REVERE

Cairngorms National Park
Pàirc Nàiseanta a' Mhonaidh Ruaidh

REVERE INSIGHT

Cairngorms Peatland Restoration Project:
Lessons Learned

Photograph by Ed Smith

A collaboration between

National Parks

Palladium
MAKE IT POSSIBLE

Loch Morlich

Photograph by Cairngorms National Park Authority

Introduction

Revere is an award-winning collaboration between the UK National Parks and impact consultancy Palladium. We scale nature-based solutions to restore landscapes across the UK National Parks, to tackle the climate emergency and biodiversity crisis.

Through the Revere collaboration, we have been running a peatland restoration project on Delnadamph Estate in the Cairngorms, backed by a combination of public and private finance. A key element of the Revere collaboration is the sharing of lessons from our novel approaches to support the development of the UK nature market. It is in this spirit, and with half of the sites within the project now on the road to recovery, that the project team is sharing the lessons we have learned so far from the Cairngorms Peatland Restoration Project.

Top takeaways

1

Collaboration, communication and clear project governance are key to success.

2

Long-term subcontracts provide best value, help with budgeting and provide certainty to local firms.

3

Public sector support and expertise is there to support landowners and project developers.

4

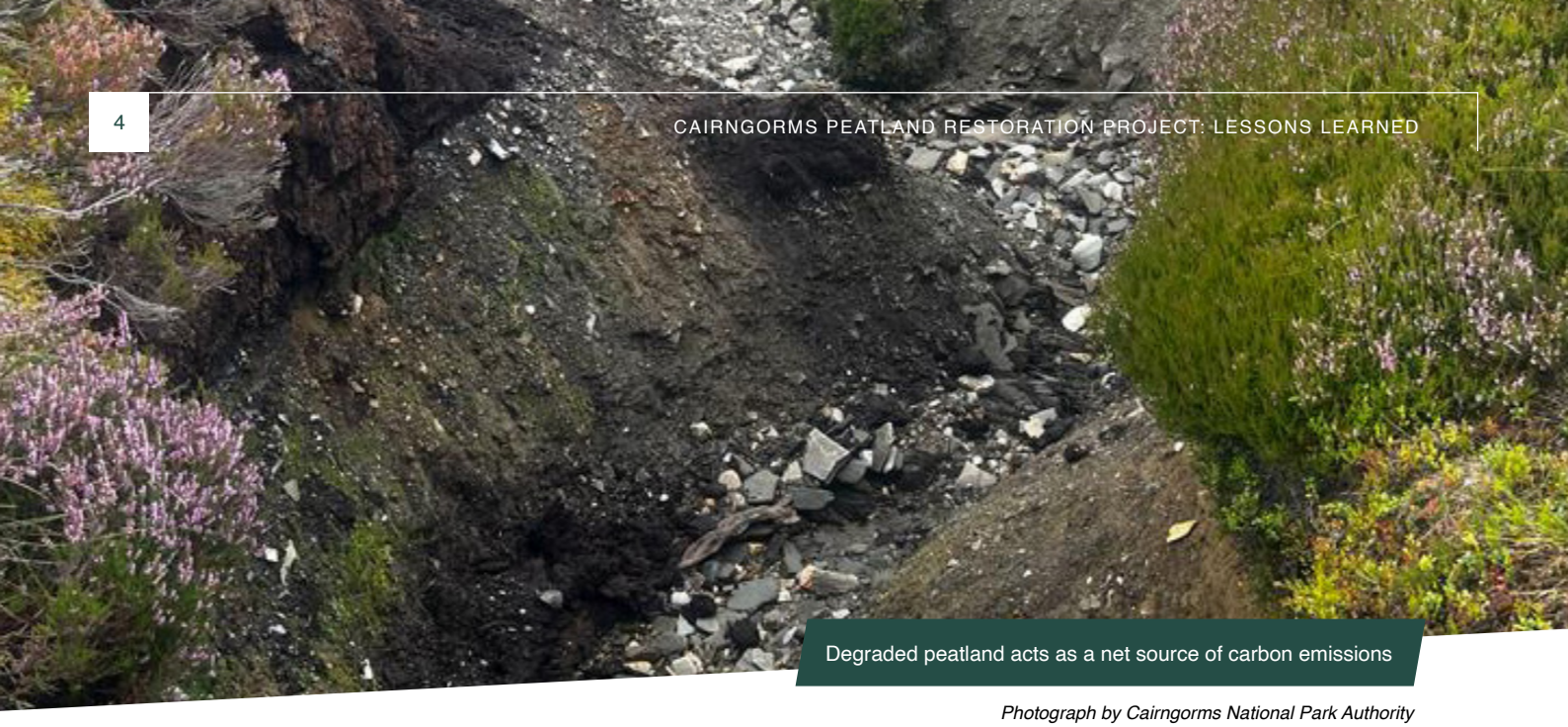
Advance market commitments by companies for future carbon credit sales are vital to unlock long term, patient investment to fund nature-based carbon projects until the carbon can be sold.

5

Community benefits must be clearly defined and expectations set for when they will be realised.

6

Don’t underestimate the impact of the local climate and weather on groundworks!



Degraded peatland acts as a net source of carbon emissions

Photograph by Cairngorms National Park Authority

The Revere collaboration

National Parks Partnerships and global impact consultancy Palladium formed the Revere collaboration in 2021. They have a shared vision to return UK National Parks to good health and protect them for long-term through nature-based solutions that contribute to UK net zero and biodiversity targets, whilst supporting local livelihoods and communities.

Palladium
MAKE IT POSSIBLE

Palladium's UK Natural Capital team works to catalyse the scale and pace of nature restoration by increasing the flow of private finance into it. Our knowledge, passion and real-world experience means we act as a vital connector where nature meets finance. Private finance must flow into high quality natural capital projects to fight the climate and biodiversity crises. The UK Natural Capital team identifies, develops and structures nature projects as well as supporting investors to mobilise significant funds into them.

www.thepalladiumgroup.com

National Parks Partnerships

The fifteen UK National Parks cover c.10% of Great Britain and are a national treasure attracting over 104 million visits a year. They are also a vital natural resource, for example 119 million tonnes of carbon are stored in peatland in National Parks: the equivalent of one third of the UK's entire Co_2 emissions for a year. National Parks Partnerships (NPP) brings together companies, investors, and environmental funders with UK National Parks to drive positive change for people, nature, and climate. NPP operates at a national level to foster corporate partnerships and enable nature-based solutions to enhance and protect these nationally important protected landscapes.

https://www.nationalparks.uk/national-parks-partnerships/

About the project

Scotland's peat soils cover more than 20% of the country and store around 1.6 billion tonnes of carbon. But it is estimated that over 80% of these peatlands are degraded*. In fact, 3.5% of the UK's total greenhouse gas footprint comes from degraded peatland. The Cairngorms Peatland Restoration Project is undertaking essential work to address this.

The project is located in Aberdeenshire, in the heart of the Cairngorms National Park in Scotland. Not only is the project restoring peatland to provide a vital climate solution; it is enhancing natural habitats and conserving wildlife species such as golden plover, red grouse, meadow pipit, and curlew. Healthy peatlands also naturally filter water and reduce the risk of wildfires. In addition to the environmental benefits, the project is creating jobs across the sector. Multi-year contracts are awarded to skilled professionals, allowing them to scale up their operations in the National Park and beyond.

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The Cairngorms Peatland Restoration Project is a collaboration between the landowner, the Cairngorms National Park Authority, and Revere. The landowner proposed changes to land use practices to conserve and protect the restored areas of peatland over the long term. The National Park Authority contributed to the design of the peatland restoration plans, administered grant funding for delivery and has provided technical overwatch for one of the sites. Revere's role is to secure additional finance and manage the project delivery.

This collaborative project aims to demonstrate how private financing can shoulder a greater share of the costs of peatland restoration, with less reliance on public funding.

Together, the three parties agreed to allocate 10% of any project profits to a local community trust.

*https://www.sciencedirect.com/science/article/abs/pii/S0048969714003635

Stone dams and geotextile have been applied to certain areas of peatland

Photograph by Daisy Whytock, CNPA

The peatland restoration begins with on-the-ground surveys to assess peat depth and degradation quantifiers known as condition categories in the Peatland Code. The extent to which raising the water table — a key aim of peatland restoration — will impact the storage of CO_2 is then calculated. Design plans are drawn up by experts that will shape the restoration approach, before a team of groundworks contractors deploy techniques such as drain blocking through wave damming and zipping and restoring erosion features by creating bunds and reprofiling hags.

The project is verified by the Peatland Code, which assesses the pre- and post-restoration state of a peatland site. This assessment is then used to calculate the carbon emissions avoided over time as a result of the restoration.

Over the long-term, revenues and the resulting profits generated from carbon credit sales are used to fund any necessary maintenance works, whilst regular monitoring is conducted by the landowner and Peatland Code auditors.

PEATLAND CODE

A unique partnership

Since 2022, Revere, the Cairngorms National Park Authority and the landowner have collaborated under a three-way agreement. The three parties convene each month to assess the project's progress and discuss any current or upcoming challenges. Effective communication has been pivotal to the project's success so far, be it giving each other advance notice of upcoming grant deadlines or planning procurement assessment meetings.

Managing subcontractors adds another dynamic to the three-way contract in place. As the client, the landowner manages most subcontractor relationships and consults with Revere and the National Park Authority where needed. From a governance standpoint, this has provided clear lines of accountability which benefits not only Revere and the landowner, but the subcontractors involved with the project, too. Each party understands its responsibilities and is focused on achieving optimal project outcomes that benefit all stakeholders and set an example for others to follow.

Subcontractor Taiga Upland on site at the restoration project

Photograph by Cairngorms National Park Authority

The value of multi-year, multi-site contracts

The project has issued several multi-year, multi-site contracts when subcontracting peatland restoration project management responsibilities, groundwork and surveying. This involves asking organisations at the procurement stage to provide a quote for present and future works that are scheduled for subsequent delivery years. At a time when escalating costs have adversely impacted the project budget (the project has seen its groundworks budget increase by 50% since originally designed in 2022, for example), this has resulted in greater value for money for both the project's stakeholders and the taxpayer. Break clauses exist at the end of each delivery year so that the three parties can assess subcontractor performance and decide whether to continue, modify, or conclude the subcontract.

In addition to greater value, longer-term subcontracts bring more certainty to the project's budget and allow the team to more accurately forecast and price the carbon credits it sells to companies. Having a stable cost base means it is easier to calculate the revenues needed to make the project profitable.

These multi-year, multi-site contracts also benefit suppliers by providing the pipeline necessary for them to invest in their teams. One such contractor is Taiga Upland, who specialise in forestry ground preparation, peatland restoration, fencing and woodland creation.

> "At Taiga Upland, we believe multi-year contracts are fundamental to creating a sustainable pipeline of work. They provide the confidence needed for investment, the recruitment and development of skilled teams, and the creation of meaningful, long-term jobs in rural communities. These contracts also lay the groundwork for building trust and fostering strong, collaborative relationships across the stakeholder network.
>
> The success of peatland restoration and wider carbon sequestration projects relies on long-term partnerships underpinned by in-depth knowledge of individual estates and site-specific conditions."
>
> **Rab Robertson,**
> *Managing Director*, Taiga Upland

Public sector contribution

The Cairngorms National Park Authority are a Delivery Partner of Peatland ACTION, a Scottish Government Programme to fund peatland restoration in Scotland. Scottish Government have committed £250m funding over ten years to restore 250,000 hectares of degraded peat. Cairngorms Peatland ACTION receive a proportion of available funding each year to support a team of staff, fund development activities that lead to restoration activity, and to award grants to applicants (typically the landowner or their agent) for restoration projects. Cairngorms Peatland ACTION Project Officers support projects from conception, design, and through to delivery of the works.

Peatland restoration team assessing one of the sites

Photograph by Cairngorms National Park Authority

Since the establishment of the Cairngorms Peatland ACTION Programme in 2021, support provided has typically directly involved Project Officers in the design and technical overwatch of projects, but there has been a recent increase in third-party led projects where Cairngorms Peatland ACTION award funding for projects being designed and delivered by consultants working for the landowner. For our Cairngorms Peatland Restoration Project, the initial phase of delivery was directly supported by Cairngorms Peatland ACTION Officers, later reverting to third party delivery by Bidwells to allow scaling up delivery on the Estate. Third-party delivered projects such as the Cairngorms Peatland Restoration Project free up Project Officer capacity to an extent, although there is still significant work to provide advice, evaluate and manage grant claims and provide regular site inspections. It is hoped that as the sector grows the Programme can support an increasing number of projects and the Peatland ACTION staff resource adapts to match demand.

This support has played a key role in our project, but it is important to note that third-party led projects incur additional capital costs associated with project management at the delivery stage, and from 2025 this will be capped at 10% of the restoration delivery costs in grant awards. This can skew the cost per hectare of third-party delivered projects, making them seem more expensive compared to projects directly supported by Cairngorms Peatland ACTION. Early stage project development and support costs, including design and in some cases survey costs, are currently excluded from the grant award and therefore looking at cost per hectare based on the grant award does not accurately reflect the true cost of restoration.

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Attracting private finance

Initially, our financing model for the project was to secure up-front funding from the end buyers of carbon credits generated through the peatland restoration. We successfully obtained partial funding from two core partners: Santander UK and Respira, an international carbon investor. This facilitated an agreement with a British law firm that purchased some of the project's Pending Issuance Units (PIUs). This funding, combined with Peatland ACTION grants, covered a significant portion of the costs. However, we aimed to finance 20% of the up-front capital costs and still need further carbon sales to cover long-term maintenance.

The project delivery biodiversity co-benefits

Photograph by Ed Smith

Challenges of selling carbon credits upfront

We have learned that selling carbon credits from peatland restoration projects in advance — before the carbon emissions have been avoided — presents challenges:

1. **Market prices are insufficient**

   Current market prices of £25–£35 per Pending Issuance Unit (PIU) cover only about 15–20% of project costs. This means we still rely heavily on publicly funded grants from Peatland ACTION programmes.

2. **Difficulty securing large-scale buyers**

   Many potential buyers of carbon credits are unwilling to make significant up-front financial commitments for credits that will only be delivered years, if not decades, into the future.

Shifting towards long-term patient investment

To address these challenges, Revere is transitioning to a financing model based on long-term, patient investment, primarily through equity finance from institutional investors. These investors will earn returns from the sale of carbon credits once they are verified 10, 15, 20, or even 25 years into the future.

This approach offers several advantages:

- It allows us to secure greater up-front funding, reducing reliance on public grants.
- As credits become verified and carbon market prices potentially rise (while not guaranteed, this is anticipated), investors can achieve financial returns.
- Equity finance is better suited than debt, as these projects do not generate immediate cash flow to service debt interest. Instead, investments need to be held for at least 20–25 years, with expected returns in the high single digits.

Ensuring future carbon credit sales

To attract long-term patient investors, we must provide guarantees of future carbon credit sales. Our next step is securing advanced market commitments from buyers. Recent precedents for advance market commitments include that by the Symbiosis Coalition, made up of Microsoft, Google, Salesforce, Meta and McKinsey & Company. We anticipate that more advance market commitments will emerge over time.

Such offtake agreements would:

- Commit buyers to purchasing carbon removal credits once verified (10, 20, or 30 years in the future).
- Set a fixed, pre-agreed price upon delivery.
- Provide investors with revenue certainty over time, significantly reducing project risk.

This strategy is critical for securing investment from pension funds and other long-term capital sources, ensuring they feel confident in the project's risk management and long-term viability. Our approach aligns with financing structures used in long-term infrastructure projects, such as renewable energy development in the UK.

Restoring peatland swiftly turns it back into a carbon store

Photograph by Ed Smith

Peatland restoration knowledge that can be applied to other projects

The restoration delivered through the Cairngorms Peatland Restoration Project is ambitious in terms of scale, complexity, and the use of innovative techniques. This has involved addressing challenges that have led to delays, increased costs, changes in approach, and plenty of learning opportunities.

The initial work phase in 2022 experienced issues with suboptimal delivery of a key contract which was subsequently finished early. The resulting pause allowed the project partners to rethink the approach to tendering. A larger package of restoration divided into Lots was advertised, leading to one contractor being awarded all four available work zones. Delays during delivery came about due to contractor staff changes, a shortage of hand labourers, and winter weather. Spreading the Lots between multiple contractors might have increased resilience on this project but would have incurred additional admin and logistical challenges with moving machines through neighbouring work zones.

Working at altitudes of up to 700m, the extremes of the weather and climate proved challenging. The sequence of a hard frost and thaw caused “frost heave” which forced out of the ground the wooden T-pegs used to secure geotextile being used to support re-vegetation of bare peat. The pegs were replaced with longer pegs (300mm, rather than 200mm) as the geotextile might otherwise have been displaced by the elements. Thankfully the estate keeper was able to report this event early which led to speedy action to replace the pegs. This illustrates the importance of having regular site checks to monitor changes and issues, a role suited to estate staff with an understanding of the restoration aims and techniques.

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A valuable lesson was learned about the appropriate application of techniques when turf-capped stone dams were damaged during heavy rainfall. In large gullies eroded to the mineral layer, the machine operators opted to cover stone dams with turf; there was good turf available, and the result was more natural looking, and potentially decreased permeability of the dams to water. In high energy zones where large gullies were receiving significant volumes of water from the slope above, turf was washed off the stone dams. An instruction was given to the contractor to prioritise using turf to revegetate reprofiled gully walls and to leave the stone dams bare.

Working with multiple parties has been challenging at times due to the difficulty in coordinating meetings, sharing relevant information, decision-making, and crucially in understanding the respective roles and responsibilities. The pilot has provided an excellent testing ground to iron out issues and this has been helped by the partners' positive attitudes and proactive approach to tackling issues as they arise.

Reprofiling of Cairngorms peatland two years after restoration

Photograph by Daisy Whytock, CNPA

Community benefits

In this project, we allocated 10% of profits to be shared with local communities. Through this experience, we have learned valuable lessons about financial expectations and the broader scope of community benefits.

Setting realistic expectations for financial benefits

While financial benefits are important, it is crucial to set clear expectations. Due to the long timeframes involved in carbon sequestration, profits will take a significant amount of time to be realised. Unlike renewable energy projects — such as wind farms, which generate and sell electricity immediately upon completion — peatland restoration projects require years, if not decades, before carbon credits are verified and revenue is generated.

The sale of Pending Issuance Units (PIUs) represents the promise to deliver carbon credits in the future and generates income to cover part of the cost of the delivery of the project. It will only be when verified carbon credits can be sold years later that a financial return on investment can be made. Therefore, expectations around profit-sharing agreements must be carefully managed to account for these long timescales.

Wader bird species are thriving in the restored areas of peatland

Photograph by Ed Smith

Broadening community benefits beyond profit sharing

Through our work with the Scottish Land Commission and the Scottish Government, we have recognised that community benefits should go beyond profit-sharing. A key focus should be on local employment opportunities, particularly through:

- Prioritising local contractors or national contractors that provide local employment and apprenticeships.
- Incentivising procurement policies that favour businesses offering opportunities to local workers.

Unlike financial profit-sharing, employment opportunities provide immediate, tangible benefits for communities, making them a more front-loaded and impactful approach.

Exploring additional community benefit mechanisms

We are also considering additional mechanisms, such as:

- Memorandums of Understanding (MOUs), similar to the agreement signed by Highlands Rewilding in the Tayvallich project on Scotland's west coast.
- The Community Benefit Certification Scheme, currently under development by the Scottish Land Commission and partners, which aims to formalise and standardise how projects deliver local benefits.

By incorporating these broader community benefits, we can ensure that peatland restoration projects provide meaningful and immediate value to local communities, rather than relying solely on long-term financial returns.

Conclusion

We hope that by sharing the lessons learned so far on our Cairngorms Peatland Restoration Project, even more restoration projects can be created, funded and sustainably managed across the sector. We will harness the lessons shared in this document to enhance the second half of the project, as well as building on its successes so far across our wider peatland restoration and woodland creation portfolios. We would like to thank all of the project stakeholders that have been involved to date and look forward to a productive few years ahead.

www.revere.eco

Photograph by Cairngorms National Park Authority

Cairngorms Peatland Restoration Project team site visit

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Photograph by Ed Smith

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