language is that of a patron-client relationship. Communities are to be the recipients of "benefits". They are not represented as being in the driving seat of local self-determination. They appear to have no power of veto, even though they may be enhanced, or diminished, in their capacity for future self-reliance. This runs against the grain of modern Scottish land reform.

The geographical focus for the £2 billion pilot investment is loosely stated as projects in southern Scotland and "the Atlantic Rainforest" in the west of Scotland. The MoU will remain in place until termination or "completion of the Project". The only mention of duration is where the press release says that the Project will "sequester 28 million tCO2e over the next 30 years". It is not said how this sequestration window maps on to the investment time window. There is no indication of what spread of investment will be applied when, where or for what, except in the vaguest terms. However, whatever the programme is, it will begin in the spring of 2023. The FAQs inform that from early in 2023, "there will be several opportunities for communities to engage," and that "The Scottish Land Commission are working with us to ensure we deliver the best outcome for communities and land managers." This, with the "aim to start delivering action on the ground in winter 23/24."

The main body of the press release does provide one example of what this might look like. It states that "the first pilot scheme will begin spring 2023" – in other words, at the same time as the PFIP announcement was made. It will centre on the Borders Forest Trust, a group that is exemplary for both its ecological restoration and its community grounding. Over potentially 30,000 hectares, this "has the potential for between £200 and £300 million of private investment and around 6 million tonnes of carbon sequestration", and a funding model is shortly to be developed "with land managers and communities to explore what might be possible and the many benefits that might accrue." However, it is not stated what the balance of private and community ownership might be. Neither where control might lie and what democratic agency and accountability it has. For a project already starting, we might ponder why the PFIP was not announced until March.

Why does that matter? Because it is one thing to successfully carry out a beautiful small-scale project like the 650-hectare Carrifran Wildwood in the Borders. But quite another to scale-up nearly fiftyfold. The implications for communities, employment and future land use options may be wonderful, but has local consent been secured in those "several opportunities ... to engage"? Or is this driven more by private landlords wondering what to do with agricultural subsidies in turmoil due to Brexit, and grouse moors undergoing a loss of social kudos and therefore, revenue drivers? On the strength of NatureScot's announcement, we just don't know.

What the announcement's FAQs do tell us, is that private finance is needed and justified "given the climate change emergency and urgent need to invest in nature." As such, NatureScot are not only "working in partnership with these businesses" but also "look forward to learning about the best ways to bring private finance into nature restoration through a new natural capital market." As we will see in Section 12 of this paper, voluntary carbon credits over the past year have typically been trading at over £20 a tonne, sometimes significantly more for “charismatic carbon”, with speculative brokers looking towards the £60 mark in the not-too-distant future. On that basis, the project’s lifetime carbon sequestration could, in crude terms, be worth between £120 and £360 million. But as we will see, such figures are fraught with multiple levels of uncertainty, and this could be where future Scottish Government guarantees, consistent with both the Woodland Carbon Guarantee in England and in the spirit of the NatureScot PFIP, could come into their own.

Whether capitalist or anti-capitalist, the climate emergency that the Scottish Government has rightly declared has led to an unexpected line-up. For the bankers, the signing of the PFIP was perhaps a way of signalling to their investors that Scotland is both open for business, and open to being tutored by them. Moreover, while no cash is currently on the table, the Scottish taxpayer’s sporran might be ready to chip-in: both through existing schemes such as the Peatland Action Fund and the Forestry Grant Scheme, and perhaps future developments around biodiversity. As the FAQs put it: “... funds will come from a mix of public (through the woodland grant scheme and other funds) and private investment.”

On now to the carbon credits, and the FAQs ask: “Who will the carbon be sold to?” Here we take a sudden plunge into the relatively new world of carbon “offsetting”. We’re told:

> An ethical framework will be developed to ensure they are legitimate businesses who have credible carbon reductions pathways in place. Carbon credits generated through the UK woodland carbon code can only be ‘retired’ (which means used to offset their emissions) by UK based companies. It will be for the carbon offtaker to decide who to sell credits to. All carbon credits are tracked on the UK carbon market register.

In effect, these are voluntary licences to pollute. At their best, they are driven by an earnest effort at corporate social responsibility in an imperfect world where all of us who consume carbon-intensive products are responsible. At their worst, they are a calculated move by the marketing department. NatureScot are insistent: their carbon plan is not “greenwashing”. How not? Their answer is resolute. “Carbon offsetting is different. Locking up carbon in soils and vegetation is an essential component of getting to net zero. There is no other way to do this....” Ultimately that is true. Ultimately, geologically so. But as we shall see, on timescales that are radically incommensurate with the impression being put forward.

Finally, for our purposes in this section: the FAQs’ question: “What types of trees will be planted?” Oddly, the answer makes no mention of natural regeneration. That, however, is usually the approach that restoration ecologists favour. Instead, “The project aims to plant mixed native woodlands *but may include some productive commercial species* depending on existing land use and the views of consultees” (my italics).[14]

How was a PFIP approach with such framings and an MoU approved by NatureScot? A board meeting on 18 May 2022 had discussed an 11-page briefing paper from its Green Economy team, minuted as “Strategic Discussion - Private investment in Natural Capital”.[15] Carefully written, it

[14] NatureScot commented, pers. com. 23 May, that while it is correct that natural regeneration is not mentioned in the FAQs, it is, however, “one of the options we are considering and indeed it has been examined in detail by the scoping study for the Borders pilot.... In many locations it is likely to be our preferred option.”
[15] NatureScot board minute 18-5-22: https://www.nature.scot/doc/naturescot-board-meeting-18-may-2022

highlighted the risks of greenwashing, ethical and legal traps, and the imperative of just transition around "the consequences of investment, especially in land, for the prosperity and wellbeing of local communities." The resultant board minute concluded:

> It was agreed that NatureScot had the right role and priorities for this area of work, and that the Board had an appetite for risk in support of that work. Members requested more visibility of the detail and scale of pipeline projects, as well as what NatureScot want to achieve. Updates will be provided at future Board meetings.

However, if such updates are in the minutes of later meetings, they are not featured in the agendas published online.

They may be buried in the small print of "matters arising" or subcommittee minutes such as I have not had time to comb through, but if so, it would hardly suggest a systematic or closely examined approach. Neither do the online agendas for the two board meetings to date following the PFIP announcement suggest any further discussion. What I did find in scanning the headings of NatureScot's board minutes over the previous year,[16] was an account in the minutes of 5th October 2022 of an "engagement" with the Biodiversity Minister Lorna Slater. Item 0:8 states that given tight resourcing within the Scottish Government:[17]

> ... private investment was seen as the key to addressing this once the right financial mechanisms were in place ... with a potential role for NatureScot in providing quality approval to the nature benefits of any new green finance investment model.

That "potential" role for "quality approval" is the closest that I could find to anything suggesting that the PFIP was "signed off" by their Board. Just how "potential" jumped within five months to a £2 billion announcement and MoU escaped me, until on being shown this paper just prior to its publication NatureScot advised that it was not signed off by their Board, "but signed off by a director"; and that "the investment pilot has been under discussion for 2 years, not 5 months as suggested here."

However, given that the ministerial announcement took seasoned observers by surprise, and given that such a heavy weight was left to rest upon the shoulders of a single executive, the PFIP does raise questions about communications strategy, public and political consultation, and of goals convergence in public policy being cut across by policy conflict. At the same time, who could lack sympathy for executives especially, who may have embarked upon their careers with a passion for natural heritage, but then like so many of their colleagues worldwide found climate change rising to dominate most previous priorities? So often I have precisely such a concern expressed by conservationists. I could well imagine staff at NatureScot feeling that they'd nearly bust a gut in attempting to combine carbon capture with private finance and biodiversity restoration, and hurt to receive brickbats amongst the plaudits.

As for haste, at the SNP conference on 28 April 2019, the First Minister, Nicola Sturgeon, had responded to the frightening emergent science from the IPCC and to intense activist pressure by

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[16] NatureScot board minutes: https://www.nature.scot/about-naturescot/board-directors-and-committees/our-board/board-meetings

[17] NatureScot board minutes 5-10-22: https://www.nature.scot/doc/naturescot-board-meeting-5-october-2022

declaring a "climate emergency".[18] Rightly, her initiative was heralded as world-leading. But delivery on pledges when set against the arts of the technically, politically and financially possible can be quite another matter. This, especially so with such a "wicked problem" – convoluted, contradicted and incomplete at nearly every turn – as climate change. I could imagine civil servants being told to "jump", or choosing diligently to "jump", but perhaps a little fast for normal due process. Whether that is so, and what the drivers, checks and balances, might be within my capacity to ask. But it rests beyond my capacity to judge.

3. The neoliberal backdrop to good intentions

There is a wider backdrop, important to understanding how the PFIP might have been seen as being situated within Scotland's climate change and economic policy. The press release promised that the "private finance investment pilot" will "be designed to deliver tangible benefits for local communities" as well as delivering against the Scottish Government's Interim Principles for Responsible Investment in Natural Capital.[19] With a nod to Scotland's Global Capital Investment Plan, the Minister stressed that Scotland wants to work with investors who have like-minded values, as well as "with communities to ensure they are empowered and poised to benefit from our journey to net zero."[20]

Published in March 2022, the Interim Principles suggest the PFIP's wider political framing. They comprise a short statement by the Minister for Environment and Land Reform.[21] It explains that, in pursuit of a pledge made with other world leaders at the UN's biodiversity summit in 2020, Scotland aims to reverse biodiversity loss by 2030.[22] To this end, it aims to make "significant public investment in woodland creation and peatland restoration as nature-based solutions to climate change."

In so saying, the Minister recognised that "our natural capital has become an increasingly attractive proposition for private investment." Such ecological restoration will be resourced by private capital, but responsibly so because the Scottish Government "share concerns about the need to ensure equitable sharing of the benefits of this investment with local communities and wider society – including when the investment involves the purchase of land or carbon rights for the purpose of carbon offsetting."

That responsibility will be fulfilled through "our ambition to deliver a values-led and high-integrity market for natural capital" as is embedded in Scotland's National Strategy for Economic Transformation. In summary: "private investment in natural capital is critical to enabling the pace and the scale of action required."

Such is a "neoliberal" approach, by which the state protects and enables the interests of private capital through relatively deregulated market mechanisms and free flows of international finance.

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[18] Sturgeon climate emergency declaration: https://climateemergencydeclaration.org/scotland-worlds-first-government-to-declare-a-climate-emergency/
[19] SG's interim principles: https://bit.ly/3BtXMRA
[20] SG global capital plan: https://bit.ly/452zMTd
[21] SG natural capital statement: https://www.gov.scot/publications/ministerial-statement-on-interim-principles-for-responsible-investment-in-natural-capital/
[22] UN Pledge for Nature: https://www.leaderspledgefornature.org/

Although this is hardly anti-capitalist, it can be justified within the mixed economy of a pluralistic society, but only if regulated and directed towards the wider public good. However, it is striking that the Minister felt the need to emphasise that the market in question must be "values-led and high-integrity". What does the need for that emphasis say of the guests with whom one sups with such a long spoon? Moreover, the neoliberal approach is not the only way to meet climate change ambitions. An alternative to using market mechanisms would be political measures such as fiscal, subsidy or legislative steps.[23] Here the land would not be treated as a market surface over which capital has free play. Rather, it would be understood as ground for roots for living, over which community of people and nature should take precedence in shaping wise policy.

Why, then, and in the wake of sluggish progress on land reform, has the bankers' vision proven so seductive? Probably because, in the face of an "emergency" imperative and with a backdrop of the UK's neoliberal macroeconomic policy, a solution was offered on a plate. NatureScot's press release quotes the Minister as saying: "The finance gap for nature in Scotland for the next decade has been estimated to be £20 billion." That's equivalent to 40% of the Scottish Government's aggregate annual expenditure. But from where does such a sum derive? It comes from The Green Finance Institute,[24] a group that describes itself as "an independent, commercially focused organisation backed by government and led by bankers."

Their £20 billion is thinly presented, unverified and contested.[25] One of my consultees suggested this is "not a description of a market, but an attempt to create a market." The £2 billion PFIP figure that reflects combined investment appetite comes with sparse indication of what the money might be spent on, or through what structures of allocation. The PFIP press release speaks of "landscape scale nature projects". These are to advance net zero pledges as set out in the Climate Change (Scotland) Act 2009,[26] and that, as amended by the Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 which advances Scotland's net zero ambitions to 2045,[27] five years ahead of the UK's target. That said, as one of my reviewers of this paper put it, market traded voluntary carbon offsets "will not count towards cutting Scotland's carbon emissions, but towards those of random private businesses." The rationale appears to have cross-border issues.

To summarise: the overall intention of the PFIP seems to be to issue a political green light, backed up by land-based public subsidies, to leverage private finance internationally and with three objectives:

a) To restore nature's biodiversity;
b) to benefit the economy and communities; and
c) to draw down carbon from the atmosphere, and capture it through nature's "ecosystem services".

What's not to love? On the surface it looks like an all-round win-win. Moreover, as the press release and FAQs repeatedly emphasise, the PFIP will "deliver tangible benefits for local communities." Yet this is precisely where unease enters. It looks as if a "landscape scale" programme is commencing whereby the bankers and other "partners will be speaking to communities ... to find out what their

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[23] Andy Wightman, Holyrood, on asking the wrong question: https://www.holyrood.com/comment/view,if-the-answer-to-scotlands-climate-goals-is-private-finance-then-we-are-asking-the-wrong-question
[24] Green Finance Institute: https://www.greenfinanceinstitute.co.uk/
[25] Parkswatch critique: https://parkswatchscotland.co.uk/2023/03/03/the-scottish-government-city-jacked-re-wilding-undermined-by-naturescot-not/
[26] Climate Change Scotland Act: https://www.legislation.gov.uk/asp/2009/12/contents
[27] Emissions Reduction Act: https://www.legislation.gov.uk/asp/2019/15/contents/enacted

needs are" and then cracking on with the job. That may be how you put trees in the ground with contractors, but it is not how authentic community development proceeds. Where lies the locus of agency? Where, the levers of power? What, the perhaps contradictory government policies that have not been joined-up? A NatureScot press release seems to be a slender thread on which to hang a policy announcement of such potential gravity.

Pivotal to community empowerment are the directions of flow of agency. Empowerment comes not from having things done by external forces "to" or "for" communities. Empowerment is when communities are freed to step into their own capacity, regenerating from the taproot and the grassroots upwards. This is why nature restoration and carbon sequestration cannot and must not be separated from Scotland's land reform agenda. David Cameron of Tarbert is a garage owner and a former chair of both the North Harris community land trust and Community Land Scotland. He tells visitors that "to turn around a community" four elements are needed, and the block capitals are his:

- Political will at local and national government levels;
- Technical support to cover any initial gaps in a community;
- Financial support to get things going in the early days;
- COMMUNITY DESIRE.

Therein, lies good governance and the roots of dignity. Will these principles be understood, and within a few short months of "speaking to communities", be advanced by a PFIP process by which the bankers and their partners will "find out what their needs are and to identify the best structure to deliver benefits"? Let us take a closer look at who they are.

4. The bankers on the board, and the Scottish Land Commission

There is no suggestion in the sparse available documentation that the PFIP is £2 billion that the Scottish Government will have to repay. Rather, repayment will presumably be down to landowners who borrow, aided by subsidy regimes, carbon credit sales and other benefits that might be had, including timber sustainably harvested. NatureScot's FAQs state that it is the "project partners" who "are piloting the investment in two locations" and as we have seen, this term is used ambiguously without clear definition, but mainly seems to emanate from the bankers. These, presumably, will want to ensure that the funds they invest meet with their criteria.

It is clear from the MoU, however, that power will ultimately reside in the Project board, "which will make key decisions on the Project". Of its six places, one will be an independent expert agreed between the other Parties. Another will be Robbie Kernahan, the Director of Green Economy at NatureScot. And there will be a seat each for the three financial institutions. Only one of these is Scottish-based. The press release describes them as:

- *Hampden and Co*, whose "clients include land and estate owners which will help to connect the partners with land managers who are seeking to invest in their land";
- *Palladium*, which applies "impact investment ... at the intersection of social progress and commercial growth"; and,

- *Lombard Odier Asset Management (Europe) Limited*, who manage 63 billion Swiss francs and believe that "sustainability will create new sources of alpha ... and lead to enhanced return and reduced portfolio risk".

For the uninitiated, "impact investment" means putting money into projects that rate comparatively highly on the three criteria of ESG – environmental, social and governance. "Alpha" **α** from the Greek alphabet**,** is a statistical measure of an investment's capacity to exceed market rates of return for a given level of volatility, or risk, in the economic system. Alpha's counterpart, "beta" **β**, is a statistical measure of that systematic risk. Investors in land would probably see Scotland as a low beta country offering high alpha opportunities. As a measure of capacity to buck market norms, a high alpha firm is also dubbed a "unicorn" company.[28] One such example, currently "working to redefine conservation" in this way and buying up land from Devon to the Scottish Highlands, is Oxygen Conservation.[29] The web home page self-describes as a "conservation focused unicorn company, scaling conservation to prove that the natural environment can pay to protect and restore itself." This is what is meant by the "financialisaton of nature". Unfortunately, to understand the world in question, we have to gain some familiarity with its magical-realist jargon. High alpha impact investment in "natural capital" is therefore about seeking feelgood hot returns from the land. It therefore has an impact on communities of place.

The make-up of such a board is crucial. Neither the press release nor the MoU describe its remit, but if it might be refereeing bidders' attempts to provide or to procure funds or have a hand in awarding contracts, then to pitch it 50:50 composed of bankers could raise questions of conflict of interest. And who would be its 6th member? In the original version of the PFIP procured by Andy Wightman, and so far, as far as I am aware, the only one in the public domain, this was named as Hamish Trench, the CEO of the Scottish Land Commission. Little wonder that NatureScot had sounded so self-assured in saying that the SLC were working with them. Knowing that I was not alone in feeling concerned, on 12 March I contacted Andrew Thin, the SLC's chair, and asked him what was going on with the Land Commission seemingly having climbed into bed with bankers and their interest in large-scale private land ownership.

He answered me in no uncertain terms. This was "a misunderstanding" on NatureScot's behalf. The SLC had *not* been shown the MoU in advance and they had not agreed to being on the board. Their remit with respect to land is *advisory* to anyone who asks, but not *decision-making*. He said that they were taking the matter up with NatureScot and would be issuing a statement. That appeared the following day, saying that the MoU had "incorrectly identified the Scottish Land Commission as

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[28] As business and its language cannot be avoided in land questions, it can be helpful to have some familiarity with some of the ethical language in the toolbox. From out of the Harvard Business School in 2011 came (or was claimed) the concept of "shared value", because "the capitalist system is under siege". While the concept of a "unicorn company" was developed in 2013 by Aileen Lee the venture capitalist (high risk taking) founder of Cowboy Ventures, the "zebra business model" has been pitched in contrast to it, both black and white, profitable and social, because it seeks to "adhere to principles of mutualism, shared property, and multi-stakeholder value." Such principles help to create new norms of best practice by which employees no longer have to leave their values on the doorstep as they go in to work and customers might have their confidence justifiably enhanced. Alternatively, they can be just the latest outpourings from buzz-word generators of snake-oil management consultants. Mostly, I see good folks in surprising places trying to work a way towards a better world, but it matters to keep the bullshit detectors turned full on.

[29] Oxygen Conservation: https://www.oxygenconservation.com/

having a decision-making role on the project board" and that "the incorrect information has been amended on NatureScot's website to reflect our advisory role."[30]

I have not been able to find any such correction on NatureScot's website. However, while searching, I found an April 2022 document, "Guidance on Nature-based Finance Opportunities for Land Managers in Scotland".[31] This laid some of the ground for what later emerged. It said that "while the design of new arrangements is at an early stage" it nevertheless anticipated "new sources of private finance for improvements in the stewardship of rural land in Scotland." It hoped that these would enable land managers "to find ways in which public finance and private finance can in future be combined." Although no sense of monetary scale was given, here perhaps we see the evolution of thinking behind if not a PFI, then certainly, the PFIP.

Later in March when speaking at the Scottish Universities Insight Institute's conference on "Carbon Offsetting for Communities", I had opportunity to ask a member of SNH's board how it was that the SLC's CEO had come to be named as sitting on the PFIP board.[32] They thought this to be the case: the SLC *was* on the board. I am given to understand that their impression was later corrected. Again, the general sense with which I am left is of a hard-pressed NatureScot under pressure to deliver on biodiversity and climate change, resulting in an idea launched before it had been floated.[33]

5. From heritage to natural capital in SNH's rebrand

There is a context wider still to the PFIP's sudden announcement and the drivers of nature financialisaton not just in Scotland, but worldwide. In 2018, the UN's Intergovernmental Panel on Climate Change published its special report *Global Warming of 1.5°C* (SR 1.5), followed by further special reports on global warming on both land and sea. These three massive studies are summarised in the first half of my most recent climate change book, *Riders on the Storm*. But it was the science of SR 1.5 in particular that helped to fuel the meteoric rise of social movements between the summer of 2018 and winter 2020. At that point, Covid quelled the protests, but the movement had perhaps already reached a saturation point in its life-cycle. As Extinction rebellion demanded that governments "Act now!", Greta Thunberg urged "panic". Neither, however, laid out a programme of exactly what should be done. XR saw that as the task of a citizen's assembly. Thunberg, who was then but a teenager, saw it as a matter for the grown-ups.

However, the science that SR 1.5 so plainly tabled made clear that a massive gulf existed between climate change realities, and political solutions. The Centre for Alternative Technology's *Zero Carbon Britain* report of 2019 called it "the physics-politics gap": the chasm between what the physics of SR 1.5 said needed to be done, and what was thinkable within democratic frameworks of consent. The Paris Agreement arising from the UN's climate change conference, COP 21 in 2015, witnessed most

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[30] SLC statement on PFIP board: https://www.landcommission.gov.scot/news-events/news/naturescot-and-hampden-co-memorandum-of-understanding?p_slug=news
[31] NatureScot guidance finance: https://www.nature.scot/doc/guidance-nature-based-finance-opportunities-land-managers-scotland
[32] SUII conference programme & presentations: https://bit.ly/42MV1qf
[33] NatureScot have commented, pers. com. 24 May 2023, that they want to have community representation on the PFIP governance board: "We absolutely do want to engage with community land owners, and indeed shape the investment in a way that could create more opportunities for community ownership." One way in which this might be achieved would be to work towards the *Silver Standard* outlined in Sections 9 and 16, or some similar version that gives communities real power.

world governments agreeing to try and constrain greenhouse gas heating to within 1.5°C above pre-industrial levels, but potentially, allowing a transient overshoot of up to 2°C. It was one thing to put up a target. Quite another to hit the mark.

To achieve "Paris" requires between 100 and 1,000 billion tonnes of CO_2 to be removed from the atmosphere by the end of this century. How can that be done? One seemingly pleasing approach is to plant trees on a massive global scale, binding carbon dioxide gradually back down into the fabric of the earth. However, as SR 1.5 recognised in the small print, such approaches "would require governance systems to be set in place to ... protect land carbon stocks", because there's no point in afforestation or reafforestation if the trees fall prey to fire, grazing or unsustainable felling.

As such, the UN's Intergovernmental Panel on Climate Change – the IPCC that produced the special reports – regretfully expressed "high confidence" that such measures would significantly impact other land uses. Indeed, an Aberdeen University study involving 40 international researchers (full citations are in *Riders on the Storm*) concluded that if trees or other biomass were to be used to produce biofuel, aiming to capture the CO_2 from power stations and store it underground, the land area required to sequester a mere three billion tonnes per annum would be 700 million hectares. That is close on half of the world's current arable land and permanent crop area. The team concluded that it makes more sense stop emissions before the tailpipe, rather than trying to catch them once they've left. This points the finger towards measures like stringent carbon taxes and restrictions at the oil well-head, but at a UN level, that fails to curry favour with oil-producing nations like Saudi Arabia. Or the US. Or the UK for that matter. Easier to just plant trees. Nevertheless, most players accepted that "nature-based solutions" were a slice in a large cake made more of sponge than fruit. Most people don't understand, or don't want to understand, just how deeply our world of eight billion people is driven by fossil fuels, nor the political implications of cold turkey if the flow of oil reduces.

Come 2021, COP 26 in Glasgow therefore saw a consolidation of international consensus around the use of natural capital accounting, both within and between nations. SNH (now NatureScot), having some very competent staff, was already ahead of the game. Its 2019 report, "Testing a Natural Capital Approach", had advanced an "experimental methodology ... to maximise natural capital returns of our National Nature Reserves in particular in terms of their contribution to the climate emergency."[34] Its summary defined "natural capital" as "the world's stock of natural resources, which includes geology, soils, air, water and all living organisms."[35] From this, the report writers had calculated the monetary value of "ecosystem services" provided by SNH nature reserves as £28 million a year. That is, £5.19 per Scot. But one of the problems with such attempts to quantify the qualitative becomes apparent on considering: that's less than the price of a single fish supper!

Into this framing, fell the rebrand from Scottish Natural Heritage to NatureScot. An April 2020 press release explained that while the plans had been set back by Covid, it intended to proceed with renaming the organisation's shop front: this, "as an essential part of our long term strategy to strengthen our leadership in ecological restoration in Scotland and investing in nature-based solutions to climate change."[36] Accordingly, a Framework Directive explains that NatureScot is now the new "operating name" of SNH, but that the original title "remains the organisation's formal legal

[34] SNH testing natural capital: https://www.nature.scot/doc/naturescot-research-report-1144-testing-natural-capital-approach-naturescot-land
[35] SNH natural capital report summary: https://bit.ly/3M9BY2u
[36] NatureScot press release: https://www.nature.scot/naturescot-rebrand-delayed

identity".[37] Consistent with this shift of footing, the Corporate Plan 2022-2026 tells that "human, social and economic wealth, or capital, is at the heart of our prosperity. Natural capital is now being added to that list."[38] Note the "now", and that this property is emergent.

Meanwhile, NatureScot's CEO, Francesca Osowska, told The Herald newspaper why the rebrand was required.[39] She said that market research showed that the Scottish public didn't understand its use of the term, "heritage". They were confused by its presence in the organisation's title. They thought that it suggested buildings and ancient monuments. Change was in the air. Scotland, she emphasised, "was the first nation to declare a climate emergency." Our climate targets exceed those of the UK as a whole, she said, because of the richness of "our natural capital". Accordingly, we have both "the ability and political commitment to invest in nature-based solutions, which will lock up carbon and prevent climate heating in the future."

6. *Dùthchas*, Spaceship Earth and the framing of natural capital

Why, then, not more public gratitude for the PFIP announcement? Why ring out the old just for the sake of the new? Why, as a letter responding to The Herald's Osowska interview put it, not better messaging and education?[40] It is troubling when communities feel set on edge by a rush to buy up Scotland's "natural capital" because, without their consent, companies like BrewDog, Oxygen Conservation and Highlands Rewilding have felt the stimulus of encouragement. As the former SNP member of parliament, Roger Mullin, said in a Twitter thread: there seems to be a deficit of parliamentary committee scrutiny around the PFIP and its implications. "My first concern is I can find nowhere in the MoU any reference at all to any consultations that have been taken into account in framing such a policy adventure. I have asked a small number of people whose expertise I would have thought invaluable. None have been consulted."[41] Neither, he adds, would it appear that communities living in the target pilot areas have been consulted. The bottom line is that to encourage finance further to mediate between human heritage and nature dislocates something in the national psyche that goes deeper than most could easily express. It deflates hopes that land reform was on the path to changing a sorry course in history.

Well over half of Scotland's National Nature Reserves managed by NatureScot are in the Highlands and Islands. Culturally and to varying degrees today, linguistically, this is the *Gàidhealtachd* or Gaelic region of Scotland. Why, then, do NatureScot not capitalise more fully on the indigenous and fairly-widely understood concept of *dùthchas*? This alone would vindicate keeping "heritage" not just in the back shop, but on the front shop's title. Enfolded in the term's semantic range is a richness that melds natural ecology with human ecology. It represents the human in full context of the land, air and waters; what the Hebridean poet Iain Crichton Smith in his collection of essays, *Towards the Human*, calls "real people in a real place". Alan Riach is the professor of Scottish Literature at Glasgow University. As he puts it, *dùthchas* is "the word that describes understanding of land,

[37] NatureScot framework directive: https://www.nature.scot/doc/naturescot-framework-directive
[38] NatureScot corporate plan: https://www.nature.scot/doc/corporate-plan-2022-2026-nature-rich-future-all
[39] Herald Osowska: https://www.heraldscotland.com/news/18637039.chance-put-nature-heart-wellbeing-naturescot/
[40] Herald letters: https://www.heraldscotland.com/news/18652036.letters-scottish-natural-heritage-need-correction-rather-transformation/
[41] Mullin tweet: https://twitter.com/RogMull/status/1631980177755455490?s=20

people and culture."[42] It epitomises what Scottish Natural Heritage was set up for. It legitimises people's connection with nature and thereby, is a powerful driver of responsibility. I am not suggesting that NatureScot should change its name to a Gaelic word that many English speakers would struggle to pronounce correctly. I am suggesting that it understands and embodies "heritage" in this sense; one that may well have been beyond the reach of its market research focus groups, especially if was beyond the radar range of the firms that designed the research.

Neither is such a formulation purely of the Gaelic north and west. While Gaelic has provided terminology, Scotland as a whole carries the wider principle. From the North-East, we have the nature-mystical and mythic writings of Nan Shepherd's *The Living Mountain,* and the faerie-story teller, the Rev George MacDonald of Huntly, descended from the Macdonalds of Glencoe and who C.S. Lewis described as his "master". Moving south, we have Patrick Geddes who channelled his Gaelic-Perthshire *dùthchas*-like synonymy of "folk, work and place" into the discipline of town and country planning, and John Muir of Dunbar, the "father" of America's national parks. Crossing west to Ayrshire, and long before Norway's Arne Naess or California dreamin' came along, we have the 18th century deep ecology of Robert Burns' poetry, nationally celebrated in tartan, haggis, bagpipes and gastronomic prayer every 25th of January. And down into the Borders, there's the oft-times magical folk-nature sensitivity of such writers as Hogg, Scott, and even some of Thomas Boston's sermons - should auld acquaintance be forgot. And should any think to relegate these voices to a dreamy rustic past, today the heritage reborn of *dùthchas* swirls from out of the cultural "carrying stream" with new voices. We find them expressed in the geopoetics of Kenneth White, the songs of Karine Polwart, the poetry of Kathleen Jamie, or the embodied eco-philosophy of Mairi McFadyen.

At this point, and to understand what is happening in the cultural psychodynamics of nature financialisaton, it is instructive to see how and why the notion of "natural capital" was originally constructed, and how this has morphed over a few decades. The concept is usually traced back to a 1966 essay by an ecological economist, the American Quaker, Kenneth Boulding, and popularised beyond a narrow academic literature in 1973 when E.F. Schumacher invoked the term three times – each time in quotation marks to indicate newness, or perhaps, a slight wariness - in the early pages of *Small is Beautiful*.

Boulding's part was to invoke "capital" as a way of speaking about nature. He did this with his essay's famous simile of Spaceship Earth.[43] He said that until the age of air travel and the Second World War, industrial humankind had treated the world as an "open system". We drew upon its inputs as nature's providence, but had failed to distinguish between "income" and "capital". As such, we are now eating up the fabric from which future wealth can flow. The more that population and consumption soar, the more the "closed earth of the future" requires an economics that differs from the "open" or "cowboy" economics of the past. Our future needs a "spaceman" economy. Here, the spaceship is respected for both its limited natural resources, and its limited reservoirs or capacity to handle waste disposal.

Boulding thereby fixed the notion that an ecological economics must internalise those parts of the equation that, previously, were externalised. Put simply, the polluter must pay. Put in today's terms, this is the theory behind carbon offsetting (the scientific validity of which we will examine in Section

[42] Riach *dùthchas*: https://www.thenational.scot/news/18306403.duthchas-word-describes-understanding-land-people-culture/

[43] Boulding spaceship: http://www.ub.edu/prometheus21/articulos/obsprometheus/BOULDING.pdf

15). From here, "capital" came to be seen as having three dimensions: natural, human and financial. For now, suffice for us to rest the matter with Boulding's bottom line.

> The only answer to this, as far as I can see, is to point out that the welfare of the individual depends on the extent to which he can identify himself with others ... not only with a community in space but also with a community extending over time from the past into the future.

In other words, with *dùthchas,* the interdependency of natural and human heritage.

7. 'Weak', 'Strong' and the X and Y of sustainable development

Boulding's 1960s vision was a cornerstone in the evolution of the notion of natural capital. Evolving with it and shaping today's debate around carbon offsetting was the discipline of ecological economics. This situates economics not just in the context of assumptions about human behaviour, but also, in the capacities and limitations of the biosphere.

The 1970s witnessed growing concerns triggered by such milestones as the *Limits to Growth* report of the Club of Rome. These culminated in 1987 when the UN's World Commission on Environment and Development published its report, *Our Common Future*.[44] Also known as the Brundtland Commission on account of being chaired by Mrs Gro Harlem Brundtland, later to serve three terms as prime minister of Norway, Brundtland ramped up the existing concept of "sustainability" to "sustainable development". Whereas sustainability can apply simply to a resource, for example, the sustainability of the North Sea herring fishery, sustainable development integrates a wider social and ecological framing, giving rise to the Report's celebrated definition as "development that meets the needs of the present, without compromising the ability of future generations to meet their own needs."

As the world moved on towards the UN's Earth Summit in Rio, 1992, a nuance opened up that is important to understanding shifts in how the term natural capital is applied and the rationale for trading carbon offsets. A distinction developed between "weak" and "strong" sustainability.[45] Sustainability itself had come to be understood as having two components: *economic sustainability* and *ecosystem sustainability*. Strong sustainability embraces both. It accepts that human economics as being held in nature's hand and should broadly speaking work with nature. However, weak sustainability adopted more of a conventional economist's framing. It holds that "natural capital" can be substituted for by "man-made" capital. A current example of weak sustainability is the ideology of Elon Musk, whose SpaceX company reaches for "Mars and beyond",[46] with the vision of a self-sustaining Mars City and already,[47] spin-off investor groups pitching for funds to ride the latest

[44] Brundtland: https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf
[45] Weak & strong SD: https://sustainabledevelopment.un.org/content/documents/6569122-Pelenc-Weak Sustainability versus Strong Sustainability.pdf
[46] SpaceX: https://www.spacex.com/human-spaceflight/mars/
[47] Mars City: https://www.independent.co.uk/space/elon-musk-mars-mission-spacex-b2318366.html

unicorn.[48] Broadly, the idea is that if we trash planet earth, we'll substitute it for another. Never mind that Mars has an atmosphere that's 95% CO2 and an average temperature of minus 60°C.

Carbon offsetting is a much more down-to-earth example, but still an example of weak sustainability. If it is accepted that pollution in one context can be offset with carbon credits created in another, one can end up, as we saw with the example of Scotland's National Nature Reserves, valuing ecosystem services at less than the cost of a fish supper per annum per capita. What's lost from the equations of weak sustainability is the context that nature provides for life, love, joy and livelihood of people on the ground.

There can be an uncomfortable but necessary to name social class dynamic at play here. Weak sustainability comforts the globally affluent and mobile. Strong sustainability is the provenance of communities of place. Much of the public concern around estates being bought up for "rewilding", usually now with carbon offsetting, concerns the relationships in rural Scotland between ecological science, money, and social class.

It used to be, especially in the second half of the 20th century, that Wellington boots had a social class system. Yellow was for the yachties. Green for the toffs. And black for ordinary people. That has largely dissolved now that most wellies on the market have gone green. However, the social shibboleths can still be found, for example, a gum boot review website with the statement: "Not everyone wants to be a member of the green-wellie set.... [But] if regularly going on a day's shooting in all weathers and tramping over every type of terrain, then comfort, durability and the right shade of green will all be considerations."[49]

Professional ecologists in rural Scotland have often been experienced by people on the ground as the green-wellie set imposing we-know-better condescension on local people's relationship with their land or oceans. Social class privilege can carry with it a mostly unconscious disconnect from community.[50] Certain patterns of family, schooling and skill sets can render a person brilliant at statistics and modelling, but the love of nature can reflect an escape from human interactions in everyday community. It is the kind of syndrome that can make a PFIP board of bankers and numerate executives who might be comfortable with rates of return and discounted cash flow sit uncomfortably with those whose children's future their models might discount.

I want to push this point, because it can harm well-intended efforts at nature conservation, whether HPMAs at sea or rewilding on the land. Traditionally, nature "conservation" often walked hand-in-hand with landed and professional power. I recall the Isle of Lewis of the late 1960s and the British Field Sports Society as an example. There was an avuncular tweedy gentleman with a retired colonel's cherry-faced demeanour. He'd travel around, visiting landed gentry and households like our own medical family. After a dram and paying their annual dues, these could sport the Society's trademark necktie embossed with stags, geese, hares and salmon. Nowadays, these are rarities when they come up in online auctions.[51] But in those days, those of us who also worked at the stalking or as ghillies on the estates understood the authority commanded by its code. It stood for shooting and fishing interests wrapped up in "conservation" as understood, after a particular manner and with a particular history. As with game conservation on reserves in Africa, it tended to

[48] Invest in Mars: https://www.mars-city.org/investors/
[49] Yer wellies: https://lawnmowerwizard.com/articles/trusty-wellington-boot/
[50] Boarding school landowners: https://www.alastairmcintosh.com/articles/2008-boarding-women-landowners-oral-history.pdf
[51] Buy a tie: https://www.worthpoint.com/worthopedia/bfss-british-field-sport-society-1772657517

the political right. In contrast, the emergent post-1950s agenda of social "development" tended more to the political left.

Two matters arise from my raising of this point. The first, is the imperative that nature conservation in Scotland must be conscious of where it is coming from socially, and be sensitive to how it might land on the ground. The "culture washing" of a few tartan-wrapped "locals" in employment cuts very little ice when effective control is exercised from "away". Neither does the similar notion of "community washing", whereby owners or investors overplay the participatory nature of their community engagement and governance – perhaps lubricated with a sop such as "10% of the profits" in a bid to secure a 'social licence to operate' and stifle the community's voice. For conservation to be owned by a community, it must grow from ground up. Secondly, and globally, my point sheds post-colonial light on "sustainable development". One was individualistic. The other, communitarian.

What Mrs Brundtland's world commission achieved in 1987 was to bring together these two poles, development and conservation, in antisyzygy. That is to say, as in the much-vaunted Caledonian version, a creative heightening between opposites held together in tension. We might represent them as a convergence, from left and right, by the hat **^** symbol. The apex is the golden mean of "sustainable development". But the question left hanging in the post-Brundtland years, is what future shape can give a life worth living? We might picture this as the X or Y of sustainable development. With development on the one side and conservation on the other, both having married in 1987, will they now intertwine as if pleated together in a double helix? This scenario might be pictured as an inverted Y, or to posit it as a new investment metric alongside the **α** and the **β** from the world of finance: the Greek symbol *lambda* **λ**. Or alternatively, having taken a good look at each other, will they now divorce: and in the image in our minds, revert back to their original lonesome separation? Will we see head-in-the-sand unsustainable development resume as business-as-usual reasserts its original X-like opposition: a metric that we might picture by the Greek letter, *chi* **χ**?

This is the sensitivity transgressed when the NatureScot PFIP parachuted out of the blue, the green-wellie set in suits, with no prior public discussion that could count as free, prior and informed consent. As a Lewis crofter put it to me, the problem arises when what he called "economic advantage" clashes with those whose means and wider social power is modest. Especially, if expecting to extract from what is found there.

Community works on a very different basis, one that provides an alternative approach if those rightly concerned with conservation in the widest sense are willing to listen to it, and be held by it. Five years after Elinor Ostrom became the first woman to receive the Nobel Prize in economics in 2009, the IPCC dedicated to her the 1,500-page Working Group III contribution to its Fifth Assessment Report (AR5). It cites her "fundamental contribution to the understanding of collective action, trust, and cooperation in the management of common pool resources, including the atmosphere." Ostrom's seminal book, *Governing the Commons* (Cambridge 1990), uncovers the capacity of communities of both land and water to govern and conserve their commons. Her closing two pages warn against solutions presented to the government to impose because, coming from outwith the communities concerned, these are too often "based on models of idealized markets or idealized states." In contrast, if community groups are enabled to turn to themselves, she sees evidence that rather than working towards the "short-term maximisation" of outcomes, they will opt for "long-term reflection about joint strategies to improve outcomes."

That "long-term" opens pathways to sustainability sustained. It pleats the **χ** back into **λ.** It is a work of practicality, mutual care, and *imaginative* potential. It reweaves all back to the basket of community, green wellies too, but as participants within the whole and not as overseers. And as Ostrom's case studies show, there is nothing "idealized" about her sense of building the capacity for "long-term reflection". Figuratively speaking, there is no need for satellite monitoring when people are connected on the ground. Empowered communities tend towards sustainability "to improve outcomes". In time, that can be as naturally as breathing. People are the precondition for people-led conservation.

8. *Dùthchas* and controversy in 'rewilding' Scotland

Ecological restoration and regeneration are terms that have long been comfortable territory in Scotland, not least through the work of such NGOs as Reforesting Scotland and Trees for Life. Many community land trusts have prided themselves in local nature restoration. For example, Eigg is conserving its hazelwoods, running a forest school, and long-term replacing Sitka spruce that was planted as a tax break by the former laird with mixed native forest. The North Harris Trust is creating a new woodland of 100 hectares, with 180,000 trees to be patchworked in with grazing over an area of about 1,000 hectares. Four local tree nurseries have been engaged to produce saplings from seed of local provenance.[52] This compares with the goodness-knows-what of commercial practice where, for example, I was told of seedlings being taken away in a lorry, brought on quickly in the warmth and perhaps cheaper rural labour of Spain, then the saplings driven back to Scotland in another lorry. In contrast, where ecological restoration walks hand-in-hand with local community regeneration, many linkages and multipliers can feed in to the local economy.

However, in the five years or so prior to 2020, "rewilding" turned up as the new kid on the block. Often but not always, the experience on the ground was of a term that had been helicoptered in by what seemed too much like the green-wellie set, and seemed to view the Highlands and Borders especially as some kind of *terra nullius*: a sheep-devastated landscape, where nobody much lives, and is ripe for improvement for the planetary good.

I explored this trend earlier this year in Bella Caledonia.[53] In summary, a landmark around the matter was Professor James Hunter's lecture in Edinburgh University's Geography Department, "Wild Land, Rewilding and Repeopling".[54] Nobody at the event doubted the need for nature recovery. As Hunter put it in his best scholarly terminology: "So much of our terrain, wild land included, is ecologically knackered." But as he also put it: the land must be "put right ecologically. And socially and culturally as well."

That raises questions of agency and control. As one of the lecture's organisers the geographer Fraser MacDonald later wrote in the London Review of Books, "Land can be owned; places are more complicated."[55] As the rewilding debate heated up, Community Land Scotland (CLS) cooled the temperature. As the land reform support group that speaks for many of Scotland's 500 or so land

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52 Pers. com. David Cameron & Michael Hunter, North Harris Trust, 17 May 2023.
53 Community rewilding: https://bellacaledonia.org.uk/2023/01/31/the-question-of-community-and-rewilding/
54 Rewilding Jim: https://www.communitylandscotland.org.uk/resources/wild-land-rewilding-and-repeopling/
55 Rewilding Fraser: https://www.lrb.co.uk/the-paper/v43/n18/fraser-macdonald/diary

trusts that are now in control of nearly 3% of the nation's terrain,[56] it issued two position papers on rewilding: one in 2017 and the other in 2022.[57] The first cautioned:

> Community owners see people and their interests as part of the natural order and landscape, every bit as much as a diverse range of plants and other species should be. Community Land Scotland does not believe the term "re-wilding" is a helpful term in this context.

This echoes the FAQs of the Borders Forest Trust, which states: "We prefer to speak of ecological restoration, or reviving a natural ecosystem, because rewilding is a word carrying so much baggage, meaning different things to different people."[58] The second paper slightly relaxed the criticism, this in the face of climate change concerns that had been heightened at COP 26 where CLS had played a leading role in platforming indigenous visitors from around the world. This endorsed "the pressing need for action to address both the climate emergency and the biodiversity crisis", while being "equally clear that such action must be undertaken within the interlinked policy contexts of rural repopulation, community wealth building and community empowerment, with land reform as a cross-cutting policy theme to help achieve communities' sustainable development in practice."

The fact that climate change was mentioned neither in Hunter's lecture, nor in the first CLS policy paper while it majors in the second, reflects how fast-moving this debate has been in Scotland. Professor Matt Hannon and colleagues at Strathclyde University have highlighted the low level of awareness in communities of both the opportunities and threats that might be coming upon them. As their September 2022 report encapsulates: "One adverse impact of nature-based carbon offsetting is the potential for cultural erosion; whereby new forms of land use undermine traditional local practices."[59]

An example of a warp-speed jump in the velocity of change broke into public consciousness around 2020 when the Scottish beer company, BrewDog, bought up 9,308 acres (15 square miles; 3,767 hectares) comprising Kinrara Estate near Aviemore. Planting "The Lost Forest" became part of a corporate "roadmap for zero operational emissions by 2023", enabling them to market Punk IPA as "planet positive beer".[60] A Lost Forest T-Shirt went on sale, "Drink beer.[61] Plant trees." And catch lines announced, "For every pack we plant a tree in the BrewDog Lost Forest."

In reaction, BrewDog has drawn multiple accusations of greenwash. Parkswatch Scotland, a group that calls for national parks to live up to their objectives, points to deer fencing that cuts off access for both people and wildlife like the blue mountain hare.[62] It asks how the proclaimed objectives of what the company calls its "equity punk investors" are supposed to be achieved. BrewDog acknowledges significant public funding from the Peatland Action Fund and the Scottish Forestry Grant Scheme. But Parkswatch question how much ends up on the ground in the local community

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[56] Scottish Government, Community ownership in Scotland 2021: https://www.gov.scot/publications/community-ownership-scotland-2021/
[57] Rewilding CLS: https://www.communitylandscotland.org.uk/resources/position-paper-on-rewilding-2017-2/
[58] Rewilding BFT: https://bordersforesttrust.org/wild-heart/carrifran-wildwood/faq
[59] SUII Hannon: https://strathprints.strath.ac.uk/83777/7/Hannon_etal_Can_nature_based_voluntary_carbon_offsetting_benefit_scottish_communities.pdf
[60] Brewdog Forest: https://www.brewdog.com/uk/brewdogplanet
[61] Brewdog T-shirt (page removed since link first viewed): https://www.brewdog.com/uk/lost-forest-t-shirt
[62] Parkswatch Brew: https://parkswatchscotland.co.uk/2023/02/06/brewdogs-lost-forest-at-kinrara-a-landscape-disaster-and-abuse-of-public-money/

rather than, perhaps, the pockets of here-today, gone-tomorrow contractors. Considering that 15 square miles is a vast tract of land, the 2021 accounts declare just two employees with a combined gross wages bill of £61,000.

9. Highlands Rewilding and *Silver Standard* of an MoU

Potentially, a more interesting example of private finance is the solar energy entrepreneur Jeremy Leggett's "citizen rewilder" company, Highlands Rewilding (HR). My 31st January Bella Caledonia piece, "The Question of Community and 'Rewilding'",[63] was inspired by Jeremy's response to a comment that I had made on Twitter.[64] I'd said that if his plans to acquire twenty Scottish estates do not give real power to communities, then it would just be another form of land colonisation. He and I had been put in contact two years earlier via the impact investment advisor, Ian Callaghan, who was somebody with whom I'd worked in the 1990s on the Harris superquarry campaign. This had resulted in a Zoom call during which I pressed on Jeremy the importance of understanding Scotland's land history and that we have a "rolling programme" of land reform. As planning what would become flagship legislation for the new Scottish Parliament, the 1999 Scottish Office "Green Paper" from the Land Reform Policy Group, "Recommendations for Action", had envisaged "... increased diversity in the way land is owned and used … which will lead to less concentration of ownership and management in a limited number of hands … so that local people are not excluded from decisions which affect the lives of their communities" (p. 4).

There is no need here to re-tread ground already covered in the Bella Caledonia piece. But amongst the questions left hanging were:

- What if anything would Highlands Rewilding do to give communities of place real democratically appointed and accountable power over their futures?
- Short of asset stripping, major business ventures or large-scale renewable energy initiatives, how were rewilded Highlands estates meant to be able to pay investors a 5% annualised rate of return plus dividends?

Meanwhile, I was picking up on concerns in land and community circles as to how Jeremy was representing his relationship with the SLC. Specifically, in a BBC interview (from 4.30 mins in) he said:[65]

> Institutional investors are only going to do that [i.e. invest] if we have a structure that they're used to dealing with – a small board of very business experienced people.... But as the Scottish Land Commission have said to me, it's much more part of the solution than it is part of the problem.

[63] Bella community rewilding: https://bellacaledonia.org.uk/2023/01/31/the-question-of-community-and-rewilding/
[64] Leggett colonialism: https://twitter.com/JeremyLeggett/status/1618651871203180573?s=20
[65] Leggett BBC (track removed since first listened to): https://soundcloud.com/bbc-highlands/dr-jeremy-leggett-raw

Was the SLC endorsing the accumulation of power by "green lairds"? If so, how might that sit with the concern expressed in its 2019 investigation into issues associated with large scale and concentrated land ownership.[66] For example, in the section on "community and social cohesion":

> Perhaps most worrying however, was the fear of repercussions from "going against the landowner" expressed by some people. This fear was rooted firmly in the concentration of power in some communities and the perceived ability of landowners to inflict consequences such as eviction or blacklisting for employment/contracts on residents should they so wish. Such fear is a clear impediment to innovation and sustainable development and has no place in a progressive and inclusive Scotland.

I am not suggesting that HR had stirred fear in this sense, but the issues laid bare in the SLC's investigation is part of the social backdrop against which any large-scale landowning operation must weigh its conduct. It is why the SLC had good reason to be anxious as to how Jeremy had represented the relationship, perhaps partly out of a lack of familiarity with how to read the room in Scotland. A board member of the SLC had earlier mentioned their unease to me. I took it further, raising it with another board member who, citing freedom of information and the position that "we are, after all, a publicly accountable institution", released to me the letter that they had sent to Jeremy on 8 March.[67]

This communication, emailed by Andrew Thin the SLC's chair, affirmed a "potential alignment" between HR's strategic aspirations and the priorities of the Scottish Government, presumably on biodiversity and carbon. However, it offered "a few words of caution" around HR's capital gearing - that is to say, its level of debt-based financing relative to the level of shareholding.

> The financial model that you described involves significant capital gearing and unusually speculative income forecasts. That is in part understandable given what you are trying to do, but it does imply a high degree of risk not just for Highlands Rewilding but also for the communities and employees that depend on you.

It went on to question a pattern of ownership and governance that "imply a growing concentration of landed power as you acquire more property". While so doing, it made a point of commending Jeremy for his "openness and transparency" during a site visit, but pointed out that:

> Scottish Government policy, given expression in the forthcoming Land Reform Bill, articulates a clear intention to diversify ownership and landed power going forward, including an emphasis on greater community empowerment and local democratic accountability. You may wish to reflect on this as you develop your thinking on ownership and governance structures.

It was hardly a ringing endorsement of HR's structure of a small board run by a hand-picked business elite. It certainly explained the irritation that I had witnessed in the two members of the SLC board to whom I had separately spoken.

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66 SLC investigation: https://www.landcommission.gov.scot/downloads/5dd7d6fd9128e_Investigation-Issues-Large-Scale-and-Concentrated-Landownership-20190320.pdf

67 SLC to Jeremy: https://twitter.com/alastairmci/status/1634943161427714049?s=20

In so saying, what was my own locus for agency? Going back over 30 years and as is set out in my book, *Soil and Soul: People versus Corporate Power,* I have been involved in land reform. I was one of the founders of the original Isle of Eigg Trust in 1991 – I say "original", only because it was reconstituted as the Isle of Eigg Heritage Trust by the community once the money had been raised and the purchase of the island moved ahead in 1997. I am not an expert in current land reform law, but from time-to-time communities contact me to speak or to bounce around ideas about the wider principles.

Back in December 2022, as a result of tweeting some concerns around the framing of "rewilding", I was separately contacted by a number of community members linked to both HR's estate at Bunloit on the shores of Loch Ness, and to its acquisition that was impending at Tayvallich in Argyll. One of the former, was the landscape ecologist Alison Strange, who has recently published some personal reflections in her article: "On Crofting, Landlordism, Rewilding and Depopulation".[68] Others have included local community organisers, a leading academic with Highlands family roots, and a green politician. Some expressed concern or even anger as to what was going on. Others just had questions to aid their community's discernment. A couple strongly expressed support, not on the grounds of land reform ideals, but for biodiversity and carbon capture given the imperatives of climate change. On Twitter, where I received criticism for my questioning it was on the grounds that the climate crisis is so grave that it must sweep aside more measured ways of doing things. Communities move too slow to save the planet. Indeed, Jeremy himself twice signalled to me earlier on that it is the urgency of this that stopped him from following some of the suggestions that I put forward.

In a YouTube video, he tells how he started life as an oilman, went on to pioneer putting solar panels onto people's roofs, and now, after selling his company Solar Century, "I came to the Highlands of Scotland to start the next frontier in the fight against climate meltdown and biodiversity collapse: *rewilding*."[69] The question I have put to him from the outset of our communications is whether the communities living on or around the estates that he is acquiring want to be the next frontier with him in the driving seat. This is the question that's bound in with the letter that the SLC had sent him.

The day after its release, Jeremy emailed to say that he was "furious" that it had been made public, and that the SLC had in effect invited them to rethink the whole thing. This, at a time that was so sensitive for HR to secure the funding. They would be posting a "very temperate" response. I responded that I had recently, on his request, suggested ways to engage with communities such as making use of ballots run by accountable local organisations to test support and seek endorsement. Also, I suggested ways to engage with those who lacked confidence in his plans. He had indicated that he lacked the time in in life to enter into such processes. I suggested that this might leave him vulnerable, and said: "I would strongly counsel trying to hear more deeply the concerns at Bunloit, rebuilding bridges, and thereby helping to create a situation where Scotland can more unreservedly welcome you."[70]

The "very temperate response" to the SLC came a fortnight later, on 28 March. It took issue with Andrew Thin's email, saying that HR was "in fact taking on no more risk than many a front-running entrepreneurial organisation". It had "many very experienced business leaders" investing with it

[68] Bella Alison Strange: https://bellacaledonia.org.uk/2023/04/08/on-crofting-landlordism-rewilding-and-depopulation/
[69] Jeremy YouTube: https://youtu.be/vXu5Bd9t5Ww
[70] Pers. com., email 13 March 2023. For the avoidance of any doubt, my advice to both Jeremy and to individuals from the communities involved was unpaid.

including some Scottish ones, and that "Scotland will not hit its vital nature-recovery targets unless entrepreneurs and investors are willing to take risks." Accordingly:[71]

> Our criticism of the SLC is that they need to factor holistic Scottish Government target-setting into their analysis. In a time of existential threat from climate meltdown and biodiversity collapse, we believe it is dangerous to delay meaningful action until the concentration of power in land ownership has been defused [sic] (as we accept it must be).

The following month it was confirmed that HR was purchasing Tayvallich for £10.5 million, a sum that is half a million more than then entire annual budget of the Scottish Land Fund of the Scottish Government.[72]

I had had no contact with anyone from HR's Beldorney estate in Aberdeenshire, but whereas Jeremy got off to a bad start at Bunloit (from what I can see, by inadequately engaging with the community and requesting their sanction) he and his team have gone about things very much better at Tayvallich. During this process I have had a number of Zoom meetings and email exchanges with members of the Tayvallich community. Some of these have drawn in the impact investment expertise of Ian Callaghan. He sees Scotland as sharing many of the same questions as other parts of the world, but with organisational capacity such as its Land Commission. This might position Scotland to play a part in creating solutions to the relationships between capital and communities as an international problem.

It is not for me to speak for the local community at Tayvallich. Suffice to say that they were in a situation where the asking price of £10,465,000 (via the selling agents Strutt & Parker) was far beyond the reach of their probable preferred option, a community buyout.[73] The estate seller's choice was a random bidder. Such a bidder might just have wanted to asset strip the place, selling off what was most lucrative in little packets and fragmenting the community by, for example, selling leased homes as holiday lets. Against such an option, they saw that Jeremy and his associates in HR had a vision that could overlap with theirs. What we see emerging with HR could probably be positioned in the mid-point of what I will outline here as an Olympic framework of *Gold*, *Silver* and *Bronze* standards of land holding.

A full community buyout would be the *Gold Standard*. Here, a community is democratically accountable unto itself. Legal structures for such bodies are now well established in Scotland.[74] Usually, each adult member has one vote perhaps after an initial residency qualifying period. These elect an executive board of trustee directors that take most of the decisions. Major decisions may, however, be put to a community ballot. An example earlier this year was when the 93,000-acre South Uist community land trust held a community discernment followed by a vote over the extent to which it should cull the island's rampant red deer.[75] Another example was in 2019 when the Isle

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[71] HR's defence to the SLC: https://www.highlandsrewilding.co.uk/blog/highlands-rewilding-statement-sle-email
[72] Tayvallich sold: https://www.thenational.scot/news/23444067.high-hopes-10-5m-sale-highland-estate-rewilding-project/
[73] Tayvallich sale: https://www.struttandparker.com/properties/tayvallich
[74] 8 steps to a community land buyout: https://www.communitylandscotland.org.uk/our-work/community-landownership/
[75] South Uist deer cull vote: https://www.heraldscotland.com/news/homenews/23401220.south-uist-islanders-vote-mass-red-deer-cull/

of Eigg Heritage Trust's members voted 87% on a 92% turnout not to support a salmon farm on their doorstep.[76]

The *Gold Standard* stands in contrast, at the other end of the spectrum, with what we might call the *Bronze Standard*. Here is conventional top-down landlordism. Perhaps it is benignly paternalistic, which can work well for communities if their main needs are met and their lives' focus is in tune or lies elsewhere. Or perhaps, debased by the cold fist of an iron hand, only interested in its own interests and at worst, asset stripping an estate and trampling its social cohesion. *Bronze* can be a broad kirk and what once felt fine can flip uncontrollably between changes of owner. But inbetween *Bronze* and *Gold* we might suggest an emergent middle way, the *Silver Standard*. Here, a private owner and a local community would agree on certain rights and principles, and have them governed by a Memorandum of Understanding. Ideally, and as a sign of trust, this should accord the community a power of veto over major developments that might affect its future. This was what we did with the original Isle of Eigg Trust in 1991 before it democratised in 1994.

But even without a veto, *Silver* backed by an MoU could still considerably surpass *Bronze* by offering important assurances. These could include continuing existing leases and employments. They could include the option of pre-emptive purchase over keystone plots of land and buildings at an objective economic rather than a speculative valuation. In this respect, having a Rural Housing Burden applied to any sale of a given plot of land or building gives a Rural Housing Body a right of pre-emption. That is to say, it has a preferential option to buy the property at a subsequent sale, and therefore, to ensure that it remains in community service rather than, say, being sold on for a second home or holiday let.[77] Of particular importance for a community to be able to find and exercise its voice, is that the assurances covered by an MoU could guarantee local democratically accountable representation on a properly constituted local management group. Representatives could either be directly elected by the community, or appointed by its existing accountable bodies such as a community council or a development trust with open governance structures. Exactly how "a community" can be geographically defined, and what qualifies as a democratically accountable "community body", are matters already well defined in Scotland through such means as our land reform legislation and the guidelines of the Scottish Land Fund.[78]

To give Jeremy Leggett credit where it's due, and hopefully, considerably so, at the time of this paper going to press an MoU along *Silver* lines had just been signed (but not yet made public) between representatives of the community at Tayvallich and Highlands Rewilding.[79] Originally HR had envisaged that a Tayvallich Estate Local Management Board's membership would be appointed by, and answerable to, its own main board. However, it was pointed out from various quarters that this would have been self-defeating. It would have left local appointees vulnerable to the hypnotic spell of landed power, and to the allure of "chequebook and charm" can so easily reduce "participation" or "engagement" to little more but yet another well-kent instance of "just the laird and his lackeys". I am given to understand that Jeremy and HR have taken on board these concerns. Hopefully, what has been pioneered there may demonstrate the *Silver Standard*, it's MoU perhaps without the force of law, but rooted in the force more consequential of standing in one's honour.

[76] Eigg salmon farm vote: https://www.heraldscotland.com/news/18127447.isle-eigg-casts-vote-arrival-fish-farm/
[77] Rural Housing Burden: https://www.chtrust.co.uk/rural-housing-burden1.html
[78] For example, see the Development Trusts Association Scotland on registering a community body: https://bit.ly/3M2uka9. Also, the Scottish Land Fund's "Who can apply?" guidelines, pp. 10 – 11: https://bit.ly/3nXRFBX
[79] Pers. com. Martin Mellor, 17 May 2023.

Notwithstanding some sharp edges in my own communications with him, Jeremy and HR have already spared Tayvallich from what might otherwise have been the serrated edges of a random market highest bidder's *Bronze Standard*. Moreover, if a community finds itself stuck beyond its control in *Bronze,* it does not have to remain helpless. It may have to overcome learned helplessness and apathy. That's commonplace in groups that have experienced long periods of neglectful and disempowering ownership regimes.[80] But if a community that's been held down starts to organise and build sufficient solidarity, even *Bronze* has backstop options in its toolbox. As Colin MacLeod of the GalGael Trust in Govan once put it, there's a "buoyancy of the human soul". A person or a peoples can be held down for so long enough, but eventually they rise back up to the surface, and we might add: with a gasp and everybody gasps.

Mahatma Gandhi spoke of his bottom-up vision for India's future as the "constructive programme". But often, that required resistance along the way, yet as the African American poet Alice Walker has put it, "Resistance is the secret of possessing joy." Observers of Gandhi's nonviolent resistance tactics, his discerned use of what's been called the "weapons of the weak", have called this in counterpoint his "obstructive programme".[81] What does that look like in settings of modern Scottish land reform? What can it involve for a community that's being hard pressed, but which is waking up to its potential and claim of right? I'd suggest that:

- It can exert a voice that is likely to be listened to in local authority planning decisions.
- It can influence the wider climate that might determine whether or not projects receive private or public funding.
- It can signal through the mass and social media that "there's a little trouble up-country", which brings embarrassment to bear and spooks investors.
- It can show that "the natives are restless", thereby contributing to market spoiling if an estate goes back on sale and the community moves to launch its own buyout.

Simply the act of forming an organisation, or powering up an existing one to insist upon the human right of agency, can precipitate any one of these. When we launched the Eigg Trust, or the Assynt Crofters theirs, or Gigha to name but the most prominent patterns and examples from the early days, we had no extraordinary power. Just a swelling voice, built up over several years, that gradually dispelled – *dis-spelled* – landed power's narcissistic need to feed upon attention that had been such a distraction – *dis-traction* – from being able to grow a grounded community capability. But agreement on a *Silver Standard* means that no such awkwardness needs find a seat around the table. Quite the contrary. A table can be furnished with fitting hospitality, and a win-win scenario moved towards.

"Community" takes a little more than what HR currently have under the tab by that name on their website. It's about more than having school children take part in peat depth surveys, "and building bird boxes from timber milled on the estate." It's about more than having "provided 5 paid summer internships for university students, including two locals."[82] These are things that are done to or for a community. Instead, empowerment means progressively enabling real shifts in power. However, I am optimistic that Jeremy and HR's board are listening, and maybe even moving towards an

[80] Learned helplessness: https://www.medicalnewstoday.com/articles/325355
[81] I first heard it put like this by the nonviolence communicator Miki Kashtan.
[82] Highlands Rewilding: https://www.highlandsrewilding.co.uk/community

exemplary *Silver Standard*. As their response to the SLC's letter concluded, written just before closure on the purchase was procured:[83]

> In the meantime, as we near closure in our acquisition of the Tayvallich estate, we are far advanced with the drafting of a Memorandum of Understanding with the Tayvallich Initiative on how Highlands Rewilding and the community will work in strategic harness, consistent with Highlands Rewilding's purpose (nature recovery and community prosperity through rewilding taken to scale). We are hoping that when that document is completed it will give all but the most diehard among our critics pause for thought.

Ian Callaghan has outlined an interesting possibility. He remarks that while the investment time horizon for these projects is murky, a normal period in many other sectors would be around 30 years. There is therefore no reason in principle why these estates could not move into community ownership after what might be called the "investment period", during which investors' interests would be agreed to hold sway but after which community interests would become paramount. By the end of the investment period, impact investors will have had their returns, could get their money back, and leave good work behind.[84] Indeed, Tayvallich might want to move towards such option perhaps in as little as 20 years' time. If so, such a transition could be negotiated and priced in.[85] Thereby, *Silver* would be the stepping stone to *Gold.*

This would sit well with the Scottish Government's "Interim Principles for Responsible Investment in Natural Capital" of March 2022. It would honour its expectation that the "... use of Scotland's natural capital should create benefits that are shared between public, private and community interests, contributing to a just transition." Also, it expects that investors should consider whether the ownership of land is strictly necessary, or whether nature related objectives can be achieved through "management agreements and collaboration/partnerships with communities ... [having] full regard to ... the expectations for responsible practice set out in the Scottish Land Commission's Land Rights and Responsibilities Protocols."[86]

A well-constructed *Silver Standard* could therefore set a "pattern and example" - a pattern as a way of doing something, and an example as a case study of so doing. This could be not just for Scotland but as a template for a wider world. But what advantage would it offer to an investor, whether HR, or NatureScot's bankers, or whoever? In the jargon of corporate social responsibility, it provides a social "licence to operate". At its best a licence to operate is about more than just a company's "reputational management", though it is that too. At its best from a community's point of view it honours the adage that "nothing about us without us is for us."

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[83] HR's defence to the SLC: https://www.highlandsrewilding.co.uk/blog/highlands-rewilding-statement-sle-email
[84] More specifically, on reading a draft of this paper Ian Callaghan suggested: "that one possibility would be for the SLC to create a protocol that would embed the goals of the silver standard, where a community buyout isn't possible. This would include the creation of a community wealth-building plan during the 'investment period', so the community would have all the skills available to take over the running of a potentially complex operation. Also, the idea of a notional 'community dividend' credited each year (even when no cash is available) to a discount on any eventual purchase price of a buyout."
[85] As a speculative thought, but only for the technically minded: Ian Callaghan's principle might have hidden leverage as a commercial investor would discount the future value of an estate – its terminal value at the end of an investment period – whereas a community that wants "to leave something for the future" might view it with a lower or even a negative implicit discount rate, there being a probable differential between how an investor and a community each might weight the future.
[86] SG's Interim principles for responsible investment in natural capital: https://www.gov.scot/publications/interim-principles-for-responsible-investment-in-natural-capital/

To unpack the licence to operate further: in addition to profitability, genuine impact investors seek the triple criteria of what they call ESG compliance: *environmental*, *social* and *governance*. In the understanding of sustainable development that we discussed above, they seek a high *lambda* **λ,** an elegant pleating together of development and conservation through dynamic but wise governance. HR is well positioned to score strongly on the "E", but to embed a robust *Silver Standard* requires bringing both the "S" and "G" equally into the ESG equation. While Jeremy may be right that that financial institutions like to see concentrated board control to ensure the safety of their assets, he could also broaden their horizons. Using his renowned persuasive power, he could also put it to them that if they're genuine about the "S" and "G", and that if they don't want to see themselves ridiculed down the line for greenwashing or culture washing; in other words, if they want to avoid a high *chi* **χ** re-emergent split between development and conservation, then the "next frontier" means honouring real agency in the hands of communities.

A robust *Silver Standard* would deliver that licence to operate. While it falls short of *Gold,* it paves a path that means the better is not lost for want of the best.[87] At the risk of caricature, it could enable a community to get on with securing its life down in the straths while the rewilders plant out former grouse moors up in the braes. But together, becoming progressively more interwoven, both can pleat the **λ** of authentic sustainable development.

Over the past few weeks, something along these lines has been unfolding as the community at Tayvallich found its footing and negotiated an MoU with HR. Under their circumstances, I am in no doubt that to seek such an opening of the way is their best option. From what I hear on the ground, HR is in the course of agreeing to a range of principles that a Scottish community of place would not normally have acquired under the conventional *Bronze Standard*. If the win-win of a *Silver Standard* proves to have been pioneered, and especially if it goes on to prove effective in both rewilding and repeopling, then all credit where credit is due to Jeremy and his team. Equally so, to the vision and courage of Tayvallich's small team of negotiators who established what ground they had to stand on, put out feelers to test their legitimacy within the wider community, and stepped into their power as called to do so by the circumstances.

So it was that, on 31 March the Tayvallich Initiative found itself sufficiently confident to endorse HR's ongoing crowdfunder.[88] You only get 280 characters in a tweet, but with their stall carefully laid out to show the world the principles they stood for, they warmly issued forth a "quote tweet" tied to one where HR pitched its funding call. They said:

[87] A reviewer has pointed out that such an acceptance is itself a consequence of being drawn into market paradigms of land, whereas we should be looking at something much more radical. Indeed, a question that is often asked about Scotland's model of community "buyouts" is why should communities have to "buy back" the land, when much of it was once clan lands or in some other way effectively a commons? Why not nationalise the land, or otherwise dispossess private owners? That would be a question of wider political choice. However, it also has legal implications. When the SNP MSP Roseanna Cunningham was minister for land reform, she wryly remarked to me that some commentators too easily overlook UK human rights law. Protocol 1, Article 1, which is foundational to it, with certain limitations "protects your right to enjoy your property peacefully." This is partly why the thrust of modern Scottish land reform has been to work within markets, albeit with economic rather than speculative valuations. Sometimes, however, grassroots communities have signalled "we don't want to be bought". This amounts to market spoiling for the type of private buyer who prefers to have compliance, conformity and sometimes, obedience.

[88] Tayvallich endorse HR: https://twitter.com/tayvinitiative/status/1641776794603855872?s=20

> ... we look forward to working alongside our new neighbours. TI welcomes the fact that community prosperity & repopulation alongside nature recovery & increasing biodiversity are key features of HR's goals.

10. The Infrastructure Bank and the nature uplift bonanza

Two questions stood out for me and seasoned community workers whenever Tayvallich came up in discussion. Where was the money coming from, and where was the business plan?

The first was specific to HR. The second will be generic to all nature based private financing that requires a return on capital invested in Scotland, and in the context of this paper, specifically around NatureScot's PFIP investors and NatureScot's capacity, should it choose to develop the policy and skills, to work towards both *Silver* and *Gold* standards.

One tranche of the financing was clear all along. Part of the business plan that was in the public domain was to have "citizen rewilders" buy up shares. As the website pitched it:[89]

> Each investor will have ordinary shares and, on any decision put to the shareholders, each share carries one vote. Every share is of the same type. If we are successful every share will make a 5% return at least, annualised over the 10 years of our current plan, plus whatever dividends we might be able to pay.

By the time the estate's acquisition was reportedly completed on 16 May 2023, some £1.1 million had been crowdfunded from over 700 on-platform investors with a minimum investment of £50.[90] On the basis described, the decisional influence that these players might bring to bear would depend on the magnitude of the other shareholdings. One share one vote, not one person one vote, marks the difference between corporate governance and citizen governance; the difference between plutocracy and democracy. Moreover, HR's investor agreement has a handcuff clause, probably intended to block anyone with a grievance from buying five shares just to cause trouble. It specifies that shareholders must raise any objections to its activities internally, "and not publicly campaign against the company's activities."[91]

Bigger investors may have put in sums exceeding £500 using the website's off-platform option. If so, this is private and not visible to the public eye. Mystery therefore surrounded the funding source until, three days after HR had issued its riposte to the SLF, a surprise announcement was made by the Leeds-based UK Infrastructure Bank (UKIB). As a British government agency, it was to step in and provide a £12 million bridging loan.[92] In parallel with the announcement a blog came out from UKIB's two job-sharing directors of strategy and policy.[93] It said that the deal was the bank's "first natural capital deal and first deal exclusively in Scotland." It looked forward "to working with

[89] HR crowdfunder FAQs: https://invest.highlandsrewilding.co.uk/help
[90] HR crowdfunder investment site: https://invest.highlandsrewilding.co.uk/invest
[91] HR Crowdfunding Offer Document, source as described below.
[92] UKIB £12 million HR loan announcement: https://www.ukib.org.uk/news/uk-infrastructure-bank-announces-first-natural-capital-transaction
[93] UKIB directors' blog: https://www.ukib.org.uk/news/forefront-pioneering-new-approaches-scotlands-emerging-natural-capital-markets

partners in Scotland, including the Scottish Government, the Scottish National Investment Bank and NatureScot, and others across the UK." However, it gave no explanation as to why the transaction was not coming through its Scottish banking counterpart, or how, parachuted in from outwith, its signalling to the land market might mesh with Scotland's public policies of land reform.

The blog said that "natural capital markets ... have emerged as a way of generating sources of revenue from improvements to our natural environment", and that "these diverse new income streams include the sale of credits for carbon captured by ecosystems and for improved biodiversity." Granted such market mechanisms: "Private investment into high-integrity natural capital markets – at scale and at pace – is a key component of realising net zero, reversing biodiversity loss, and regenerating rural communities."

So, whatever's going to happen is going to happen big and fast. It is hard to avoid a feeling that agendas have been discussed behind closed doors and without the public scrutiny that Scots, and probably the majority of Scotland's elected representatives, might expect. Is this a lifeline intervention for which Scotland should be grateful for the greater good? Or are some of our politicians and policy makers perhaps being alarmed into having the wool pulled over their eyes?

On the surface of it, HR's capital gearing for Tayvallich looks to be a massive 12:1. As bridging loans usually have punitive rates of interest, this will be a stopgap measure until a permanent financial structure is levered into place. Here is where NatureScot's bankers, or similar avenues to institutional funding, might slip into gear. Whether this would come at any cost to the public purse through current or future grant support is an open question. Suffice to say that in a Scottish setting, any rural PFI – albeit nuanced as a PFIP with potential benefits to communities that might want to borrow money[94] - raises memories of one of Britain's first such financing schemes, the Skye Bridge with the Bank of America back in the 1990s. An obstructive campaign eventually led to its being wound up. But the first two lessons later drawn out by the House of Commons' Select Committee on Public Accounts remain salutary. It said: "A better comparison of alternative options was needed," and "Toll payers' interests were insufficiently protected".[95] The UK government has form in Scotland, and its agencies should not be surprised if we might prefer to make our own mistakes. Not that that's hard!

A bank, even a government infrastructure bank, will want repayment. So to the second question: where was the business plan? This is bigger than HR. It becomes a generic question for the sector as a whole. If capital is moving in to Scotland "at scale and at pace", inflating land values as it comes, there is both a private investor interest and a wider public interest as to how the sums add up. Should they not do so, then as the SLC's letter to Jeremy put it, there could be "a high degree of risk not just for Highlands Rewilding, but also for the communities and employees that depend on you." This is because most Highland estates that do not have a strong agricultural base tend to offer their owners perceived benefits such as sport or social kudos other than financial returns. As Christopher

[94] NatureScot pers. com. provided helpful new information in a last-minute comment to this on 25 May 2023, saying: "Yes, communities could borrow money through this project to do things on their own land. However, communities will also be given money (with no need to pay it back) through a form of community benefit payment, as yet to be agreed. As you know, we plan to engage with communities to design an approach that works for them. That could be a loan, a community benefit, shared ownership, a profit share – whatever works best for each community – and within of course the financial ability of the project to pay this."

[95] Commons Select Committee on the Skye Bridge: https://publications.parliament.uk/pa/cm199798/cmselect/cmpubacc/348/34803.htm

Bourne-Arton of the England's Country Landowners' Association had told me on BBC Radio 5 at the height of the Eigg campaign in 1994:

> Don't forget you need an awful lot of money to run a Highland estate.... You either own a Highland estate or you run three Ferraris, six racehorses and a couple of mistresses – I mean, the costs are much the same.... The Highland estate is never going to pay for itself. It is going to need constant capital input year after year.

Saplings planted in a field don't normally provide an early source of revenue. Estates don't often graze cash cows. Nobody with whom I had discussed the question had seen hard numbers, and the only way to have got them would have been by masquerading on HR's website as a potential buyer of shares. An annualised rate of return such as HR offered means a rate averaged over a period of years. How could "at least" 5% plus dividends add up?

One obvious contributor is forestry grants for planting woodlands. Earlier, we saw that BrewDog looks to the Forestry Grant Scheme to help to balance their rewilding books. This provides funds for both planting and maintenance over the first five years. Forest Research lists the levels of subsidy across the UK as:[96]

> "£14.8 million was paid in grants for forestry by the Forestry Commission for England, £45.8 million for Scotland by Scottish Forestry, £6.1 million by the Welsh Government and £2.8 million for Northern Ireland by Forest Service in 2021/22."

At the moment, Scotland offers grants of up to £4,320 per hectare for mixed conifers and £7,560 per hectare for native broadleaves in target areas (such as Scottish islands).[97] Even the lowest rates, those payable for conifer monocultures in non-target areas, offers £2,960 per hectare. Moreover, private planting initiatives get a comparative advantage over other land users from woodland reliefs on income tax, inheritance tax and capital gains tax.[98] These do not apply to corporate bodies such as HR or, indeed, to community groups, which leaves these at a relative disadvantage to individual landowners.[99]

If push came to shove, HR's board could simply decide not to pay out the 5% annualised returns. Companies commonly withhold dividends, either in straitened times or if they see wider shareholder benefits in retention and reinvestment. Alternatively, if needed, HR could liquify funds by selling off parts of the estate or re-mortgaging. The fallback position for investor peace of mind is probably the expectation that rural land prices will remain stable or continue to rise, and the hope that they will do so untrammelled by any adverse political interventions such as land value taxation, legislation around management obligations, or restrictions as to who or what can own land and how much of it.

HR seems to have updated its aims, perhaps taking on comments about community. It gives them as being:[100]

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[96] Forest Research, grants: https://www.forestresearch.gov.uk/tools-and-resources/statistics/forestry-statistics/forestry-statistics-2022/8-finance-prices/
[97] Rural payments forestry: https://www.ruralpayments.org/topics/all-schemes/forestry-grant-scheme/woodland-creation/
[98] Rural tax reliefs: https://www.gov.uk/guidance/woodland-owners-tax-planning
[99] See SUII's review of changes that are taking place in the Highlands through voluntary nature-based carbon offset projects: https://strathprints.strath.ac.uk/85401/
[100] HR's website home page: https://www.highlandsrewilding.co.uk/

> .... to help rewild and re-people the Scottish Highlands by increasing carbon sequestration, growing biodiversity, creating green new jobs and generating sustainable profit for purpose.... We manage land to facilitate measurable increases in biodiversity and carbon sequestration, to achieve ethical levels of profit, and to enable community involvement in rewilding.

As with NatureScots's PFIP, carbon and biodiversity seem to be amongst the contributors to profit. However, it all remained a bit of a mystery until on May 11th somebody, in the course of making a point, sent me a copy of HR's "Crowdfunding Offer Document".[101]

The document specifies that it is not a prospectus, but it's a good substitute. Sensibly, it repeatedly warns investors not to get involved "unless you're prepared to lose all the money." Jeremy's introduction nods towards the Green Finance Institute estimate of £20 billion is needed by Scotland to stop biodiversity collapse by 2030 and that this is going to "drive complete system change in land management across most Scottish land." But are we then straight into rewilded unicorn habitat?

> My experience and that of many of my team who have journeyed with me from solar renewables to nature restoration, has demonstrated that early capital investment can drive exponential growth and complete system change to the advantage of both those who invest early and to the wider world which relies increasingly heavily on renewable resources and natural capital. Our team of scientists and land managers has been selected to help trigger explosive growth in Scotland's embryonic nature recovery industry, like we did in the solar sector.

So, no messing about there! This is a job to get on with and get done. "With 2 and a half years of experience on just over 850 hectares" HR's land managers and "our scientific firepower" are developing "an exemplar for rewilding" which have benefits ranging from green jobs to regenerative agriculture, "and is informed and co-owned by local communities." What co-owned means is not specified. Does it mean a hybrid community ownership? Or is it just that some people in the community have purchased HR shares? Whichever it might be, or both, within that initial 30 months HR has already created "a strong rooting in our local communities". The language may be brazen, but does this sound like messing around with the *Silver Standard*. If nothing else, Jeremy has set a bar to up the ante of the *lambda* **λ**. I'd not complain on that front.

Two financial scenarios are laid out, a base one where Beldorney and Bunloit are already in ownership, with another TBD, presumably Tayvallich to be developed. And a scale scenario with a further two TBD estates added. Leaving aside the scale option, over a 10-year investment time horizon the base anticipates gross revenues of £63.6 million, which after deducting running costs leaves pre-tax earnings just short of £25 million.

Revenue is expected to derive from 10 streams. Some of the these might raise a wry smile. Alongside regenerative agriculture and renewable energy, there's eco-building with ruined "crofts" to be converted into "smart clachans", and "nature recovery retreats ... for small groups of executives to immerse themselves in nature" at pricing levels suggested as reasonable "by current

[101] *Crowdfunding Offer Document: Taking nature recovery to Scale*, Highlands Rewilding Ltd., December 2022. This was sent by a person I'd only recently connected with, and not from any of the communities that HR has an interest in.

and former business leaders of giant companies in our club of founding funders". Perhaps Jeremy could share a smile at the thought of Davos glamping in the woods.

The biggest revenue stream, however, at 53% of the profit contribution, is the Platform Service bringing in £33.8 million over the decade. This targets "the approaching nature-recovery reward system". It will produce and sell baseline scientific data around such matters as biodiversity and carbon sequestration, linking together research on the ground, data analysis and markets, including the brokering function "to sell the uplift credits on the landowners' behalf".

It's the vision of a mini-university with a very active enterprise arm. Jeremy sees it as driven not for personal gain, but for the wider good. Whether it is viable I cannot judge. However, much hinges on the "uplift credits" mainly for biodiversity and carbon sequestration, that can draw emissions trading revenue from giant corporations to the land, whether through compulsory or voluntary ETS. Here is where it complicates. The base scenario budget anticipates 20% of the decade's revenues, £12.7 million, as deriving from "biodiversity uplift credits."

HR acknowledges that "there are major uncertainties in this plan arising from the emphasis on biodiversity uplift credits and the absence, as yet, of government policies for a land management economic reward system for reversing biodiversity collapse in Scotland." That puts it lightly. The Scottish Government's *Biodiversity Strategy to 2045* that was issued December 2022, the same month as HR's Crowdfunding Offer Document came out, makes no mention of biodiversity units or credits. It speaks of establishing a values-led, high-integrity market for responsible private investment in natural capital," but what it proposes is a £65 million Nature Restoration Fund and to "shift half of all funding for farming and crofting from unconditional to conditional support by 2025, with targeted outcomes for biodiversity."[102]

How can this add up to a credible business plan? Could it be that HR has up its sleeve something other than a Scottish Government scheme for natural capital credits, maybe something of its own design? Or is it, as the Crowdfunding Offer goes on to say (p. 24): "We will continue to engage, at the highest possible level, with politicians and officials crafting the new natural capital land-management rules, seeking alongside confederates who will be practitioners like ourselves to influence an optimum outcome." In other words, HR and other landowners will lobby the Scottish Government in their favour. But partly also, and perhaps more importantly, HR will undoubtedly view their market for data in UK-wide terms and internationally, consistent with much wider international actions pursuant to the measures agreed at COP 26. It may be, therefore, that even though the £12.7 million from biodiversity uplift credits is unlikely to transpire as such, for restorative land use can win support from other sources, and even should they make minimal incremental difference to existing subsidy support, the real value of "doing the right thing" to HR lies in the data and expertise, that can also be sold elsewhere. If that is correct, it repositions HR as a technology-led startup as much as a rewilding one.

As I know little about that commercial field, I cannot comment further. What I can do, and remembering that NatureScot saw the sale of carbon credits as a major incentive for its bankers, is to examine these in HR's business plan. Interestingly, for all the mentions that climate change and the imperative to sequester carbon receive in HR's publicity, it plays only a small part numerically. The base scenario looks for just £1.6 million, or 2.5% of the total profit contribution. As one of my

[102] SG's biodiversity strategy to 2045: https://www.gov.scot/publications/scottish-biodiversity-strategy-2045-tackling-nature-emergency-scotland/documents/

reviewers put it: “Carbon credits get all the plaudits as the lead singer but under HR’s current assumptions, they’re arguably an expendable member of the band.”

We will turn to the complexities of projecting revenue from selling carbon credits in the next three sections. But for now, suffice to note that HR anticipates sequestering 4 tonnes of carbon per hectare per year from its peatlands, which is well within the bounds of reasonableness, but 6 tonnes from woodland. This as we will see is roughly double the figures projected from less favoured land in the west of Scotland. The more optimistic figures may either reflect the use of better land, and/or their having based the estimates on the mid-ranges published by the Environment Agency, which likely uses figures from more favourable English growing conditions. More speculatively, HR assumes that voluntary carbon prices will rise by 10% a year “from £40 to just over £94 per tonne at the end of our ten-year plan” (p. 28). As we will see, this varies depending on the kind of carbon unit being talked about – whether they are pending or verified. For a new project, most are likely to be the former, which at the time of writing would suggest a price nearer to £20 per unit, though perhaps approaching £30 if charismatic kudos can be fed in to the marketing.

Again, since carbon sequestration plays a small part in the financial scenario, the exact pricing is a moot point. However, the very fact that its role is minimal might serve as a warning to landowners who might be hoping for a carbon bonanza on the horizon. It will be important to see how, over the next few years, HR’s research assesses the metrics of actual carbon sequestration and its market dynamics. Right now, and at this early stage in the vision, their figures like those of many startups appear to be speculative. Andrew Thin’s letter from the SLC may have precipitated “a very temperate response” but perhaps it was itself tactfully temperate.

Why does any of this matter? It matters because strong arguments are being pitched, globally and nationally, that “carbon capitalism” is the “only way” to combat climate change. There’s a logic in that. And restoring nature is a wonderful thing to do just for itself. But also, as we’ll see in Section 15, doing so to “offset” profligate consumerism is challenged by climate scientists. Behaviourally it feeds an ideology like medieval church indulgences, where a “sinner” hopes to pay rather than more meaningfully have to pray forgiveness of “our trespasses”. A downside, is that this inflates the market value of Scotland’s land. I say so thinking of friends like the couple who are moving from a house tied to their former rural job to a one-roomed home that they’re building on a trailer. They’d tried to buy a plot of building land but were priced right out of the market. Many factors drive that, but rewilding adds to them. That, however, is why it’s so important that social justice walks hand-in-hand with environmental sustainability. It’s why the *Silver Standard* of which Jeremy and HR, in partnership with the people of Tayvallich, is potentially such a pattern and example. Let me move on from HR now, and attempt to untangle the complex valency of carbon and its markets.

11. The Woodland Carbon Code (WCC) – biodiversity to clearfell

Here I will attempt to outline but simplify the complex system of generating carbon credits through the Woodland Carbon Code. In the following sections, I will try to find a path through the rapidly changing ballgame and therefore, confusing impressions, as to how lucrative the process is. I’ll then look briefly at the Peatland Code and the alarming implications of “permanence” for communities, before moving to the wider question of scientific validity and concluding with where it all leaves rural communities of place.

Carbon credits are a means by which anthropogenic (or people-caused) emissions are assumed to be "offset" when trees draw down CO2, and bind it into their leaves, branches, trunks and roots. The products of photosynthesis thereby convert to a tradable commodity, not just for wood that can still be cut and used but, in a surprising twist to the equation, also for the carbon that the wood contains. As we saw with Strathclyde University's SUII report, most communities have little awareness of just how quickly carbon trading of this nature has slipped into gear or of its implications.[103] UKIB will have been well aware of this non-traditional revenue source in lending £12 million to HR. However, it cuts across Scotland's land reform agenda, and arguably, as I have heard suggested, it intercepts "the utility of the Scottish Land Commission itself".

Why so? Because as a novel revenue stream becomes market capitalised, land prices move further beyond the reach of communities. So does the leverage of the Scottish Land Fund's current £10 million annual budget.[104] For comparison, over the period 2014 – 2020 the sum made available to landowners under Scotland's Forestry Grant Scheme alone was £252 million.[105] As we will see, carbon offset trading boosts this further.

The World Bank maintains that in 2021 "Global carbon pricing revenue increased by almost 60% ... to around USD 84 billion."[106] It acknowledges 68 "carbon pricing instruments", including taxes and emissions trading systems (ETS), with more coming on stream all the time. ETS are the carbon trading compliance markets for energy-intensive industries such as aviation and cement-making. They are a sensible policy instrument, designed to make polluters pay and incentivise the shift to lower-carbon energy sources and technologies. In this paper, however, our concern lies with the *voluntary* side of the carbon market. This has three faces in the UK. The Woodland Carbon Code, the Peatland Carbon Code, and under development, the Soil Carbon Code. Here I will focus mainly on woodlands. It is presently a much bigger scheme and information was less hard to locate, but I will include some disquieting remarks about claims for and staking claims to peatland restoration at the end of this section.

The Woodland Carbon Code (WCC) is a quality assurance standard for interests that wish voluntarily to offset their fossil fuel emissions.[107] This might be for personal, CSR or marketing reasons. Examples include an individual paying extra to "offset" a flight, or BrewDog marketing its "planet positive beer". The WCC's home page states that woodlands carbon capture can also "provide social and environmental benefits for many communities across the UK." These include, "biodiversity and habitat creation, improvements in health and wellbeing, benefits for farming, local employment and educational opportunities." The programme is managed for all four parts of the UK by Scottish Forestry (which, since April 2019 to complete the devolution of forestry to Scotland, is the successor agency to the Forestry Commission Scotland).[108] The WCC's chief end is to produce what it calls "high integrity, independently verified carbon units ... backed by the Government, the forest industry and carbon market experts...."

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103 SUII: https://strathprints.strath.ac.uk/83777/7/Hannon_etal_Can_nature_based_voluntary_carbon_offsetting_benefit_scottish_communities.pdf
104 SLF funding: https://www.tnlcommunityfund.org.uk/funding/programmes/scottish-land-fund
105 Forestry Grant Scheme: https://bit.ly/3Oc6tYf
106 World Bank ETS: https://openknowledge.worldbank.org/server/api/core/bitstreams/2b951a76-5fdf-5fc9-8162-5a7d6c841ff5/content
107 WCC: https://woodlandcarboncode.org.uk/
108 FC Scotland devolution: https://bit.ly/3o0RTIv

From here it gets complicated. There are two levels of carbon credits, Pending Issuance Units (PIUs) and Woodland Carbon Units (WCUs), one unit of either equating to one ton of CO2 sequestered. First, a woodland (or peatland) project must be registered.[109] The statistics that the WCC extracts from the UK Land Carbon Registry show that as of 31 March 2023, 1,916 woodland projects were registered across the UK, of which 812 (42%) are in Scotland.[110] One of the principles that these must meet with is "additionality".[111] Put simply, the project must sequester carbon over and above what would have happened on the land in question had there been no project, and where woodland would not otherwise have been the preferred land use. Within three years of registration, a project must be "validated".[112] Again, putting things simply, a validating group such as the Soil Association checks that the landowner's claims on registration were correct, and that the trees or naturally regenerating seedlings are all present and correct on the ground. Carbon capture is now considered to be "pending", and this allows the issue of the first of the two levels of carbon credit, the PIUs. The WCC explains:[113]

> A Pending Issuance Unit (PIU) is effectively a "promise to deliver" a Woodland Carbon Unit in future, based on predicted sequestration. It is not "guaranteed", and cannot be used to report against UK-based emissions until verified. However, it allows companies to plan to compensate for future UK-based emissions, or make credible CSR statements in support of woodland creation.

A 2023 HM Treasury consultation on taxation, land and ecosystem services reiterates that PIUs "allow landowners to generate an income stream earlier in the commercial project", even though the carbon that they promise to capture so far remains thin air.[114] As such, trade in PIUs is a futures market. The WCC therefore suggests carefully caveated model statements as to what a company buying them can claim in its publicity.[115] For example:

> Company [XXXX] has purchased [XXXX] Pending Issuance Units from Project [Name/Number] representing tonnes of carbon dioxide which are expected to be sequestered over the next [XX] years to [date]. These units, if verified, will compensate for X[X]tCO_2e/[X]% of our planned emissions over the same period [and we plan to be carbon neutral by/reach net zero emissions by [date]].

One can imagine what a busy marketing department might make of that. Notice that the key caveat is "if verified", because "verification" is the next stage in the process.[116] Five years in, and then at least every ten years for a project's specified duration of anything up to 100 years, an accredited verifier checks that the carbon drawdown anticipated when the PIUs were issued squares with what is to be found growing on the ground. Both validation and verification are expensive. They cost of the order of £1,000 to over £2,000 a time, thereby favouring large projects or smaller ones for which landowners group together. Successful verification enables PIUs to be converted into Woodland

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[109] WCC registration: https://woodlandcarboncode.org.uk/landowners-apply/2-register-your-project
[110] WCC stats: https://www.woodlandcarboncode.org.uk/uk-land-carbon-registry/wcc-statistics
[111] WCC additionality: https://www.woodlandcarboncode.org.uk/standard-and-guidance/1-eligibility/1-6-additionality
[112] WCC validation: https://woodlandcarboncode.org.uk/landowners-apply/3-validation-initial-project-check
[113] WCC PIUs: https://woodlandcarboncode.org.uk/buy-carbon/what-are-woodland-carbon-units
[114] Treasury: https://bit.ly/42IeoB9
[115] WCC WCUs: https://woodlandcarboncode.org.uk/buy-carbon/what-are-woodland-carbon-units
[116] WCC verification: https://woodlandcarboncode.org.uk/landowners-apply/4-verification-ongoing-check-of-project-sequestration

Carbon Units (WCUs), these trading at a higher value because they confirm that carbon that had been "pending" has now been captured.

In summary, as Strutt and Parker's puts it in their February 2022 briefing, "A Guide to Carbon Markets":[117]

> [A PIU] ... is known as the 'upfront payment market' and is a promise to deliver under the WCC. The quantity of CO2e that will be sequestered is calculated over a period of time and the buyer pays up front.... By buying PIUs, buyers are not directly offsetting their carbon emissions but are able to say that they are on the path to carbon neutrality.
>
> [A WCU] ... is known as the 'through time payment market'. These are credits for carbon that the woodland has already sequestered – usually over the previous five years. PIUs are converted to WCUs over time through verification.

Because the WCC's programme has only run since 2011, and has grown sharply over that period most voluntary carbon units currently on sale in the UK have been validated but not yet verified. This is why it can be thought of as a futures market. Because most of what are currently on offer are PIUs, the WCC advises: "Note that there are very few WCU available to sell."[118] That position will change, not least because WCUs trade for around half as much again the value of PIUs. Once WCUs from a given "vintage" or period of growing years have been verified, either sold or used in-house for application to a specific emissions offsetting purpose, they are "retired". The UK Land Carbon Registry documents these on its "Retired Credits" database, each application with its own 66-character ID code.

For example, the register shows that over the period 2020 – 2021, and drawn from the Duke of Buccleuch's 2012 – 2018 vintages in the Scottish borders, 4 WCUs verified from "continuous cover" forestry were "retired to offset the emissions associated with attendee travel to the SUEZ Recycling and Recovery UK 2019 Customer Conference"; 39 WCUs verified from "no thinning or clearfell" retired to the Shell Go+ rewards scheme which gives customer discounts at filling stations; and 20 WCUs to the energy company Octopus Renewables, this tranche verified from "clearfell" forestry.[119]

The system is ingenious. Very logical. And artistic too, because it paints an impressive impression. But how can clearfell be entertained? Clearfell is usually applied when fast-growing conifers such as Sitka spruce or lodgepole pine, planted at the same time to create a "pure and even-aged" (PEA) forest suitable for industrial end-uses, and brought down with machinery in one fell swoop. But what is the point of carbon capture under such a management regime, and with no control over how the timber might eventually be disposed of?

The justification is that if a landowner plants a forest, carbon is stored up during the growing cycle. Provided the forest gets replanted after each "rotation", and provided WCUs are issued only for the first rotation, an average carbon storage value in its biomass can be calculated. As the WCC's spreadsheet guidance notes put it: "You can only claim sequestration up to the long-term average carbon stock of the site, as after each clearfell, the carbon stock in live trees on the site effectively

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[117] Strutt & Parker: https://newforestmarque.co.uk/wp-content/uploads/2022/03/Simple-Guide-to-Carbon-Markets-Feb-2022_web.pdf
[118] WCC buying: https://www.woodlandcarboncode.org.uk/buy-carbon/woodland-carbon-projects
[119] Register WCU retirement: https://bit.ly/3Oc197x

returns to zero."[120] It adds, "the long-term average carbon stock tends to be between 30% and 50% of the cumulative total carbon sequestered over one rotation."

Moreover, a further major apparent justification for fast-growing conifers is the finding of a major study from Forest Research in 2022.[121] It concludes that managed Sitka spruce plantations are the single most effective way to capture carbon during the growth phase. They achieve some three times the annual CO2 uptake of either natural regeneration or broadleaf forest cover over a 78-year period (Figure S1). Even more dramatically, as The Scotsman newspaper headlined the study: "Climate-busting power of fast-growing conifer forests outstrips native broadleaf trees for decades after planting, report finds".[122] This quoted Simon Hodgson, CEO of the government agency Forestry and Land Scotland (formerly Forest Enterprise Scotland):

> The twin challenges of the climate emergency and the biodiversity crisis can only be adequately addressed through a mix of native and coniferous commercial woodland planted in appropriate locations. As part of a mix of woodland types, native woodlands will play a hugely important part in biodiversity recovery.
>
> However, if we are to succeed in that endeavour we must also deal with the more immediate problem of emissions reduction and carbon capture – and that is where commercial forestry will shoulder the weight. In its early years, a commercial, fast-growing woodland can soak up as much as 11 times more carbon emissions than native woodland.
>
> This gives the slower-growing native woodlands time to establish and develop their complex network of habitats and ecosystems that benefit biodiversity. But even over longer periods of time, commercial woodlands still soak up three times as much carbon emissions as native woodlands.

The report factors in soil carbon losses caused during the preparation of land for planting. This is caused by such measures as the removal of perhaps a third of existing vegetation, scarification and drainage causing the soil to dry out and release carbon. It acknowledges (p. 11):

> Effects of initial soil carbon losses offsetting carbon sequestration in other carbon pools are particularly noticeable in woodland creation programmes over longer periods (25 years), where carbon stocks in the woodlands created later in the programme do not have enough time to recover losses of soil carbon before 2050.

2050 is an iconic year in many such assessments because it is Paris Agreement's net zero target date from COP21, agreed to by governments that adhere to the United Nations Framework Convention on Climate Change. However, the Forest Research report only considers the establishment of a forest. That's good for hitting 2050, as a forest planted today is unlikely to felled before then. But what of the carbon dynamics if, in an accountant's terminology, we are to treat the Earth as a "going concern"? What of repeated clearfell rotational cycles such as the WCC's permission permits?

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[120] WCC spreadsheet: https://woodlandcarboncode.org.uk/images/PDFs/WCC_CarbonCalculation_Guidance_V2.4_March2021.pdf
[121] Forest Research: https://cdn.forestresearch.gov.uk/2022/07/QFORC_Summary_Report_rv1e_final.pdf
[122] Scotsman on FR: https://bit.ly/42PDRsg

Not many studies have been completed on this, but a significant one published in 2004 by an Edinburgh University team looks at soil carbon dynamics into the second rotation of clearfelled Sitka spruce stands in Harwood, NE England.[123] It found, "The soil carbon stock of the first-rotation 40-year-old stands was 140 ± 15 t C ha^{-1}, far lower than in the surrounding unplanted grasslands (274 ± 54 t C ha^{-1}), while clearfelling caused a further decline (100 ± 13 t C ha^{-1})." That suggests a fall of (274 – 140 + 100) = 234 tonnes of carbon per hectare, all else being equal, over the rotation from land preparation to the completion of felling. Bad news within a 2050 framing. However, on the second rotation, soil carbon starts to recover due to the build-up of such organic contributions as root biomass. This leads to the preliminary finding that: "The increase of soil C stocks in the stands growing in second rotation indicates that soil C stocks can recover towards the end of this second cycle to values approaching those prevailing before the initial planting, some 75 year earlier."

In other words, if you wait 75 years until just before you cut down the second rotation, or you forsake the second rotation and perhaps move over to lower-impact continuous cover forestry, soil carbon starts to come good again. However, in terms of the impact on climate change, neither of the studies just mentioned have it within their remits to discuss the nature of the carbon that is lost from the soil. When biomass rots, especially in the anaerobic conditions that such invasive techniques as clearfelling can leave behind, it's not just CO2 that is released. It's also methane (CH4) – "swamp gas" or "marsh gas" – which has a "global warming potential", if measured over a twenty-year time horizon as it gradually degrades, of between 84 and 87 times that of CO2. As such, one cannot make a one-to-one comparison between soil carbon lost and CO2 sequestered by trees.

In the wake of the Forest Research study the argument was played out that that if carbon capture is the main objective, why not just plant Sitka? A native broadleaf forest would eventually capture much the same amount of carbon, but slowly, so why hang around in a climate emergency? I have suggested here that ecology doesn't fit with linear thinking. Like all community, it is a complex interconnected process. Care must be taken in using studies for purposes perhaps beyond what they were intended for. The experts behind the WCC may be under industry pressure, but they are most unlikely to be fools. Like staff at NatureScot, they will be responding to both global and national political obligations, trying to work with the art of the possible within their terms of reference. I do not know the back-room details, but it could well be for the kind of reasons outlined here that, since October 2022, the WCC has reshuffled its incentive structure. They have made the carbon payback for fast growing conifers less profitable. I have not been in a position to try and quantify this. But as one forester put it to me, and I paraphrase: "It's still a bit of added income, but not enough to make a case for clearfell."

A final point on forest types is raised in the current issue of *Reforesting Scotland* magazine. Running with the theme, "Green Lairds?", it features articles (free online) by Jeremy Leggett about Highlands Rewilding, by Lorna Schofield of the Knoydart Forest Trust about the community's cautious approach to carbon credits, and by a researcher Theo Stanley.[124] This summarises his PhD research into whether or not the WCC's incentives stimulate natural regeneration.[125] He concludes: "Ecologists frequently told me that they were subtly forced to prioritise tree planting ahead of natural regeneration, in the pursuit of carbon finance." Natural regeneration, "as several carbon brokers

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[123] Sitka carbon: https://www.sciencedirect.com/science/article/abs/pii/S0378112704007194
[124] Reforesting Scotland green lairds: https://reforestingscotland.org/journal-67-urban-greening/
[125] Theo Stanley: https://reforestingscotland.org/wp-content/uploads/2023/03/TS-Carbon-finance-p19.pdf

explained to me in interviews, is often difficult to create a carbon income," because it is slower, less reliable harder to measure.

Measurability, combined with regimented contract planting regimes, accounts for what is not infrequently encountered by way of rows of trees planted out in long straight lines at regular intervals. The outcome may indeed be a broadleaf forest, but with the aesthetics undermined, at least in the early years. As a bathroom tiler once said to my wife and me: "It's harder to do random."

12. The financial drivers of trade in carbon offsets

I am far from alone in having had great difficulty in trying to establish just how much revenue can be generated from selling carbon credits and therefore, how much on financial merits alone they are likely to drive uplifts in rural Scottish land values and land use. One view, is that PIUs and WCUs make "not a lot of difference" given the wider picture of land economics. As Jon Hollingdale explained in a 2022 paper for Community Land Scotland, "Green finance, land reform and a just transition to net zero" (p. 18):[126]

> As revenue projections from the Real Wild Estates Company demonstrate, whilst green grants and carbon finance are useful in the short term to facilitate land acquisition and land use change, longer term income flows are primarily anticipated from the development of commercial and residential property.

In addition, a number of land agent blogs and people that I have spoken with on the ground remark that landowners are holding back from diving in, because they're uncertain how stable the future market will be for carbon credits, and wary of the long-term commitments that must be made. That said, an alternative view holds that carbon credits can make "a great deal of difference". How so? Because it is mainly more marginal land, typically rough pasture, that fits the WCC's "additionality" criterion by which the registration of a project can leverage a change of use to tree planting that would not otherwise have come about. Not only would such land have been the most within the financial reach of villages or townships that see their future in the opportunities opened up by community land buyouts, but in addition, and as a more hidden qualitative factor. As we see so often and clearly in the Scottish isles and other communities that in some respects are "on the edge", it can be precisely as a consequence of marginality from the mainstream that cultures of "mutual aid" can be strongest.[127] This adds an underlying resilience of community cohesion that is so precious for a land trust to thrive.

Two main questions are at stake. How much does carbon sell for, and how much can a forest generate over a given period of time? Large investors generally don't have an interest in making their business plans public. I found myself earlier this year in a number of discussions with affected communities, with academics, and even people in the financial sector, and we were all in much the same manner fishing around, trying with difficulty to figure out the answers to these questions. What I'm going to do here is plot my journey, because aspects of it will reflect how many a landholder (my preferred term for community landowners), conventional landowners, and impact

126 Jon Hollingdale: https://www.communitylandscotland.org.uk/wp-content/uploads/2022/08/Discussion-Paper-2022-Green-finance-land-reform-and-a-just-transition-to-net-zero.pdf
127 Kropotkin: https://theanarchistlibrary.org/library/petr-kropotkin-mutual-aid-a-factor-of-evolution

investors might experience the journey. As I go, I hope the answers will emerge. Skip to towards the section end if you can't be bothered with the faff!

What figures for carbon offsetting profitability that are to be found in the public domain rate low on internet search engine listings. Moreover, approaching as a novice, I often found their information full of traps for the unwary. For example, a glance at live carbon markets worldwide shows how complex and open to confusion the whole field can be.[128] There is no simple answer to the simple question: "What does a tonne of carbon trade for?" At the time of writing, from the link just given, the answer could be stated as anything between 77 cents and 89 Euro. A few days earlier some of the figures had varied by 10%. It's yet another gallery in casino stock exchanges. The prices depend primarily on whether they're for voluntary offsets (low prices), or mandatory markets for industrial compliance (high prices). There are multiple categories inbetween, and significant variations in trading values across the globe.

In trying to get a grip on the WCC's UK pricing for voluntary carbon credits, I found my first solid ground (thank you, Jamie McIntyre) with a Forestry Commission (FC) "research note" issued in 2017: "Assessing the investment returns from timber and carbon in woodland creation projects".[129] This uses discounted cash flow (DCF) methodology to derive a project's net present value (NPV). DCF is widely used in forestry economics. It became popular as a tool of capital budgeting – that is, working out the balances between capital and returns - in the 1970s. It applies reverse compound interest to "discount" a flow of future costs and returns from a project, so to derive a notional bottom line known as the "present value" equivalent. Put it like this. If you place £100 in the bank you might expect, at present rates, 3% interest. Leave it there for 40 years, and it compounds to about £330. DCF turns that round. It says that if in 40 years you fell your forest and receive £330,000, in today's value (and leaving aside all other considerations such as costs and inflation), its worth the equivalent of £100,000. What's useful, is that when costs and returns arrive at different times across a project's duration, DCF helps to boil these down to a single value (or alternatively, an IRR or internal rate of return), and this allows the economics of each project to be compared in a time-conditioned manner.

DCF is widely used in forestry and often, as something of a convention, applying the arbitrary discount rate of 3%. Such a spanner from capitalism's toolbox is the monkey-wrench of any self-respecting MBA class. However, at higher discount rates, any investment that has the greater part of its net returns extending much beyond thirty or forty years will find future values "discounted" back to very little in present-day terms. This is much of the reason why economists consider it to be "uneconomic" to put up buildings made to last for several generations, never mind the quibbles of those who argue for aesthetics, heritage or the sustainable use of resources. It's why it's "viable" to plant a stand of Sitka for harvest in as little 35 years, but not a grove of oaks thought out for seven generations hence. The mathematics of compounding means that the way in which value to future generations is looked upon gets whittled down, eventually tending to zero, by a computational device that is predicated on the presumption of instant investor gratification. "What's this worth to me now?" In short, DCF lays bare the criticisms of weak sustainability.[130] Why so? Because with a more humanised vision, the relationships between ecology and economy cannot be boiled down to a point where the only thing that counts is what is countable. As my former colleague the human

[128] Live carbon markets: https://carboncredits.com/carbon-prices-today/
[129] FC research note: https://forestry.gov.scot/publications/606-assessing-the-investment-returns-from-timber-and-carbon-in-woodland-creation-projects-research-note
[130] DCF criticism: https://www.alastairmcintosh.com/articles/2000_discounting.htm

ecologist Dr Ulrich Loening once put it in an article for *Reforesting Scotland* magazine, "discounting discounts the children's future".

However, the economists' argument in favour of DCF is that we're mostly all micro-capitalists. Most of us expect interest if we have money in the bank, or that our pension should end up being worth more than the sum of what we paid in. Because we expect money to have emergent properties across time, it has "time value". All that DCF does is that it encodes the argument that future returns must be large enough to compensate the present-day gratification that an investor forsakes. What's more, don't blame the bankers! They just follow, competitively, what the aggregate of individual investor and borrower willingness. If we hate capitalism, stop first at the mirror. The economist standing in the background shrugs, and mutters something about "the dismal science".

This is why foresters and other investors in long term projects, including public works, make extensive use of discounting. It is for this reason that the Forestry Commission's 2017 study is predicated on a 3% discount rate, and I've explained it because the logic of commercial forestry can't be understood without it. Based on WCC assumptions the FC study concluded, and the italics are mine:

> Overall, carbon finance was shown to add £400 – 1,300 per hectare at £3/tCO2 e and £1100 – 4,000 at £9/tCO2 e. The results ... demonstrate the potential for carbon revenues to make *significant improvements to the financial returns* of each woodland type at prices of £3 – 9/tCO2 e.

When that research note was written, there were only 250 WCC registered projects. The FC stated that landowners could "receive around £3–£15/tCO2e". Today, however, there are over 1,900 registrations across the UK and carbon prices, both for validated PIUs and verified WCUs, are selling for considerably more.[131] The structure of the market has made it impossible for me to pin down exact values, but in their February 2022 briefing, "A Guide to Carbon Markets", Strutt & Parker state:[132]

> Within the UK, companies are paying between £7 and £20 /tCO2e for purchases of PIUs (with the price offered varying according to location and scheme types).
>
> Vintage PIUs (PIUs between verification stages in order to be converted to WCUs) are selling at a premium of circa £30 per PIU. It is expected that prices will increase as pressures to achieve net zero targets will increase demand in the coming years.

Recall what was said about very few WCUs yet being on the market. But note that if that £30 is plugged back into the Forestry Commission's 2017 calculations, we arrive at an outcome that is ten times greater than what was then the FC's threshold price to commence "significant improvements to the financial returns".

Finding so little information online, I first sought to triangulate this conclusion from the blogs of land managers and other professionals who, presumably, have reputations worth not losing. What comes up tops in search engines reflects partly what others are most looking at. One of these, with a well

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[131] WCC stats: https://www.woodlandcarboncode.org.uk/uk-land-carbon-registry/wcc-statistics
[132] Strutt & Parker: https://newforestmarque.co.uk/wp-content/uploads/2022/03/Simple-Guide-to-Carbon-Markets-Feb-2022_web.pdf

laid out website, was Townsend Chartered Surveyors in Exeter, a registered "official trader" of woodland carbon.[133] Their website provides tabs for both woodland and peatland credits. It also has tabs that enable visitors to keep a finger on the pulse of soil carbon offsets and biodiversity units, both of which are currently in development as all manner of nature-based carbon solutions seek to develop markets.[134]

Townsend's worked example is set in an English context, where planting costs can be covered 100% plus there are generous maintenance and other grants.[135] Furthermore, since 2019 the UK government in England has run the Woodland Carbon Guarantee auction. This helps to set a market price by buying up WCUs, offering landowners a "price floor guarantee" (PFG) by which it will continue purchasing their woodlands' future "vintages" or tranches of carbon every 5 or 10 years until 2056, inflation indexed. In this way, they can be assured of a secure future revenue flow.[136] Townsend note that the in the most recent government auction at the time of writing, that of May 2022, prices averaged £23.70 per unit, and that "PIUs have been changing hands on the open market at between £15-20 and WCUs at £25-30."

Further down the web page, their Fact Sheet 7 provides a worked example that profiles a 10-hectare plot of English broadleaf woodland over just its first 10 years: in other words, with no added value from other forest products or spin-offs. This they suggest would generate 4,400 PIUs, which if sold at £20 each would generate a revenue of £88,000. After planting costs, maintenance, and fees are factored in but offset by grants, they come up with a net return for the 10-hectare decade of £123,586.30 which, as they say, is "approximately £500/acre (1,235/ha) income per year on average over first 10 years [and the] woodland should then continue to produce revenue from generation of further carbon units".

I have no background in forest mensuration – the measurement of yields, etc. - but these figures, to put it gently, look like a better bet than Bitcoin! One of my reviewers tongue-in-cheek asked if they were based on fast growing genetically modified eucalyptus. I contacted Townsend by both phone and email and queried both the forest type and whether the WCC's requirement for projects to set aside 20% of carbon units as a "buffer" against unforeseen losses or "reversals" had been factored in to their assumptions. I told them that my copy deadline was imminent. The senior partner promptly replied: "I am sorry we are all blocked out until the 15th May to look at this. Trading BPS entitlements." Presumably, the marketing department was all blocked out as well.

4,400 PIUs from 10 hectares over 10 years equates to 44 tons of CO2 assumed to be sequestered per hectare per year and that, from seedlings newly in the ground. In contrast to Townsend's pitch, further internet searching came up with an international agricultural business consultancy based in the east of England, Brown & Co. Their figures seemed to be built on more solid ground. Rather than coming up with a desk-based calculation amounting to a six-figure sum to the second decimal place

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133 Townsend brokers: https://townsendcharteredsurveyors.co.uk/environmental-services/woodland-carbon-code/

134 We might note in passing that were *biodiversity units* to come into being, Townsend arrive at giddying projections that, they say, are based on consultations with DEFRA. They state: "An example of a high paying habit [sic] would be converting arable fields to other neutral grassland producing 6.4 units/ha, subject to the land being capable of this conversion. This could potentially make up a payment of £128,000 or £1,726/acre per annum for 30 years." They go on to pitch conversion from "one hectare of modified grassland into lowland meadow" even higher, suggesting that potentially this "would result in £172,800 or £2,331/acre per annum for 30 years". As we saw earlier, there are currently no plans for biodiversity units in Scotland's *Biodiversity strategy to 2045* and that HR's ballparks seemed to be considerably lower than Townsend's figures.

135 Townsend WCUs: https://townsendcharteredsurveyors.co.uk/environmental-services/woodland-carbon-code/

136 7th Woodland Carbon Guarantee auction: https://www.gov.uk/government/news/seventh-woodland-carbon-guarantee-auction-dates-announced

– the impressive precision of Townsend's 30 pence tagged on at the end had not escaped my notice – they present themselves as speaking out of practical experience. They say: "We at Brown & Co have averaged ten plus tonnes of sequestration/hectare/year across our native predominantly broadleaf projects." Were that plugged reduced level of output to be plugged in to Townsend's calculations, it would cut the returns down to size to just over £100/ha/annum.

As I and others with whom I was consulting struggled to get answers to seemingly simple questions, I found myself shuffled between the moving sands of PIU and WCU market prices, different woodland types, different forestry management regimes, and different carbon-buyer perceptions of the degree to which different provenances might have charismatic value for carbon offset marketing purposes. I found that I was trying to compare too many apples and oranges with too much chalk and cheese. For what is the point of metaphors if you can't mix them? Moreover, a policy brief from Grantham Research Institute on Climate Change and the Environment at the LSE suggests that, to meet net-zero targets, the "shadow" or target carbon prices for compulsory ETS schemes would need to be around £60 per tonne in 2030 and £160 by 2050.[137] If that in any way suggests a future shadow price for the voluntarily traded carbon of the WCC, we get a sense of the height to which speculators might hope to see the unicorn buck the alpha.

Breakthrough came from two directions. One was to find deep in an internet search a Forestry Commission document announcing that, for its next Woodland Carbon Guarantee auction in May 2023, the government in England has set a "reserve price" of £30. This is defined as reserve in an unusual sense, as "the maximum that it is willing to pay for each WCU".[138] And this, because the English government buys up WCUs both to stabilise and to set the market. Its "reserve price" indicates the maximum that it is willing to bid. Note, however, that if one sets such a price against Forest Research's 2017 conclusion that any price above £3 per carbon unit could make "significant improvements" to landowners' financial returns, then we might ponder whether the current direction of carbon prices potentially a tenfold leverage towards shifting patterns of land use. One way or another, we can conclude from the above discussion that for working purposes, £20 per unit is probably a reasonable average value for PIUs, edging towards £30 for WCUs.

The second breakthrough came around forest yield expectations, when Jon Hollingdale pointed me to some figures in his paper on green finance, the significance of which I had not earlier picked up on.[139] As we've seen with the case studies of Townsend, Brown and Forest research, these are much fickler to get a grip upon. Table 4 of Jon's paper (p. 13) presents his analysis to December 2021 for Scotland of the WCC's statistics and does so for the average life or durations of the projects then on the database.[140] For example, the lowest category is "thin and clearfell", as would be applied to fast-growing conifer plantations, mostly with a project duration of 40 - 50 years. This came out averaging 142 carbon units/hectare, and clearfell in various categories accounts for just over half of the registered project land areas. The highest category is "mixed mainly no thin or clearfell" such as would apply to natural regeneration. These mostly run to the maximum project duration of 100 years. Assuming that figure, this averages out for Scotland at 380 carbon units or 3.8 credits a year. His English figures average 44% higher, presumably because of a more clement climate and perhaps,

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[137] Grantham brief: https://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2019/05/GRI-POLICY-BRIEF_How-to-price-carbon-to-reach-net-zero-emissions-in-the-UK.pdf
[138] 7th carbon auction: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1135797/Guide_to_the_seventh_auction.pdf
[139] Hollingdale: https://bit.ly/3W32L5p
[140] WCC stats: https://www.woodlandcarboncode.org.uk/uk-land-carbon-registry/wcc-statistics

thought I have not dug into it, a higher proportion of planting on better soils. Also, he found some wide outliers within these averages.

As a cross check on that 3.8 carbon credits per hectare per year Scottish average, and to use as an example of a community trust's project, we can consider the 10.8 hectare "Sandamhor" project of the community owned Isle of Eigg, conducted in association with the Woodland Trust. The carbon registry gives the carbon calculation spreadsheet.[141] This is the key to assessing how much carbon a forest is projected to produce from a multitude of different parameters. It extracts its baseline data from WCC "lookup tables" for such factors as species, spacing, yield class and management regime, and there is an explanatory document, "Using the WCC Carbon Calculation Spreadsheet" to go with it.[142] These are all linked from the WCC's project carbon sequestration web page.[143] Built in assumptions can be traced back to such sources as IPCC and IUCN documents. Why didn't I and others hit on this more quickly? I think, because we were all initially looking for something much simpler. In my case, by the time I'd got lost down the rabbit holes amongst the trees, it took time to come to see the forest. I say this frankly. It might help others get to grips with their learning curve too.

Back to Eigg, and in addition to Sandamhor's carbon spreadsheet the registry entry provides the project map, design document and validation statement. A click on its "details" tab provides not the details, but summary information.[144] Here we can find out that, over its 100 year project duration commencing 2021, this broadleaf wood is expected to sequester 4,297 units as tCO2e, of which 20% or 858 units will be held back as a "buffer" against mishaps, leaving 3,348 available to be sold should the project so desire, either as PIUs or as WCUs as they become verified over the course of the next century.

These 3,348 units average 33.48 a year, which 3.1 saleable tonnes of carbon per hectare per year. If these were sold conservatively at £20 a unit and leaving aside verification and selling fees, they'd generate £62 a hectare or about £670 a year in total. Such a small project is only marginally viable, but in the patchwork economy of small communities it might still comprise a tranche of somebody's livelihood. It's about the same as a couple of months a year that an otherwise unemployed person would get on Universal Credit benefit. But, how does it compare with other possible opportunities to which the same land might have been put if not forsaken in this way: namely, what economists call the "opportunity cost"? On Eigg, I guess that the only other likely use would have been rough grazing. Most likely, the land in question would be classed as LFA – a "less favoured area". The most recent Scottish government figure that I've found for LFA rentals as averaged across Scotland as a whole, is £27/hectare/annum.[145] Eigg's 10.8-hectare plot might therefore have attracted £292 per annum from the farmer. Depending on the balance of other costs and benefits, putting it over to woodland has potentially provided double the revenue.

Eigg is probably a more challenging location than many for carbon sequestration being off the highly exposed north-east Atlantic coast, but so much for the giddy heights of Townsend's 44 units in comparison to its humble 3.1. So much even for Brown's more conservative 10. But keeping in mind

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141 Carbon registry: https://www.woodlandcarboncode.org.uk/uk-land-carbon-registry/wcc-statistics
142 WCC carbon calculations: https://woodlandcarboncode.org.uk/images/PDFs/WCC_CarbonCalculation_Guidance_V2.4_March2021.pdf
143 WCC sequestration: https://woodlandcarboncode.org.uk/standard-and-guidance/3-carbon-sequestration/3-3-project-carbon-sequestration#accountingforpcs
144 Carbon register Eigg: https://mer.markit.com/br-reg/public/project.jsp?project_id=104000000027374
145 LFA rentals: https://www.gov.scot/publications/results-2019-december-agricultural-survey/pages/4/

the generous levels of the Forestry Grant Scheme as well as various other grants that might be accessed. Keeping in mind spin-offs from the forest such as eco-tourism, the island's Forest School, foraging for firewood, other forest products and the sheer contemplative satisfaction for individuals and the whole community that it is doing something to bring a little more *beauty* back into the world, and for the more-than-human world as well, then the richness of what the WCC's scheme can offer to a community can be glimpsed.[146] It achieves its objectives but, at least in the example worked here, probably without overdoing it in terms of how public revenues are used.

In Section 15, I will raise serious questions about the whole validity of carbon offsetting. This weakens the argument. But the folks in places like Eigg and neighbouring Knoydart which also has a woodland restoration project aren't daft. They understand all that. But as a trustee of the Isle of Eigg Heritage Trust put it to me, "If carbon credits are on offer anyway, we might as well get our share." Eigg is not yet at a stage where it has generated units that could be sold. Over on Knoydart, Lorna Schofield remarks in her *Reforesting Scotland* article: "At present there is no intention to sell the credits until the community has more confidence in the system. The long-term commitment attached to the sale of carbon credits is not a risk that the community wants to take at present."[147]

Lastly, what would be the land use implications if UK voluntary carbon prices carried on rising toward targets mentioned above of the Grantham Institute? That question is explored by Treegeneration, a Welsh carbon offsets trading company.[148] Written around 2021, it sets a scenario by which WCC prices become linked to the UK Government's low, central and high emissions trading scheme (ETS) scenarios. Their example is of some consequence to historical Scottish rural land uses. It compares farming carbon with farming grazing, and states:

> To put these carbon income projections into context, the average farmer in Wales earns around £600 / hectare / year, which equates to an income of £60,000 / hectare over a 100 year cycle. If carbon prices follow the 'Low' trajectory, the expected income generation from planting woodlands is likely to be around £45,000 / hectare over 100 years, and if they follow the 'Central' trajectory, the likely income is over £100,000 for the same period, which is considerably more than that to be gained from grazing in the current market. Since 80% of Welsh farmers income is presently derived from the direct payments they receive through the EU's Common Agricultural Policy, the impact of Brexit is likely to be severe on the sector, and combined with the impact of Covid 19, it is difficult to see where the government will get the cash to replace EU subsidies in the future.

Scenarios like that, based on a simple accounting rate of return (ARR) rather than DCF and without stating whether gross or net, are full of pitfalls. But the question that concerns us in this paper is not to provide an accurate analysis of what outcomes reasonably can be expected. Our question, lies with the financial drivers in investors' perceptions such as might favour one land use over another, and specifically so, when this enforces social change in its wake. Welsh farmers embody a culture of diverse rural employment and a richly woven social fabric that comes from generations of living with and working the land. Would the same fall into place if farmers moved to sitting on their laurels watching trees harvest carbon for offsetting emissions, many of which are led by the more affluent lifestyles of such as ... investors? A study conducted in 2014 of 20,000 hectares of mostly former hill sheep farming land at Eskdalemuir in the Scottish borders by SAC Consulting for Confor, the

[146] Eigg forest school: https://eiggprimary.com/2021/04/30/forest-school-on-eigg/
[147] Knoydart carbon: https://reforestingscotland.org/wp-content/uploads/2023/03/LS-Knoydart-p11.pdf
[148] Treegeneration Wales: https://treegeneration.uk/woodland/woodland_carbon_code

Confederation of Forest Industries (UK), appears to suggest that there would be no detrimental effect. Quite the contrary. It maintains:[149]

> Once in a sustainable production cycle, forestry generates around three times the economic output of hill sheep farming before subsidy payment. Forestry also results in almost double the level of spending in the local economy as agriculture.

I am not in a position properly to unpack the report. I would just pass some quick observations: that it is highly selective, as one would be hard-pressed to find a more favourable location for commercial forestry than Eskdalemuir just 15 miles from a major timber processor and biomass power station; it compares forestry data drawn from local private forestry managers (in person, and with 100% cooperation) with farming data extrapolated from impersonal statistical sources; it models fluctuations in forest economic activity in forest establishment and harvesting to smooth them out, but does not compare this to the regular rhythms of the farming year; it assesses the economic value of forestry across seven parameters such as "haulage" and "management" according employment multipliers varying between 1.5 and 1.9, but accords hill farming a unitary multiplier of 1.5 for "agriculture"; and lastly, there is no discussion of employment quality between being an employee or an itinerant commercial forest contract worker, and being in many cases autonomously self-employed in hill farming.

Farming is often carried out by families that, like the sheep, have long been hefted to their place of belonging. Rather than just an economist's money multiplier – a measure of how much that's spent within a given community or national system boundary circulates round within it - what about a local community multiplier index? What about the mostly low-key but crucial social services that ripple out from hefted families? Often, these are better able to anchor a community than those whose contracts come and go at the whim of private enterprises. Moreover, much of such value-added plays out at levels that are too micro to be picked up "on the books". I mean factors like the passing on of traditional ecological knowledge, or "the implicit meaning of local practices" by which things might be done in "the done way" not for their measurable efficiency, but to tick a number of other boxes that are qualitative. Things like the gifts of standing in for one another, or helping out with one another's kids, for "it takes a whole community to raise a child". A farming family can so naturally and easily draw children in to helping out with work, located as it often is just outside the back door. Such connectedness confers a sense of worth upon a young person: of identity and belonging from having learned to be useful and acquired practical skills and ways of being in relationship with other human beings and the natural world from an early age. But when working under contract, or with a boss looking over your shoulder, using heavy machinery inevitably some way from home, do people have the same degrees of freedom? That's why, with the Confor report, we have to ask about the wood that can't be seen for trees.

However, this must be a wider debate than just a binary of trees and livestock. Either can give or drain life, depending on the social and ecological balances within which they are held, and the government structures that uphold them, hopefully for the common good. But I must add that some of my reviewers have been a lot more up to speed around the Confor report than I have been; insightfully so. One expressed his concern that the debate too easily polarises between "evil green lairds" and a farming status quo that is "hugely damaging to the climate and massively expensive to the taxpayer", but with "not enough recognition of the scale and pace of change necessary, or much vision of what the future will look like." Another responded that neither of the two extremes are

[149] Confor SAC: https://www.confor.org.uk/media/246147/33_eskdalemuirreportmay2014.pdf

helpful, because “neither of them are optimal models of land use”. He called for “a more mixed, smaller scale approach”, citing crofting as an example of what might better deliver optimal mixed objectives.

The piquancy of this discussion will continue in the next section as we turn to peatlands. But note that the trajectory of my concern here lies with the optimal sustaining of the multiple communities of place that make up modern Scotland. We might look backwards, but like the boatman, we are rowing forwards. At which, I am reminded of the crofter, who was an adept at the art of optimalisation.

“How many sheep are in that field?” asked a stranger to the village.

“Ah well, that would depend on whether you would be the man from the subsidy, or the man from the tax.”

13. The Peatland Code and crofting land resumption

Healthy peatland stores up carbon as vegetation such as mosses, grasses and heather die and compact, but mostly do not rot in wet, acidic, anaerobic (low oxygen) conditions. If this process is interrupted due to extraction, fire, drainage or other shifts in land use, instead of serving as a continuous sink for carbon, peatlands degrade and become a source of emissions. The International Union for the Conservation of Nature (IUCN), the world’s leading conservation science agency, states:[150]

> Emissions from drained peatlands are estimated at 1.9 gigatonnes of CO2e annually. This is equivalent to 5% of global anthropogenic greenhouse gas emissions, a disproportionate amount considering damaged peatlands cover just 0.3% of landmass.

The UK’s Peatland Code is similar to the WCC, but is managed by the IUCN UK Peatland Programme which was launched in 2017.[151] Being so recent, the peatland tab on the UK Land Carbon Registry declares only 157 projects as of early May 2023.[152] Of these, 123 (78%) are in Scotland. Whereas Scottish woodland establishment is supported by the Forestry Grant Scheme, the parallel for peatland projects, which must exceed 10 hectares and cost over £10,000, is the Peatland Action Fund which is managed by NatureScot.[153] Their hands-on involvement in tandem with the International Union for the Conservation of Nature probably reflects the high habitat and biodiversity status that peatlands are seen as having, as well as their more precarious conservation status.

The IUCN programme guidance states: “Restoration activities shall revegetate and/or rewet the peatland (excluding removal of plantation forest) and shall result in a change to a condition category

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150 IUCN peat: https://www.iucn.org/resources/issues-brief/peatlands-and-climate-change
151 Peatland Code: https://www.iucn-uk-peatlandprogramme.org/peatland-code/peatland-code-governance
152 UK carbon registry (click peat tab): https://bit.ly/3M9pFn6
153 Peatland Action Fund: https://www.nature.scot/climate-change/nature-based-solutions/peatland-action-project/peatland-action-fund-how-apply

with a lower associated emission factor."[154] Instead of carbon units being awarded for planting trees, they are instead awarded for emissions avoided by reducing or ending degradation. The Code uses a parallel schema and timeframes for issuing carbon units, but the requirements for field survey and documentation are more onerous than for woodlands.[155] Instead of PIUs graduating on verification to WCUs, they become Peatland Carbon Units (PCUs), these also representing a tonne of CO2. The IUCN's carbon trading leaflet confirms: "PCUs can be used to offset, compensate for, or balance a company's current Greenhouse Gas emissions as part of reporting on their scope 1, 2 or 3 emissions."[156] We might note, however, that no claim is being made here that carbon has been sequestered. It has only been prevented from emission due to peatland degradation. To date, no PCUs are on the market as insufficient time has lapsed since the programme started to have completed verifications.[157] However, the IUCN anticipates the prices that the market pays for WCUs to be "indicative".

An insight into the revenue potential might be gleaned from Cumbria's Green Investment Plan (pp. 41 – 42).[158] Based on figures from the IUCN's "Peatland Code Avoided Emissions Table", it states:[159]

> The Peatland Code estimates the avoided emissions from restoration taking into account the condition and depth of the peatland. The avoided emissions are approximately 19 tCO2e/ha/yr for actively eroding peatland or 2 tCO2e/ha/yr for drained peatland. Based on a £20/tonne CO2e voluntary carbon prices, these give revenues of £16,600 - £33,200 and £1,700 - £3,400 per ha, over 50 – 100 years, respectively.

Costs have not been included here, but given that verified PCUs will only around now be starting to appear on the markets and may attract charismatic status, it is possible that they will trade at premium prices. Comparing again to the rental value of LFA land averaging around £27/hectare, these figures justify claims that peatlands restoration could be exceptionally lucrative. Moreover, a Scottish Government report of April 2023, "Mobilising private investment in natural capital", has proposed a price floor guarantee (PFG) mechanism for PCUs similar to the way that the English government runs an annual auction for PCUs. This prompted Andy Wightman to tweet: "Yet another report by ScotGov asking HOW to mobilise private finance for 'nature' without asking whether and how we should be doing it in the first place. Proposes that Gov provide financial guarantees to investors."[160]

Given that many Highlands and Islands communities interested in land reform live in areas where peat has traditionally been hand-cut and today, sometimes machine-cut, landlords may see klondike potential in land previously thought worthless and may leave them less amenable to community land buyouts. Equally, if communities were to trigger a "Part 3" crofting community land right to buy (CCRtB),[161] degraded peatlands might in future be an asset.[162] I know of no studies of how the

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[154] IUCN peat: https://bit.ly/41yIHJ3
[155] IUCN peat info: https://www.iucn-uk-peatlandprogramme.org/peatland-code/introduction-peatland-code/projects
[156] IUCN peat leaflet: https://bit.ly/41CEzYG
[157] IUCN buyers: https://www.iucn-uk-peatlandprogramme.org/peatland-code/introduction-peatland-code/buyers
[158] Greening Cumbria: https://greeninvestmentplancumbria.files.wordpress.com/2021/12/cumbria-report-final-2.pdf
[159] IUCN calculator: https://www.iucn-uk-peatlandprogramme.org/sites/default/files/2019-07/PC_Emissions_Calculator_v1.1.xls
[160] Andy Wightman, 14 May 2023: https://twitter.com/andywightman/status/1657763905517518851?s=20. SG's report on peatlands PSG: https://www.gov.scot/publications/mobilising-private-investment-natural-capital/documents/
[161] Crofting CRtB: https://www.gov.scot/publications/crofting-community-right-buy-under-part-3-land-reform-scotland/
[162] In March 2023 the Scottish Government issued a model template to assist this process, which is considerably more complex than a regular "Part 2" community right to buy (CRtB).

Peatland Code is affecting communities, but I can report an anecdotal sense of impressions from having being raised in, and regularly visiting, the Isle of Lewis.

Here, most us were involved in hand cutting peat for winter fuel during my childhood in the 1960s. Very little is undertaken now. As an old woman in Gravir said to me pointing to her plastic tank of central heating oil, "That's the peat stack now, the green peat stack." There were right and wrong ways of cutting. The correct approach, once subject to inspection in some areas, was to remove the surface turf and after the cutting was finished, lay it carefully back down so as to leave behind a continually growing surface. The older indigenous people could be quite pedantic, one woman in our parish of North Lochs even polishing the peat bank's face with a wet dish cloth after cutting to prevent the bank from drying out and cracking. A cracked bank fragments the following year's cut. Our traditional ecological knowledge sought to avert such damage. However, it is true to say that where such knowledge might be lacking today, the right ways are not followed, and the land can be left to bleed a crumbly black peat "dross". There is a case for training, especially for newcomers who might move in to an area and not know its customs.

Amongst my own generation, I hear mixed views about peatbank restoration. On the one hand, there is scepticism of claims that degradation continues unabated. I have sympathy for that viewpoint. Everyone can see that after twenty or thirty years or so of abandonment, old peat cuttings grow over and revert to bog. There is an area just north of the Dalmore junction near Carloway that, in the 1990s, ran black from heavy working and tractor use. Visual inspection and Google Earth time-lapses show how much of that has naturally restored now. However, the area is flat and so such rapid regeneration would not happen everywhere. Also, there is a view that the old peat workings are our tradition. As "Rusty", chair of the local historical society in my own village, Leurbost puts it, the lines in the moors of old banks are markers of family belonging and identity. We all knew where each other's peats were, and these features, of no significance to outsiders, encode meaning for those who hold dear memories.

I can still point to exactly where I first helped to stack peats along the Grimshader road, and how the family rewarded me with a cup of tea and something to eat: my first remunerated work and drawing into wider community, aged six. Accordingly, I say to the "re-peaters", tread carefully. You may not understand what you are treading on. There is a world of difference between a community land trust deciding to restore old peat workings under the Peatland Code when the community makes the decision and benefits for the common good than when an absentee landlord does it, as Rusty puts it, "just for the money!" The same goes for renewable energy and the same for afforestation. Agency matters for human wellbeing. And where communities are empowered, they have an incentive to learn and to take responsibility – that all-important "ability to respond". This is why the community owned Urras Oighreachd Chàrlabhaigh, the 4,600-hectare Carloway Trust Estate in the Isle of Lewis, has built up considerable local expertise across the Hebrides with its own Peatland Action Officer in place.[163]

Most of those who work in peatland restoration are aware of these issues. Also, most areas of Scottish peatland with which they are concerned are in the parts of the Highlands and southern Uplands. These have no recent history of culturally-grounded peat cutting for domestic fuel, but considerable degradation caused by past agricultural drainage, forestry operations, high deer numbers and muirburn. However, in places where people have lived close to the culture of peat feelings can run high and if not caught quickly. Community buy-in to conservation hopes and aims

[163] Carloway peat: https://www.carlowayestatetrust.co.uk/peatlandaction

are undermined if local people, for reasons justified or not, have cause to feel violated. For example, in the Hebrides people worry when they read about the "turf wars", said to be "one of the most contentious topics in Irish politics of 2022" that divides urban politicians and rural communities.[164] Hebrideans may no longer cut their peats. They may rely on the green peat stack or increasingly, on air source heat pumps. But when living at the end of long supply chains, and when winter power cuts can last for days, it's good to know that the peats area always potentially there on the common grazings as a backstop. But in addition, private landowners are suddenly upping the stakes.

Eight miles from where I grew up is the Garynahine estate. Once, it had a good reputation for community relationships. Less so today. In April, the Stornoway Gazette ran a headline: "Lewis Estate looking to cash in on the peatland restoration racket", reporting that the new French owners have lodged an application for a 288 hectare of "peatland restoration" with a hundred year project duration.[165] The land lies outwith crofting tenure, which is a protected category of land use that gives smallholders both in-bye arable land and a share in the extensive common grazings.[166] That gives the landowner wide freedom. Reporting the Clerk of the Common Grazings, the newspaper said that:

> ... there have been no consultations with the village and they have never met the owner "in any shape or form" since he took over in 2019. They would now seek a meeting and reassurance there will be no implications for crofting rights.

However, even where land is under crofting tenure there is now concern that landowners may attempt to "resume", or claw back, land from the common grazings in a very direct form of carbon colonisation, using deft legal procedures. Also in April this year, a blog on "Natural capital and biodiversity - a Scottish perspective" by Alistair Anderson, a consultant at Morton Fraser Lawyers in Edinburgh, reported as follows:[167]

> Morton Fraser has been commissioned by one of the major crofting landlords to give an opinion on how landlords can enter into peatland restoration under the Peatland Code.
>
> Croft land (including common grazings) may be resumed through an application by a landlord to the Scottish Land Court. It is not a given that the Scottish Land Court will authorise resumption, but the view adopted is that unless specific legislative change is brought into place which deals specifically with the issue of peatland restoration then the only option open to crofting landlords is to proceed by way of a temporary resumption in terms of the Crofting Acts.
>
> Inevitably, the best way forward is to secure the support of the crofters in the longer-term restoration plans and provide them with compensation in terms of the loss of ground grazing. A big question is what level of activity should be permitted on the ground once the period of restoration has been completed and the temporary resumption period has come to an end.

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164 Turf wars: https://www.eurosite.org/wp-content/uploads/2022/10/GP3-Article_Transitioning-away-from-peat_Final58.pdf
165 SY Gazette: https://www.stornowaygazette.co.uk/business/lewis-estate-looking-to-cash-in-on-the-peatland-restoration-racket-4102218
166 Common Grazings guidelines: https://bit.ly/3pFM6so
167 Morton Fraser blog: https://www.morton-fraser.com/insights/natural-capital-and-biodiversity-scottish-perspective

The Cheviot, the Stag and the Black, Black Oil was John McGrath's 1973 play about indigenous people's loss of control over their patrimony owing to sudden influxes of "more money to buy more land".[168] Today's concern is very real, both re-wilding and re-peating being driven by offsetting the black, black carbon. While it is important not to be alarmist, while communities too can also benefit from carbon credits where they own the land, the concerns about the questions being raised here are further elevated by an additional WCC parameter: "permanence". My discussion of this will revert back to a focus on woodlands, for which it can raise major community concerns in terms of changes in land use.

14. People, 'permanence' and land grabbing

As the WCC rightly recognises, there is no point in positing carbon sequestration without permanence. Amazon are a company that expresses this clearly in their policy paper, "Carbon Neutralization & Nature-Based Solutions".[169]

> **Permanence**. Our projects will be regularly and comprehensively monitored (e.g., by satellite) to enable immediate detection and compensation for any carbon losses. If a project suffers a loss of carbon, for example due to fire or illegal logging, that lost carbon must be replaced from other high-integrity projects to ensure the effective permanence of the carbon removal claimed by the project.

Quite how this would be paid for in perpetuity is not addressed, but the WCC has made these remarks in its website section on the management of risks and permanence.[170]

> The landowner shall demonstrate a commitment to permanence...
>
> Permanence describes the issue of ensuring removal of carbon dioxide from the atmosphere is permanent, and not reversed at a future point in time. Woodland projects carry a risk of reversibility and as such safeguards must be in place to minimise that risk as well as to guarantee replacement or compensatory woodland planting should a reversal occur.
>
> If a landowner/manager wishes to change the management regime of their woodland, then the project developer should notify the WCC Secretariat immediately, and provided the alternative management regime will maintain the carbon stock already sold, documentation should be updated via the Project Progress Report at the next verification.

A recent WCC document, written to incorporate a tightening up that came in last October, states (and the italics are mine):[171]

[168] McGrath: http://www.screenonline.org.uk/tv/id/466025/synopsis.html
[169] Amazon carbon: https://sustainability.aboutamazon.com/carbon-neutralization.pdf
[170] WCC permanence: https://www.woodlandcarboncode.org.uk/standard-and-guidance/2-project-governance/2-3-management-of-risks-and-permanence
[171] WCC v. 2: https://woodlandcarboncode.org.uk/images/PDFs/Woodland_Carbon_Code_V2.2_April_2022.pdf

> Landowners *and their successors in title* must commit to a *permanent* change of land use to woodland.

This would seem to require a legal obligation such as the placement of a burden on the title deeds, binding upon future generations. Elsewhere, the WCC specifies that landowners must, "Replant or undertake alternative planting should woodland area be lost due to wind, fire, pests, disease or development."[172]

At this point I found their rules confusing and seemingly contradictory. The issue rests in what it calls "reversals", namely, when changes take place so that woodland no longer offsets the amount of carbon previously claimed for it. To put it simply, the transgression of permanence. Partly to cover this, the WCC builds in to projects a "buffer" system that can make good minor reversals during the "project duration".[173] However, this duration "shall not exceed 100 years", and with additional rules for conifer clearfells followed by rotational replanting. Moreover, "The project duration should not be confused with *permanence*. All projects shall involve a permanent land-use change to woodland cover." But all that said, project holders are advised that, "At the end of a project's duration ... there is no further requirement to monitor the project."[174]

What is meant here? To my untutored ear, it sounds like permanence means permanence and that, irrespective of the project's planned duration, this being the period over which PIUs and WCUs will be generated. As WCC assures "high integrity" offsetting, it places a legal expectation on future generations of owners to honour the carbon capture set in place. Without that, the whole notion of offsetting would transparently be a transient nonsense. Quite what would be the intergenerational bureaucracy to monitor and enforce this, and how it would be paid for, is never discussed. Frankly, it looks rather as if landowners need not worry over much. No further monitoring after a maximum of 100 years means that nobody's going to check up in perpetuity. It might require a little of nimble legal footwork with the title deeds, but the heirs might have the freedom to call in developers, and Amazon perhaps lay down its satellites.

There is a counterpoint to my characterisation, but not one that necessarily helps communities in either the short or long term. Permanence is already built in to policy. In the UK, "woodland" is defined as anything over 20% canopy cover at maturity.[175] As the Scottish Government's woodland removal policy puts it, "At world, EU, UK and Scottish levels there is a strong presumption against deforestation ... with climate change considerations being a significant driver for that stance."[176] That "presumption against" means that once designated for woodland, permanence should normally be presumed. The lack of further monitoring at the end of a project's duration therefore ought not to matter.

Two standards therefore come in to play. On the one hand, those of woodland policy. On the other, those of the WCC monitored "project duration", for dealing in carbon credits. As Jamie McIntyre of the Woodland Crofts Partnership put it to me:[177]

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172 WCC landowners: https://www.woodlandcarboncode.org.uk/standard-and-guidance/2-project-governance/2-1-commitment-of-landowners-and-project-developers-group-managers
173 WCC dates: https://woodlandcarboncode.org.uk/standard-and-guidance/1-eligibility/1-1-key-project-dates
174 WCC duration: https://woodlandcarboncode.org.uk/standard-and-guidance/2-project-governance/2-3-management-of-risks-and-permanence#endofprojectduration
175 Woodland definition: https://bit.ly/3BoOW7T
176 SG woodlands removal: https://forestry.gov.scot/support-regulations/control-of-woodland-removal
177 Woodland Crofts Partnership: http://woodlandcrofts.org/

> Crudely speaking, then, permanence in forestry policy is more of a qualitative requirement (sufficient trees of some sort should remain on the land), whereas permanence in the WCC is more of a quantitative requirement, that the stock of carbon should be maintained. In that sense it is more constraining.

The implications of WCC requirements seem still to be bedding in. It's section on "legal instruments to ensure permanence" notes: "We will develop recommendations for standard terms to be included in contracts between landowners, project managers and investors."[178] But what if a community, in moving from *Bronze* or *Silver* to the *Gold Standard* wishes to decide for itself on its own future land use? What if this is not completely in accordance with a rewilding laird's or a carpetbagger's transient vision, or an heir of Scottish clan lands living in America or Australia?

The question may be small in terms of Scotland's nearly 20 million acres of land, but for local residents who may experience a loss of control over their sense of belonging, it can be very real. Friends of indigenous crofting stock in the Isle of Skye have told me of their concerns about Totachocaire, where 240 hectares (nearly 600 acres) of traditional farmland could have offered a range of community resettlement uses. As it is, the MacLeod Estate's "Rewilding Update" web page states: "A total of 372,000 trees will be planted with different species mixtures to suit the land's terrain and ecology.[179] The project plans categorise this as 30 ha to be left unplanted, and of the remaining 210 ha, about 36 ha will be "pasture" and 174 ha "semi-natural".[180] This infers an average tree-spacing of about 2.5 metres.[181]

McIntyre remarks:

> This is the focus of my own work with woodland crofts – so for me your Skye example could have been made a win-win, if the land, or a decent proportion of it, was put under crofting tenure to create multiple new woodland crofts for which there is huge demand. Unfortunately, traditional landowners have yet to embrace this particular model.

That option could still be open in the future, but given that the plot is WCC registered, the implications of "permanence" are triggered. Moreover, what is really gained by the afforestation's claim of carbon offsetting. MacLeod Estate says that "the carbon offset is estimated to exceed 64,000 tonnes over a 95-year period." What does that look like in everyday terms? A one-way flight from London to Sydney releases about two tonnes of CO_2 per passenger.[182] On a back-of-an-envelope basis, spread over the next 95 years and leaving out the "radiative forcing" of high-altitude emissions which could more than double the impact, the rewilding of Totachocaire will "offset" 32,000 journeys. That's just 40 return trips of a fully-loaded Jumbo Jet.

In reviewing the international context of large-scale carbon land acquisitions, a report from Scotland's rural college, SRUC, suggests that the global norm for a "large-scale land acquisition"

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178 WCC legals: https://www.woodlandcarboncode.org.uk/standard-and-guidance/2-project-governance/2-3-management-of-risks-and-permanence#legalinstruments
179 MacLeod Estates: https://www.dunvegancastle.com/macleod-estate-rewilding-update-march-2021/
180 Skye project plan: https://mer.markit.com/br-reg/public/project.jsp?project_id=104000000027405
181 Tree spacing: https://coed.cymru/images/user/Tree_Planting__Coed_Cymru_2017.pdf
182 Travel carbon emissions: https://travelnav.com/emissions-from-london-united-kingdom-to-sydney-australia

(LSLA) is 200 hectares, and "major land use shifts" on such criteria have been characterised as "land grabbing", and more recently, as "green grabbing".[183]

SRUC cite the International Land Coalition's definition of a land grab as "any type of land acquisition that is in violation of human rights, without prior consent of indigenous land users and without consideration of social or environmental impacts" (p. 13). In contrast by way of scale and suggestive of a lack of the same level of community protection, the consultation paper for Scotland's next land reform bill, *Land Reform for a Net Zero Nation*, proposes 3,000 hectares as the threshold to precipitate a "large scale land holding" public-interest acquisition test.[184]

Recent years have seen discussion amongst such crofting scholars as Iain MacKinnon[185] and James Hunter[186] as to the applicability of indigeniety to Scotland, especially within the crofting *Gàidhealtachd.* The UN's Declaration on the Rights of Indigenous Peoples holds at its heart the principle of "free, prior and informed consent" (FPIC).[187] It repeats on through other international instruments, including the ILO's position on indigenous peoples,[188] in UNEP's Convention on Biological Diversity,[189] and the FAO's *Voluntary Guidelines* on the responsible governances of land, fisheries and forests.[190] Irrespective of whether communities that have long been hefted to the land count legally as "indigenous", FPIC is a powerful concept. The UK's framework for carbon offsetting is laid out in in the British Government's 2023 Green Finance Strategy.[191] A search within its 132 pages on the keyword "community" finds that most such references are to phrases like "the investment community". However, it makes a single acknowledgment of significance. It asserts the need, "to ensure indigenous people and local communities are protected".

As the UK Infrastructure Bank, as Palladium whose strapline is to "make it possible", as Lombard Odier and as Hampden & Co all get set loose in Scotland, in what ways do they understand that acknowledgement? If we are not the said "indigenous peoples and local communities", then who are? Were the Scottish government to introduce a price floor guarantee scheme for peatlands, a scheme like England has so landowners can market-proof and inflation-proof their carbon units, where would this leave communities? How would it not create an incentive to buy land, and to "take the money and run" once the investment returns are gathered? How would it not leave the next owner – perhaps the community - with land that has to varying degrees been "neutered" of its future possible uses?

Any system that attempts to justify the greenhouse gas emissions of its present-day consumption against future sequestration raises the question: What about the future generations who are left with the responsibilities? And what about the science behind it all? We must be careful of the claims made, lest we're to have green wool pulled over our eyes.

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[183] https://sefari.scot/sites/default/files/documents/Final report.pdf
[184] SG net zero consultation p. 19: https://bit.ly/42SAXDv
[185] Crofting indigeniety: https://www.crofting.org/wp-content/uploads/2020/03/crofters-indigenous-peoples.pdf
[186] Hunter crofting rights: http://www.andywightman.com/docs/Hunter_rights_based_land_reform.pdf
[187] UN FPIC: https://bit.ly/3IeYw0W
[188] ILO FPIC: https://bit.ly/430HSdp
[189] UNEP FPIC: https://www.cbd.int/doc/decisions/cop-13/cop-13-dec-18-en.pdf
[190] FAO FPIC: https://www.fao.org/3/i2801e/i2801e.pdf
[191] Green Finance Strategy: https://bit.ly/3O8F9dt

15. 'Greenwash' and science in carbon 'offsetting'

Everything that has been discussed about offsetting so far in this paper hinges on an assumption of scientific validity. We repeatedly hear activists, politicians, policy makers and investors suggest that offsetting is the "only" way to go, or at least, a major tranche of it, and basing their claims on the science of the IPCC and the politics of the Paris Agreement and subsequent COP conferences. However, this is where the worlds of science and policy don't easily sit comfortably. It is insufficiently realised that the IPCC advises governments on climate change and policy options that they might consider, but it does not determine them. Politicians go for what sounds like the most charismatic fix, but this can lead to gross misrepresentation of matters to which the IPCC working groups have probably given highly nuanced attention.

The lacuna that can arise between the two comprise part of what, as we saw, has been called the "physics-politics gap". In few areas is this more evident than in what nature-based carbon sequestration can achieve on short human timescales, and what the politics of climate change likes to think that it can achieve.

Kevin Anderson is currently the professor of Energy and Climate Change at the University of Manchester and a former director of the Tyndall Centre for Climate Change Research. In 2012, he wrote a piece in Nature, starkly explaining that he refuses to associate with the voluntary trade in carbon, because: "Offsetting is worse than doing nothing. It is without scientific legitimacy, is dangerously misleading and almost certainly contributes to a net increase in the absolute rate of global emissions growth."[192] In a videoed talk to Scientist Rebellion in April 2023, he describes (from 16 mins in) the wider context of "net zero" within which offsetting sits, as being "deeply misleading".[193]

The term "net zero" was invoked just 24 times in the Working Group 3 contribution to the IPCC's fifth Assessment Report (AR5) in 2014. By the time AR6 came around in 2022, it surfaces nearly a thousand times in the same working group's contribution. Moreover, its meaning migrates from contexts such as passive house construction, to a presumption of global warming substitution between different gases, albeit with the laudable aim of trying to find a common denominator to constellate policy where multiple variables are at play. Anderson says:

> Almost everyone who talks about climate change says "Net Zero" without really understanding what they mean by it. [But it] typically assumes some sort of multi-layered substitution, and it's incredibly dangerous because this plays into the hands of the bean-counters. It allows us to compare different greenhouse gases and see them as equivalents or from different sources.

Thus, for example, methane can be compared with CO2, but more disturbingly, comparisons are made "across time frames, so the CO2 from a flight today can be compared with the CO2 captured by a tree in 2070." This, continues Anderson in the video, "deeply embeds at huge scale negative emission technologies and nature-based solutions as ways to remove CO2 from the atmosphere," and that, at a scale that would have to be roughly equivalent to the entire global oil and gas industry today.

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[192] Kevin Anderson Nature: https://www.nature.com/articles/484007a
[193] Kevin Anderson video: https://www.youtube.com/watch?v=VpSWwTjYSj8

In conformity with such new norms of parlance, most oil companies have signed up to net zero pledges by 2050. The Gulf oil states in particular embrace the idea of carbon capture,[194] and especially the idea of vast machines using technologies that, as Greta Thunberg said at Davos, would have to be "on a huge planetary scale that is yet to be invented." Meanwhile, they carry on prospecting for fossil fuels, net zero, justifying a "burn now, pay later" approach that is "back-ended" in the sense that emissions reduction technologies, or sequestration measures, are hoped to kick in further down the road, like once the trees become a forest. This allows the political challenges of a more rapid fossil-fuel phase-out to be evaded.

But what, specifically, is wrong with the idea of planting trees to offset emissions? Surely, if a ton of coal is burnt but the carbon then re-captured in the same amount of carbon bound into trees, that's quits? That's net zero? The problem, explains Zeke Hausfather of Carbon Brief in a neatly summarising Twitter thread, is the asymmetry of timescales. It's valid to burn a ton of tree and recapture the CO2 in a ton of forest.[195] As such, rewilding simply restores what was once in human history removed. But coal and other fossil fuels work on geological timeframes. The coal extracted from the earth had lain sequestered there for 300 million years. The Jurassic limestone in the cement had lain for nearly 200 million years. Releasing this into the atmosphere when the planet, the processes of "Gaia", had locked it up and made the planet hospitable is additional to ongoing biological processes.

If this is so, how did so many people, climate scientists included, allow the ideology of offsets to build up such a head of steam? The science of carbon drawdown is complex. Climate scientists in the first several IPCC assessment reports were focused on other priorities, lacked sufficient data, and gave it insufficient attention. A false impression therefore lingered on from early climate science books that carbon drawdown into such as seabed sediments and soils could be completed perhaps in as little as a century – well within the lifetime of a tree. Now, however, and against an ever-escalating scale of anthropogenic emissions, the limitations of natural carbon "sinks" are better understood. The absorption of CO2 into the oceans, for example, is saturating at a rate that has worrying implications for their acidification.

How long, then, does fossil carbon linger in the atmosphere until eventually it stabilises in the earth's crust. On human timescales, and to put it simply, Hausfather links to an article in *Nature Climate Change* with the unsettling title: "Carbon is Forever".[196] And it quotes a leading climatologist, David Archer:

> The climatic impacts of releasing fossil fuel CO2 to the atmosphere will last longer than Stonehenge, longer than time capsules, longer than nuclear waste, far longer than the age of human civilization so far.

Following through from a political and social angle, Chris Williams, a development economist working with the New Economic Foundation recognises that a "natural capital approach" aims to capture externalities and bring them into the economic equation.[197] There's no problem there. That's what Boulding or Schumacher would have intended back in the early days of thinking about "natural capital". But thanks to the appropriation of the idea in weak sustainability, all that offsetting achieves is that it tries "to tackle the ecological crisis by sticking to the status quo, but not

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194 Gulf net zero: https://www.mei.edu/publications/gcc-and-road-net-zero
195 Hausfather offsetting: https://twitter.com/alastairmci/status/1634580813424541697?s=20
196 Nature carbon forever: https://www.nature.com/articles/climate.2008.122
197 NEF nat cap: https://neweconomics.org/2020/01/can-a-natural-capital-approach-restore-nature-in-the-uk

only will this fail to restore nature, it will also deepen inequality if we don't think about distribution, democracy and power." That's why in both its science and its sociology, carbon offsetting when used to justify continued fossil fuel emissions are a displacement activity. They displace into the future a problem that needs more resolute attention in the present moment.

Most of the science discussed here has been debated for at least a third of a century. It is only coming into public view as concern about the heating of the planet hots up. Politicians, policy makers and governments have come under intense pressure to "do something", and more recently since 2018, to "act now" as Extinction Rebellion has it, and to do so by achieving "net zero by 2025".[198] But let's be careful, not so much what we wish for, but how we wish for it, lest bankers join hands with green politicians but in ways not adequately joined up to other policy areas, and specifically, community empowerment and land reform. Rewilders too have found themselves wrongfooted by this. As one said to me, many are now developing serious concerns about the "economic machinery" that has stepped in to meet demand.

With our politicians of whatever shade, our policy makers, our scientists and our electorates, we must go heavy on the issues but gentle on the people. I have worried that in writing this paper my arguments, if valid, might cut too sharply; that they might leave some good people feeling dispirited in their best efforts. As Pink Floyd said, "And after all, we're only ordinary men." The reality is that woman and man alike, we're all on such a massive learning curve. That is why I've had to cast my net so wide, and why also such need for depth while trying to avoid an overload of detail. I can but hope that it might help my readers to understand the wider framings, pitfalls and opportunities of action on climate change. In particular, and if we use the term guardedly in Boulding's original sense of "spaceship Earth", how the three forms of "capital" – natural, human and financial – can all join up. For what is finance at its most primary and uncorrupted level, but a measure of our obligations to one another; and therefore, with the necessary "Jubilee" adjunct to which some traditions have accorded it, a summons to both environmental and social justice.

16. People, nature and vision for Scotland's land reform

As I edited those last paragraphs on 9 May 2023, I accessed Twitter to find missing links about misleading applications of climate science of "net zero". In so doing, I saw that a tweet had just shown up from Andrew Thin, the outgoing chair of the Scottish Land Commission. He used a picture of a farm, its drystane dyke-surrounded pastures newly planted out with conifers. And in a deft 250 characters, he both sums up what I have written here, and points out what it invites for Scottish public policy as carbon offsetting combined with forestry grants is already driving major land use changes, and with the NatureScot PFIP waiting to fall into place. He wrote:[199]

> In Galloway with the board today. Real risk of a car crash between natural capital, forestry and local community interests. Significant public funding involved so potential levers available. Working flat out on further advice to be published shortly.

198 XR 2025: https://extinctionrebellion.uk/the-truth/demands/
199 Andrew Thin, Twitter: https://twitter.com/andrew_thin/status/1655972585945825281?s=20

We have seen in these pages that political support for nature-based carbon offsetting is rightly driven by global alarm about climate change. And we have seen that Scotland, which hosted COP 26 in November 2021, is rightly seeking to take a lead in carbon dioxide reduction. However, as we have also seen, private finance for nature-based carbon capture imposes permanent land use changes upon rural communities and can do so without their consent. Powered by a "weak sustainability" model of natural capital – one by which carbon credits as financial instruments supposedly "offset" greenhouse gas emissions - carbon capitalists can extract reward from the pool of common good. In so doing, they can maintain and even deepen the concentration of landed power. This raises political questions of accountability. As one commentator summarised it in a remark about the NatureScot PFIP: "The world is awash with cash to invest in offsetting projects and the question is what social and economic constraints the state is asking of the investors in return for the rights to invest."[200]

Not only that, but the model of "net zero" offsetting is one that leading climate scientists consider at best to be of minimal effectiveness. At worst, to be an indulgence; and as this paper went to press the Advertising Standards Authority was reported to be considering a crackdown on such corporate claims as "carbon neutral" and "planet positive", except where very good supporting evidence is in place.[201]

Misleading or exaggerated claims are a displacement from the politics of more resolute action. They undermine the Brundtland Commission's understanding of "sustainable development", and they cut across several of the UN's 17 Sustainable Development Goals - the "SDGs" such as are also bolted in to Scotland's National Performance Framework.[202] Specifically, goals 1, 2, 8, 10, 11, 12, 16 and 17 may be weakened: No poverty; Good health and well-being; Decent work and economic growth; Reduced inequalities; Sustainable cities and communities; Responsible consumption and production; Peace, justice and strong institutions; and Partnerships for the goals. Only goals 13 could stake a strong but disputable claim to being Climate action – though in projects where biodiversity is also prioritised, we should include SDG 15 - Life on land.

In his matrix for advancing "human scale development", the Chilean development economist, Manfred Max-Neef, distinguished different ways of addressing "fundamental human needs".[203] To tackle just one thing at a time, is what he thought of as a "singular" satisfier. The danger of singulars is that they can unwittingly double up as "violating" satisfiers of other equally fundamental human needs. The wise approach is development that engages "synergic" satisfiers, these achieving multiple objectives at once. *Development* itself is a word derived from the Old French, *dé-velopp-er*, the unfolding of the *envelope,* as it were. Understood in this sense, development is that which individually and collectively realises human potential. It is not to be confused with the singular satisfier of sustained (as distinct from sustainable) economic growth. The response that synergistic development offers to the climate crisis is to build capacity for lower impact, more self-reliant, self-determined, and interconnected lifeways. It points towards a more autonomous economy, based on what gives life rather than an extractive one driven by markets and a trade in carbon credits that has a questionable basis in real climate science.

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[200] Derek Halden, Twitter: https://twitter.com/DerekHalden/status/1658750297626247169?s=20
[201] Guardian: https://www.theguardian.com/environment/2023/may/15/uk-advertising-watchdog-to-crack-down-on-carbon-offsetting-claims-aoe
[202] UN SDGs: https://sdgs.un.org/goals
[203] Max-Neef matrix: https://www.alastairmcintosh.com/general/resources/2007-Manfred-Max-Neef-Fundamental-Human-Needs.pdf

Two paths diverge before us. One is that of the continued commodification of nature, leading to what Anthony Giddens, who was Tony Blair's sociology advisor in the early days, described as a "disembedded" world view.[204] In this, "The advent of modernity increasingly tears space away from place by fostering relations between 'absent' others, locationally distant from any given situation of face-to-face interaction" (p. 11). That's the world of trickle-down economics, and I think about a village woman, Miriam, who I met in Papua New Guinea in the 1980s. She told me that the foreign logging companies "are like the people who give sweeties to a child to stop it crying while they take its food away." That's what our communities are being offered with, perhaps, the fractional proceeds of a wind farm, or a carbon offset project slapped down on the table. Tempting though it might be, our dignity is degraded as our sense of place gets lifted from beyond our levers of control. We lose touch with integrity and with each other in the micro power-plays that, when control is from an external top-down, rots from the head and ends up ... "disembedded" ... says it all.

The other path prioritises authentic human development. Here community is at the forefront with its *dùthchas* as that sense of heritage in what it means to be or for outsiders, to gradually become indigenous if not native to a place, and to strengthen what might be weak in our humanity. Community is like a basket. The wider structures of society lay out the warp, but community weaves in the weft. That is what is meant by social cohesion: a semi-permeable container, that's not too tight and not too loose, and holds each member of society in relationships of soil, soul and society.

Ideally, we go for what I've called the *Gold Standard,* where communities are the primary social structures in control of where they live, these networked in with the elected governments of a nation as peoplehood – as community writ large. But as a stepping stone in building this from bottom up, perhaps we can work where the way is open with what I've called the *Silver Standard* of not mere community consultation, or even community "engagement" with the bankers at the top table, but local democratically accountable participation that has real power and independence of agency.

In this paper we have seen that:[205]

- Offsetting is arguably the wrong path towards net-zero. At one level, if it is happening anyway communities may as well make the best of it but understand the place-based implications of it as a growing market.
- By its very nature, carbon credits and biodiversity uplift involve inter-generational projects. These are inevitable inasmuch as they help to address biodiversity loss and carbon emissions, but they carry with them a legacy that will expect communities to act as their custodians. This raises questions of the risk-reward trade-off over extremely long time-horizons.
- The market has the potential to displace communities, either directly such as when land is allocated for a purpose that might have given employment but which will now provide little work, or indirectly through displacement caused by rising land prices. Therefore, if rewilding

[204] Giddens disembeddedness: https://voidnetwork.gr/wp-content/uploads/2016/10/The-Consequences-of-Modernity-by-Anthony-Giddens.pdf

[205] I am grateful to Professor Matt Hannon for this this crisp summary, that I have adapted from comments that he made in conducting a very quick review of parts of this paper.

and natural capital investment is not integrated with Scotland's existing rolling programme of land reform, we risk carbon clearances.[206]

- However, the market is sufficiently niche and immature that we are presented with an opportunity to ensure that it can support community wealth building, rather than undermine it, regardless of its net impact on global carbon emissions. The question is what changes ought to be made to the current marketplace: why, when, how, and in what relationship to communities of place?

Scotland's earlier wave of land trusts have given us patterns and examples of what can be achieved. These have evolved hand-in-hand with land reform legislation from the turn of the new millennium onwards. Our NGOs, like the Scottish Community Alliance, the Development Trusts Association Scotland, Community Land Scotland, the Scottish Crofting Federation and multiple rural and urban housing associations teach, mainly through the richness of peer-to-peer learning, where the pitfalls and the opportunities lie. When the new Scottish Parliament came into being, land reform was often described as its "flagship legislation". Today that vision invites a further wave on which to surf – for the good of communities, for the repair of the land and to add traction to our politics and the public agencies that put policy into effect.

What might all of this mean doing? With the help of many others with whom I have consulted, I would suggest policies that weave a warmth of tactical weft to a far-outstretched strategic warp, as follows.

1. If NatureScot is to proceed with its PFIP, robustly build in and resource local democratic consent, accountability and meaningful influence within specific projects, consistent with the *Silver Standard* of Section 9. This needs to be pursued in ways that aim to avoid policy conflict that might result unwittingly from unreconciled goals divergence, and to move as far as is possible towards goals convergence across the sectors of Scottish public policy.
2. Other public and environmental NGOs to consider the same path of action, both to boost buy-in and effectiveness, and to reduce the risks of conservation and environmental action being set at loggerheads with communities, to all-round detriment. The resourcing of such intention might include recognition that while of those sitting at the table might be on salaries, community participants may not be so. Consideration might therefore be given to budgeting in resourcing for them.
3. Privilege democratically accountable community bodies in the allocation of public funding, such as through the Peatland Action Fund and the Scottish Forestry Grant Scheme. The latter made £252 million available over the period 2014–2020 and is criticised for subsiding pension funds and private overseas investors, who drive up land values and change land use but usually have no authentic connection to local communities.
4. Privilege democratically accountable community bodies in both local and national planning considerations, including those relating to land use, renewable energy, housing and other causes beneficial to the community.
5. Recognise that practical definitions of what comprises a local community and its democratic accountability have already been developed by the Scottish Government through both land

[206] NatureScot dispute this. They respond, pers. com. 24 May 2023: "This is not true – see evidence form the Rewilding UK report [from Rewilding Britain] which illustrates a net uplift in jobs from nature restoration, not a reduction. It may be true that some existing projects in Scotland have reduced the number of jobs on the land concerned – but that is not our intention and it is not what the interim principles that we are working towards are about.... We share the same vision of rich and thriving communities, with long term, secure jobs and more control over the decisions that affect the land they live on. That is precisely why we are working with Hampden and Lombard Odier – they share this vision too."

reform legislation requirements to register a "community body", and by the Scottish Land Fund in its guidance notes.

6. Developing a *Silver Standard* MoU template and norm of good practice through which communities can work with incoming private capital, but in ways that give them meaningful power. This would have added gravity were it to be considered and endorsed by the Scottish Land Commission.
7. Develop the suggestion of the Callaghan proposal (Section 9, footnote) to embed a community wealth-building plan into the *Silver Standard* to accumulate a discount on eventual transfer to the *Gold Standard* of full community ownership.
8. Introduce land value taxation and perhaps a tax on private renewable energy projects, with exemption for bodies that are fully democratically accountable within their communities. This would drive down the market capitalisation of land, bringing it more within community reach and generating revenue that could be used to finance future community land buyouts in a self-perpetuating manner.
9. Introduce restrictions on who can "buy in" to a community, and on the concentration of power arising from such buying in. For example, private land holdings above a certain size could be required to enter into a *Silver Standard* MoU with local communities – assuming that local communities desired to have such a relationship, much as in the process of finding their voice in deciding whether to exercise a community right to buy.
10. Legislation and robust implementation requiring landowners to manage their land in accordance with social and ecological best practice.
11. Scottish Government to use its levers, including public consultations, to make the finances around carbon credits explicit, so that people don't have to hunt around on obscure websites for the information that they need to make wise decisions.
12. Lastly, and not exhaustively, but of under-recognised importance: as one enlightened land manager put it to me in consultation around this paper, helping communities to develop "a philosophy of the authority of power". That is to say, understanding how power works in communities, learning to recognise in ourselves and let go of old laird/factor projections that can be so easily but destructively projected onto elected community representatives; and learning to recognise conflict, to know that it is normal in community life, and how to process it. For as the late Colin Macleod of the GalGael Trust was fond of putting it: "Shit happens. What matters is how you shovel it."

Community land trusts throw up abundant examples of people who were once long term on benefits, but are now paying taxes and running their own businesses. It throws up abundant examples of land that was once derelict or degraded being regenerated. This is because land reform as a fulcrum of community empowerment creates a *dwelling place* for both people and nature. It restores the flow of life into a deadened world. It does so with authenticity, with imaginative vision, and with a release of pent-up entrepreneurial capacity.

If, in the name of ecological restoration, we can achieve the *Silver Standard* of community participation - perhaps aided by figures like Jeremy Leggett at their most visionary and humble[207] - then with the good will of our elected politicians and public agencies like NatureScot and the Land Commission we can edge incrementally towards the *Gold Standard* of full community landholding. Then we build up strength of nationhood not just from regenerating grassroots, but from the taproots, and in service not just to ourselves, but towards whole people in a whole world.

[207] Jeremy Leggett: https://twitter.com/JeremyLeggett/status/1612923743826837506?s=20

Just this side of the border with our English neighbours is the little town of Langholm. Its community development trust is called the Langholm Initiative, and it describes itself with an honest simplicity as "working to make our area a better place to live, work and visit."[208]

But from within this vision of people who put people first, an ecological vision has emerged. Over the past four years they have purchased 10,500 acres of upland moor from the Duke of Buccleuch's estates. That's well over 4,000 hectares. Instead of going for grouse moor or conifer plantations, it's now being restored as the native woodland and other species-rich habitats of the Tarras Valley Nature Reserve.[209]

Big bucks poured in as they raised £6 million from corporate magnates, private foundations, the John Muir Trust, and a very great many small donations. The fundraising campaign became, as they put it, "a source of hope and inspiration ... and it highlighted what can be achieved when people come together."

I have little doubt that a source of inspiration for some of their supporters would have been a memorial that stands above the town to its mighty bard, Hugh MacDiarmid. His poem "Reflections in a Slum" offers a reminder to us all of what it's all about.[210]

Urban and rural. Nature wild and free, and human nature too. The italics are the poet's touch, but perhaps they can be ours as well. For ...

> Like a plant it is essential
> To water at first;
> But this in order to get it to flower,
> And I *am concerned with the blossom.*

[208] Langholm Initiative: https://www.langholminitiative.org.uk/
[209] Tarras Valley: https://www.langholminitiative.org.uk/copy-of-tarras-valley-nature-reserve
[210] MacDiarmid "Reflections" (audio): https://writing.upenn.edu/pennsound/x/MacDiarmid.php