SCOTONOMICS

The Scottish Government's Carbon Sequestration Policies and Their Impact on Inequality

DISCUSSION PAPER

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EXECUTIVE SUMMARY

Scottish Government policies to support carbon sequestration, mainly through creating new woodlands and using carbon credits, will have a significant role in a Net Zero economy. Carbon sequestration and carbon credits can be seen as a two-fold policy strategy to encourage investment in Scotland's natural capital as part of a Just Transition.

Scotland plants more trees than any other nation on the British Isles. Its woodlands already create the majority of UK-based carbon credits. The increase in forest cover and carbon credits are facilitated by the Scottish Government's direct financial support for woodland creation, significantly more than the other nations in the British Isles and above the European Union average.

The Scottish Government's approach is likely to increase inequality in both income and wealth as the benefits of this two-fold approach are felt mainly by companies and individuals who already own large tracks or land or can purchase land in an increasingly competitive market.

- The new woodland creation and carbon credits policy framework supports a more inequitable land ownership pattern in rural Scotland.
- Access to the significant benefits of land ownership, including financial compensation, is accruing mainly to those who hold a significant amount of assets, including land.
- Current policies disproportionately support commercial forestry ventures, large international multinationals, investment funds, and large private landholders.
- The dual policy approach supporting carbon sequestration and credits will likely further consolidate land ownership.
- Little of the significant public money spent on new woodland creation is returned to the public purse.
- Local communities are undermined and unable to benefit from a large and growing section of Scotland's natural capital.

INTRODUCTION

“The control of this land with all the political, social and economic values it still represented, allowed these landowners to retain their all-pervasive dominance of society in Scotland' - Robin Fraser Callander, A Pattern of Landownership

Land, how it is used and who benefits from that ownership will play a significant role in a Net Zero economy (Scottish Government 2022a). An increasing amount of Scotland’s land, principally through new woodland creation, is being used to sequester carbon from the atmosphere. A key motivation for ownership of woodland projects is the ability to sell carbon credits in a private market that shows no sign of slowing down (Trove Research, 2021). The destination of financial rewards from woodland creation projects is likely to develop into a critical social justice concern for Scotland.

According to the Scottish Land Commission (2022a), the extent to which revenue will return to the local communities in or near these new, large forest projects and the democratic involvement of local communities is a significant concern. Communities across Scotland have been raising issues with land purchases for generations (Wightman, 2013), and concerns have increased in line with a spike in new woodland creation and rewilding projects. For the communities affected, the land change raises the very real spectre of ‘climate clearances’, a visceral reference to the Highland clearances of the late 1800s in Scotland when people were ejected from their land to be replaced by sheep. The concern is that trees will replace people in this century, and similar to those clearances, it will only be the large landowners who reap the rewards. Inequality of ownership and access to land is a highly emotive cultural concern in most countries, especially in Scotland.

Scotland has one of the world's most concentrated land ownership patterns (Scottish Land Commission, 2018), where approximately 500 individuals own over 50% of the rural land (Wightman, 2013). In a country with significant inequality in both income and wealth, the Scottish Government’s policies in support of carbon sequestration and carbon credits have the potential to increase inequality further.

Over the last few years, the Scottish Land Commission, an independent commission that advises the Scottish Government on land matters, has published several detailed reports and discussion papers covering carbon sequestration and carbon credits. In this report, we draw heavily on these sources.

Across these reports, it is clear that the Scottish Land Commission supports fair use and allocation of benefits from natural capital. In summary, their advice supports policies that will encourage a more equitable distribution of the benefits from land ownership.

The principal aim of this report is to consider the current policy framework and address the following two questions:

- Do the financial benefits from woodland creation and carbon credits contribute to a more inequitable Scotland?
- What can policymakers in Scotland do to support increased carbon sequestration through woodland creation without negatively impacting local communities and increasing inequality?

To address these two questions, we first must briefly define both policy areas, carbon sequestration and carbon credits.

Carbon sequestration is a natural process where CO2 is sequestered or stored from the atmosphere in above-ground biomass, like trees and soil below ground (Gren & Aklilu, 2016). The Scottish Government's principal policy for carbon sequestration is a forestry grant scheme to create new woodlands. All woodland creation projects have the potential to generate financial benefits for landowners through land appreciation, commercial forestry and earning carbon credits (Carbon Plantations Limited, 2021).

The use of carbon markets is embedded in The Paris Agreement (United Nations, 2015) as a market mechanism to mitigate climate change. It will likely be a mainstay of climate mitigation policies for many decades (Schneider & La Hoz Theuer, 2019).

Two different and distinct carbon markets exist to regulate carbon emissions. A cap-and-trade system, often called an Emissions Trading Scheme, allocates allowances between companies in industries emitting high GHG levels (World Bank 2022). The second market companies use to offset their emissions (Strect, 2021) is the Voluntary Carbon Market (VCM). This is a market where carbon emitters exchange credits from sequesters that store carbon. The Scottish Government considers the VCM critical in achieving its Net Zero emissions target by 2045 (Scottish Land Commission 2022b).

DISCUSSION

'There still remain in both parts of the United Kingdom some great estates which have continued without interruption in the hands of the same family since the times of feudal anarchy. Compare the present condition of those estates with the possessions of the small proprietors in their neighbourhood, and you will require no other argument to convince you how unfavourable such extensive property is to improvement' - Adam Smith, An Inquiry into the Nature and Causes of the Wealth of Nations

The following discussion asks if the financial benefits from woodland creation and carbon credits can contribute to a more equitable Scotland. The Scottish Government's primary direct support for carbon sequestration comes from the Forestry Grant Scheme (FGS). In 2021, the FGS allocated £32,476,439 between one hundred sixty-eight projects (Scottish Forestry, 2022a). This allocation of public money has significant distributional impacts. Scottish Land Commission (2022b) states that government policies must ensure that the financial benefits from carbon markets are shared across society, highlighting the risk that large landowners may be the only ones to see the benefits.

To provide further context, we first discuss the Scottish Government's policies in relation to other European nations and specifically with the other nations on the British Isles.

International comparisons

In realising the importance of woodland creation as part of Net Zero targets, the Scottish Government is in step with most European nations. The twenty-seven countries in the European Union support new woodlands to help the group achieve its GHG emissions net removal target of -310 million tonnes of CO2e by 2030 and to plant at least 3 billion more trees (European Commission 2022).

Scotland significantly outperforms the rest of the UK in planting new woodland. It has, since 2008, planted more woodland each year than England, Northern Ireland, and Wales combined (House of Commons Library 2021).

The general funding framework and forestry grant scheme available to landowners in Scotland is similar to other countries in the British Isles. It is, however, significantly more generous. Scotland spent fourteen times more per capita than England and almost five times more than Wales on direct funding for new woodland creation from 2010 to 2019 (Table 1).

AMOUNT OF FORESTRY GRANT MONEY PAID OUT IN EACH UK NATION

(millions £)	ENGLAND	SCOTLAND	WALES
2009-10	24.4	5.7	2.9
2010-11	28.7	18.9	3.8
2011-12	32.5	34.2	5.4
2012-13	32.8	32.3	5.0
2013-14	33.9	35.5	4.1
2014-15	32.4	39.2	1.8
2015-16	23	27.5	3.6
2016-17	23.8	30.5	3.3
2017-18	13.5	37.9	4.7
2018-19	20.5	50.2	5.9
Total	**265,500,000**	**311,900,000**	**40,500,000**
Per capita*	**£3.95**	**£57**	**£12.78**

(SOURCE FORESTRY RESEARCH 2020) * POPULATION FIGURES 2020: SCOTLAND 5,466,000; ENGLAND 67,100,000, WALES 3,170,000

Table 1

No other nation in the British Isles or in the EU transfers such a large percentage of public money per capita into the private sector to create new woodlands. With such large transfers, these policies can shape income and wealth distribution. For a broader context, between 2014 and 2019, the Scottish Government spent £185,300,000 on reforestation (see Table 1), equivalent to more than 80 per cent of the EU reforestation budget of £221,400,000 for a similar five-year period (European Parliament 2022).

On reviewing Scottish Land Commission reports, plus other sources, this report finds five significant areas of concern to suggest that current government policies could increase both income and wealth inequality in Scotland:

i. Use of public money
ii. Tax treatment and financial incentives to generate high profits
iii. The inflation of the value of land currently held by the individuals and companies in Scotland
iv. The use of carbon credits by foreign-owned multinational companies
V. The misuse of carbon credits

Use of public money

The Scottish Government oversees the direct financing of woodland creation. As with any sector of the economy, a wide variety of private and public funding is available to companies, organisations and individuals. This report looks at the largest area of direct support from the Scottish Government, specifically for woodland creation via the Forestry Grant Scheme (FGS), which, since its inception in 2015, has allocated over £320 million to woodland projects in Scotland (Scottish Forestry, 2022a). A detailed analysis of the allocation of funds in 2021 is produced later in the report.

The Scottish Land Commission (2022a) notes the role of public investment in de-risking private investment in woodlands. The Commission does not see this public financing as a one-way street, suggesting that, in the medium term, a percentage of public funding for carbon sequestration should be returned to the public purse. This closing of the finance loop can only allude to the role of a more progressive tax policy for woodland creation. It also highlights that the current funding structure is not contributing in any direct way to the public finances.

New woodland projects, unlike onshore wind, another type of green infrastructure, do not make any payments to community benefit funds (Renewable UK 2022). These funds are designed to offset the impact of major green infrastructure projects in Scotland

Tax treatment and other incentives for woodland creation and income from carbon credits

All income generated from commercially managed woodland is free of income tax and corporation tax (Confor, 2022). The tax treatment for income from carbon credits is more complicated, and companies have argued that this income is also free from income and corporation tax (Gresham House Forest Fund 2020; Carbon Plantations Limited 2021). Tax test cases are yet to be concluded. Taxation has a significant role in reducing or increasing inequality (OECD, 2012).

Government funding principally supports the creation of timber products, and owing to the tax treatment of these products, little of the significant public expenditure returns to the public purse. This tax framework disproportionately supports the creation of new woodland by large landowners, especially for commercial forestry projects, which become more profitable at a larger scale. Investing in a commercial forest is on the rise in the UK. 2021 marked another record-breaking year for the commercial forestry industry, with over £200 million of commercial forests traded that year (Tilhill, 2022).

Asset bubble

The Scottish Government's financial support is substantial enough for the Scottish Land Commission to state that support for carbon sequestration projects via woodland creation directly impacts the use and demand for rural land, where government money 'inadvertently fuels land values in an already buoyant market' (Scottish Land Commission 2022b).

Large landowners, either individuals or companies, can use carbon credits to hedge other climate investments, including investments in fossil fuels. They can 'lock in' the price of carbon at a level unavailable to smaller organisations (Bloomberg, 2022a), leading to significant social justice issues and competition concerns.

Scottish Government support for new woodland creation is fueling an upwards price for rural land, making it more difficult for communities to own land (Scottish Land Commission, 2022c). Further increases in carbon prices would also increase land values (Community Land Scotland, 2022). The rising price of rural land directly impacts communities that already need more engagement from many commercial ventures and large local landowners purchasing land for new woodland creation (Forestry Policy Group, 2022).

Multi-national use of carbon credits

Research by the leading Scottish investigative website The Ferret (2022) found that over half a million carbon credits from Scotland have been sold on voluntary carbon markets, with two-thirds purchased by US firm FleetCor, a payment solution for the haulage industry. Japan's international Pulp and Paper Company are the second largest buyer of Scotland's carbon credits. This raises concerns that international corporations will be able to continue to emit with these carbon credits already banked (Forbes, 2022).

The misuse of carbon credits

The Scottish Land Commission (2022a) collected feedback from different land stakeholders on carbon markets and found consistent concerns about the inequitable distribution of benefits. Its evidence so far suggests that most carbon credits created in Scotland are not used for their principle use of ‘offsetting hard to reduce emissions’ (United Nations, 2022), nor are they being used in Scotland.

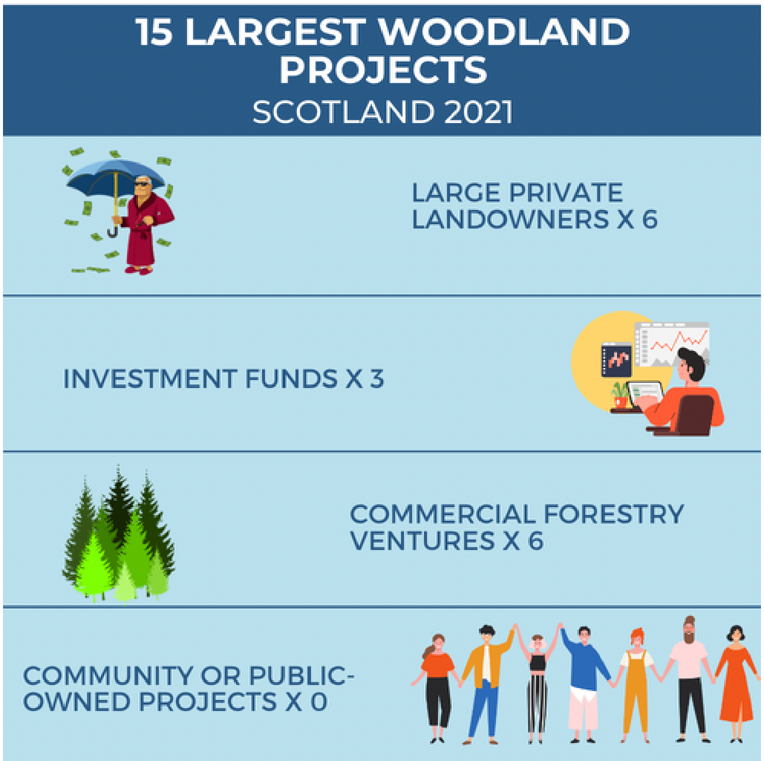
It is important to note that funding for support for new woodland creation is not solely to help sequester carbon. There is a recognised need for significant investment in a domestic timber supply as a sustainable raw material to, for example, retrofit and build new homes (Forest and Land Scotland, 2021). The Forestry industry is a significant employer in rural Scotland and contributes to the rural economy, contributing £954 million in Gross Value Added to Scotland’s economy and employing 25,000 full-time employees (Scottish Forestry, 2022c). Significant funds will likely be spent in local communities as landowners will employ staff to manage deer, erect tree protection, purchase and plant trees, and secure forestry managers' services. Supporting new woodland creation encourages a non-fossil fuel-based industry that creates jobs and supports the local community. However, there is no argument that a domestic timber supply is essential for Scotland. The discussion is whether the current approach is fueling inequality.

INEQUALITY IN ACTION

IN 2021, ONE HUNDRED AND SIXTY-EIGHT PROJECTS WERE SUPPORTED BY FGS SCOTLAND 2021
SIXTY IN SINGLE FIGURES.
NINETY-ONE LESS THAN TWENTY HECTARES.
SEVENTEEN OVER 100 HECTARES.

Those seventeen largest projects represent 5107 hectares, well over half of the 8792 hectares of new woodland creation funded by the FGS. These large projects are projected to sequester almost two million tonnes of carbon and generate equivalent carbon credits. The landowner can either use these credits to offset their carbon emissions, known as ‘insetting’, or can be traded on the VCM. The total lifetime financial subsidy from the Scottish Government is £13,662,441. Fifteen of these seventeen projects have registered to sell carbon credits. The other two projects will likely do so at a later date.

UK companies pay between £10 and £20 /tCO2e for a carbon credit (Woodland Carbon Code, 2022). At the mid-range price of £15, these fifteen projects will generate £28,670,595 from the sale of carbon credits. These large projects are broken as follows:



These significant returns from carbon sequestration are, of course, on top of the lifetime profit from timber sales. Carbon Plantations Limited (2021) offers debentures that return 8% before tax on their new woodland creation ventures. In 2021, as reported by the UK Forest Market Report (Tilhill, 2021), the average value of commercial forests rose more than twice that of only three years ago.

In summary, significant public money supports private individuals and businesses to earn income from Scotland's natural capital. Little of this funding is returned to the public purse. Government finance is paid before trees are planted, enabling large landowners to earn vast sums of money in the form of carbon credits.

There is clear evidence that the current structure will increase the flow of financial and other benefits to the wealthiest individuals in Scotland. There is also a global aspect, as Scotland has become a destination for multinationals to offset their carbon emissions, ensuring that Scotland's land is not being used for Scotland's people.

There is no doubt that natural capital must play a significant role if countries across the globe are to achieve their carbon reduction targets in line with government Net Zero commitments. So, is an increase in inequality simply the price Scotland must pay in countering the climate crises? Fortunately, refocusing government policies can achieve both climate targets and reduce inequality. The key lies in increased support for community-owned land.

COMMUNITY-OWNED LAND, INCLUDING COMMERCIAL FORESTS

Unlike many parts of Europe, the UK does not have a tradition of community forests (Forestry Commission 2017). In Finland, for example, almost 14 per cent of the population are forest owners (Forest.fi, 2022). There are currently around 200 communities that own forests in Scotland (Scottish Government, 2019). However, their forests comprise just under 3% of the total land area under community ownership in Scotland (Scottish Land Commission, 2022e). Current policies are unlikely to improve those figures.

The Forestry Commission (2017) acknowledges that 'Community engagement gives people a sense of ownership and responsibility'. Scotland's Forestry Strategy (Scottish Government, 2019) suggests that 'Scotland's forests and woodlands can play an important role in galvanising and empowering communities'.

The Ministerial Introduction to Land Reform in a Net Zero Nation (Scottish Government 2022a) sums up the concern around inequality in land use and ownership:

'

> *"The risk, increasingly understood among rural communities, is that investment could lead to an unwelcome change whereby people are secondary to large, often corporate, projects which are remote from communities, imposed on them and from which they do not benefit.'*

A report for Community Land Scotland (2022), a representative body to promote community land ownership benefits, uses Scottish-based case studies from 2021. The report demonstrated that community-owned land led to the most favourable outcome and described many recent land purchases as 'extractive business models inconsistent with Community Wealth Building principles'. Inequality in land ownership must be viewed through a much wider lens. Community Land Scotland (2022) suggests that 'centring an approach that proactively democratises land ownership, use and management can help tackle the intertwined crises and inequalities facing communities today'.

As well as allowing communities to reap the financial rewards, ownership and management can 'foster community cohesion and help people feel they have control over the decisions that shape their lives' (ibid).

For carbon sequestration to play a positive role in more equitable policies in Scotland, the financial benefits from nature restoration, especially new woodland creation, must find their way directly to more local communities. This can be purposely achieved by increasing the amount of community-owned land.

To ensure more community ownership, communities need more significant support from the Scottish Government with more targeted funding (Community Land Scotland, 2022). The opportunity for communities to purchase land must be increased, and access to funding must be improved (MacPherson et al., 2021) for the Scottish Government to better achieve equitable land-based policies. Ownership leads to likely greater financial rewards and supports local communities engagement and awareness in their natural capital.

The principal concern around engagement, influence and participation is that too much land is in the hands of large landowners, multinational investment firms and commercial forestry ventures who face few penalties if they do not involve local communities in decisions that affect local land. The less land in public or community hands, the bigger the chance that wealth and income inequality from land will increase.

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CONCLUSION

The Scottish Government rely on large landowners with commercial forestry interests to achieve Scotland's forest cover targets. More public money is paid to landowners to create new woodlands in Scotland than in the other British Isles nations. Between 2014 and 2020, the Scottish Government spent £252 million on reforestation. This is a vast sum of public money. Whether the Scottish Government fails or reaches its Net Zero emissions targets, much of Scotland's land will have been repurposed for woodland creation, and significant benefits will have been accrued.

Woodlands are currently the UK's most significant source of carbon credits, and Scottish woodlands will generate the majority of UK-based carbon credits. The Scottish Land Commission (2022a) warned that carbon markets will likely enrich large landowners, increasing inequality in Scotland. It is important to note that many of these landowners own large agricultural and sporting estates and are among the wealthiest in society; for example, Danish billionaire Anders Holch Povlsen is Scotland's largest landowner.

Scotland is unusual because there are no constraints on who can own land or how much they can own (Scottish Land Commission 2018). Large parts of Scotland are owned and used in ways that are not determined by the people who live there but by landowners, often based outside Scotland (Scottish Government, 2022a). Unless the power changes, inequality will increase not only in the stock that comes from the ownership of land but also in the flows of income from those assets.

This short report discussed two questions.

- Do the financial benefits from woodland creation and carbon credits contribute to a more inequitable Scotland?
- What can policymakers in Scotland do to support increased carbon sequestration through woodland creation without negatively impacting local communities and increasing inequality?

From our discussion, the answer to the first question is clearly yes. An increase in the amount of land owned by communities points to the answer to the second question. In the section that follows, we expand on the policies to ensure land change has a chance to reduce inequality in Scotland.

POLICY SUGGESTIONS

The recommendations are restricted by Scotland's sub-national status, which limits policy levers, for example, on taxation of profits. Scotland is also a currency user and relies on the currency supplied by the UK Government. This significantly restricts the policy space for the Scottish Government. As highlighted by the Just Transition Commission (Scottish Government, 2021), Scotland's different path from the UK Government is also likely to limit policy options. The Scottish Government can, however, make significant changes to rules, advice and regulation of land under the devolved settlement. It must continue to raise issues of concern with the UK Government in areas where it does not have authority.

General suggestions include:

- Over the medium to long term, the Scottish Government should develop a more progressive land taxation approach to better balance public and private benefits from the value accumulated by natural capital.

- Land ownership ensures the highest level of involvement in decisions on the use and the ability to control the benefits. With more land comes more influence. As diverse land ownership in Scotland is the ultimate aim of land reform and more equitable policies, better-targeted support, additional funding, and more favourable tax treatment for income from community-owned land, including commercial forests, should be investigated.

Specific suggestions in both markets are as follows:

Carbon sequestration.

- Direct support for community ownership of large woodland creation projects would go a long way to supporting the aim of value being shared fairly and productively (Woodland Trust, 2011).

- All companies in Scotland receiving any public support for woodland creation must be registered to the Science Based Targets https://sciencebasedtargets.org/

- To achieve equitable policies, the Scottish Government should implement measures prioritising community-led or Scottish-based commercial forestry operations ahead of foreign-owned investment funds.

- The Government should consider mandating a fair work policy and a payment to the local community, similar to onshore wind farm payments paid to communities by any large landowner that operates a commercial forest or registers a significant number of carbon credits.

Carbon markets.

- The Scottish Government should regulate the VCM. Evidence shows that success is likely to be increased with a fairer distribution of profits between the stakeholders involved in generating carbon emissions, more transparency, better monitoring, and more direct support for the communities creating the emissions coveted by VCM (Wang et al., 2015).

- There should be formal regulation for the voluntary carbon market for credits created, bought or sold in Scotland, banning the sale of credits from natural capital on markets not verified to the standards set out in the Woodland Carbon Code.

- The Scottish Government should investigate the role of 'insetting' and consider limiting, clarifying, amending or banning carbon credits used for this purpose. Other countries are playing more of a direct role in VCM, and India, for example, will only allow Indian-generated carbon credits to be purchased by Indian-based firms until it meets its climate goals (Bloomberg, 2022b).

- The Scottish Government must investigate the use of its tax powers to separate the income or the profit from trading carbon credits from other commercial forestry or farming income.

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