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# West Yorkshire Flood Innovation Programme Accelerator Project

## Work Package 3: Green Finance Feasibility Study Report

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## Executive summary

The West Yorkshire Flood Innovation Programme (WYFLIP) hosted a workshop that brought together key stakeholders from finance, academia, and environmental sectors to explore pathways to sustainable investment in nature-based solutions (NBS) and climate resilience.

Delegates provided their thoughts and insights on what needs to change to help unlock green finance opportunities and how this change can be delivered. Their input is summarized below:

### What changes are needed to help unlock flood-related green finance opportunities?

#### **1. Regulation**

- Agree a common regulatory framework across different authorities, aligned with the 2024 National Planning Policy Framework, enabling larger scale projects.
- Develop unified guidance and language to help navigate current planning regulations.
- Change regulations in pensions, insurance, and other parts of the financial system to recognise the role of nature in providing effective risk management in reducing losses to assets from flooding either through impaired values or lower asset productivity i.e., lower returns. In doing so, it would enable long-term investments in nature.

#### **2. Knowledge exchange**

- Conduct a skills gap analysis and provide training.
- Raise general awareness of the opportunities that NBS can bring.
- Facilitate knowledge exchange between all sectors.

#### **3. Modelling**

- Improve representation of NFM in hydrological models using real world data.
- Develop a multi-model hydrological approach to show a range of predictions as with climate models.

#### **4. Funding Mechanisms**

- Adopt common business cases to facilitate the stacking of benefits.
- Clearly define and demonstrate the return on investment.
- Develop new markets and funding streams.
- De-risking investment by ensuring schemes are designed to withstand shocks.

#### **5. Collaboration**

- Brokers are needed to connect those that have funds with those that need it.
- Early engagement with stakeholders to align needs and priorities can help identify opportunities.

### What is needed to enact these changes?

1. Develop a value proposition with a full range of beneficiaries, mapping who they are, and what return / cost saving they receive.
2. Use research for (1) to create a NFM calculator, akin to the Peatland Code, which can be associated with simple monitoring that can demonstrate financial and environmental additionality.
3. Develop an approach for running ensembles of hydrological models, with associated training, to standardise NBS planning and benefit calculations, build confidence and reduce risk in investments.
4. Establish a range of training resources and products, including CPD courses, workshops and conferences to upskill, educate and influence stakeholders on the use of models, NBS implementation and evaluation, business case development and green finance mechanisms.

5. Produce policy briefs for different audiences highlighting the need for regulation change and a more streamlined planning process.
6. Facilitate the development of larger holistic schemes, with multiple stacked benefits, to attract investment from the financial sector.
7. Establish a consortium of stakeholders to share knowledge, identify synergies and co-ordinate activities.
8. Develop the framework above and market the approach as globally leading to i) attract investment into the region/UK and ii) provide our services to other countries and international clients.



## Background and rationale

### The status of Green Investment in Nature-based Solutions

To tackle climate change, biodiversity and land degradation targets, the world needs to close a USD\$4.1trillion financing gap in nature by 2050<sup>1</sup>. Nature-based solutions (NBS) work to deliver cost-effective climate resilience through natural processes and are known to deliver multiple benefits including carbon sequestration, increased biodiversity, and community flood and drought resilience, and wellbeing benefits. NBS for flood management works to store and 'slow the flow' of water downslope to reduce flood risk. 55% of global GDP is moderately or high dependent on Nature<sup>2</sup>, and NBS are increasingly recognised to have good potential private investment opportunities. A 2023 survey found that two-thirds of 557 global institutional and commercial investors intend to increase investments in nature improvements, solutions or markets<sup>3</sup>.

The UNEP estimate US\$11tn of investment in NBS is required between 2022-2050 to tackle climate change and support sustainable development, equivalent to over US\$500bn/year by 2030<sup>4</sup>. Current investments in NBS worldwide are approximately USD\$ 200 billion/year<sup>4</sup>, of which 82%<sup>5</sup> comes from public funding sources<sup>4</sup>. In its 2023 Green Finance Strategy<sup>6</sup>, the UK government set a target of £500million/year of private investment into nature recovery in England by 2027, rising to at least £1billion/year by 2030. The UK targets are underpinned by programmes such as Environment Act Targets, Environmental Improvement Plan, England Peat Action Plan, and England Trees Action Plan.

### Challenges for Green Investment

Although NBS is increasingly recognised as an opportunity for investment, there are challenges and risks to implementing green finance which need to be addressed to unlock opportunities. Key challenges to implementing green finance include:

1. **Nature-negative finance flows:** According to the UNEP State of Finance for Nature 2023<sup>7</sup>, the single most impactful action to reduce nature-loss is the realignment of nature-negative finance flows which currently amount to US\$5 trillion annually.
2. **Long investment times:** NBS projects can take a long time to generate a return on investment.
3. **Lack of clarity on return on investment:** It can be difficult to quantify the results of NBS projects, e.g., field-based evidence of how much flood risk has been reduced.
4. **Lack of government incentives:** The public sector currently funds the majority of NBS projects; clear incentives are needed to encourage private investment.
5. **Lack of a supportive policy** for NBS investment
6. **Lack of specialist expertise and collaboration** between environmental (NBS) and financial sectors
7. **Lack of compatibility with investor needs**
8. **Misalignment between NBS and how existing institutions/funding pathways operate.**
9. **Lack of universally accepted standards:** There may not be universally accepted definitions of what constitutes a "green" project, or what constitutes evidence of NBS successfully operating.

<sup>1</sup> United Nations Environment Programme | [State of Finance for Nature 2021](#)

<sup>2</sup> Green Finance Institute | [Investing in Nature - Opportunities for Institutional Investors 2024](#)

<sup>3</sup> Pollination Group | [Nature Finance Focus 2023](#)

<sup>4</sup> Van Raalte & Ranger | [Financing Nature Based Solutions for Adaptation at Scale: Learning from Specialised Investment Managers and Nature Funds 2023](#)

<sup>5</sup> Correct 2023

<sup>6</sup> UK Government | [Mobilising Green Investment 2023 - Green Finance Strategy](#)

<sup>7</sup> United Nations Environment Programme | [State of Finance for Nature 2023](#)

Five key challenges relating specifically to the Insurance sector are outlined in the Green Finance Institute HIVE [Unlocking Investment from the Insurance Sector into Natural Flood Management](#) report 2024.

### A Yorkshire Regional perspective

This Accelerator Green Finance workstream was developed initially from the [West Yorkshire Flood Innovation Roadmap](#) which set out programme aims, including building pathways for joint public-private investment in flood resilience.

The workstream was also supported by a green finance workshop, delivered at iCASP Confluence 2023 by University of Leeds academics. This workshop, attended by 50 people, was used to gauge current understanding and applications within stakeholder organisations. The event presented an overview of green finance for ecosystem restoration and nature recovery, and invited stakeholders to discuss the risks (negative consequences) associated with nature commodification. Findings of the wider research have been summarised [in an article for \*The Conversation\* \(December 2024\)](#).

In West Yorkshire, there is limited connectivity between NBS flood mitigation practitioners and the financial sector. Practitioners often struggle with the complexity of funding mechanisms required for NBS projects. Simultaneously, investors may face challenges understanding the practicalities and unique requirements of delivering environmental projects.

**The aim of this workstream is to undertake a green financing workshop to explore how such financing might support flood resilience in West Yorkshire and the UK.** The green finance workshop will explore:

- 1) Extent and status of current green finance initiatives in West Yorkshire
- 2) Knowledge gaps, challenges and opportunities for future green finance collaboration

## Research methodology

This section describes the workshop aims and agenda and the two sessions in which the ‘extent and current status’ and ‘knowledge gaps, challenges and opportunities for future collaboration’ were discussed.

### Workshop aims and agenda

A workshop titled ‘Bridging the Finance Gap for Nature-Based Flooding Solutions’ was organised for 30<sup>th</sup> January 2025 at the University of Leeds. The aim of the workshop was *‘to understand the difference between nature-based solution (NBS) practitioners and deliverers, and organisations that fund NBS, with a focus on flood mitigations measures with stacked benefits’*. The workshop was attended by 29 people from across NBS and finance sectors and included representatives from public, private and third-sector organisations.

This workstream event was designed to be an interactive knowledge exchange which addressed lack of understanding between practitioners and funders (see Background and rationale). This workshop sought to provide an opportunity to:

- Learn from case studies showcasing successful NBS project financing.
- Collaborate with financial experts, policymakers and practitioners to identify opportunities for future partnerships
- Contribute to actionable outcomes that will inform future NBS funding and design

The outline agenda for the workshop is shown in Table 1:

Table 1: Green Finance workshop outline agenda

Time	Activity
09:30-10:00	Arrival, registration and refreshment
10:00-10:10	Welcome - Prof. Joe Holden
<b>Session 1: Presentations - What makes a good investment?</b>	
10:10-10:25	Prof. Iain Clacher – UK Centre for Greening Finance and Investment
10:25-10:40	Amanda Crossfield - Ousewem
10:40-10:55	Prof. Neil Entwistle – Rebalance earth
<b>Break</b>	
11:05-11:20	Keith Davie – Aire Resilience Company
11:20-11:35	Bev Adams – Marsh McLennan
11:35-12:10	Panel Q&A - with open discussion
<b>Networking lunch</b>	
<b>Session 2: Table Exercise - Opportunities for green finance projects in West Yorkshire</b>	
13:00-14:10	Facilitated table discussions to identify: <ul style="list-style-type: none"> <li>• What changes are needed to help unlock green finance in the region</li> <li>• What is needed to enact these changes</li> </ul>
<b>Break</b>	
14:20–14:45	Table feedback to the room
14:45-14:55	Summarising feedback
14:55–15:00	Invitation to collaborate & Next steps

## Workshop session overview

To facilitate discussions, the event was divided into two sessions:

- 1) **What makes a good investment?** Presentations showcasing successful examples of nature-based projects, with insights into what makes a good investment.
- 2) **Opportunities for Green Finance projects in West Yorkshire.** A collaborative workshop focusing on challenges, solutions, and actionable pathways for investment.

The first session was delivered by invited key speakers (Table 2). Following consultation with WYFLIP Board members and University of Leeds Nexus<sup>8</sup>, speakers were sought from high-profile projects and organisations currently involved in Green Finance initiatives. These included ongoing NBS projects financed through the private sector and businesses who invest using Green Finance schemes.

Table 2: Invited speakers. Workshop session one: What makes a good investment?

Speaker and organisation	Role	Presentation focus
<b><u>Professor Iain Clacher</u> – University of Leeds</b>	Professor of Pensions & Finance, Pro Dean for International at Leeds University Business School, and head of the University of Leeds Centre for Financial Technology and Innovation.	What makes a good investment?
<b><u>Amanda Crossfield</u> – Yorkshire Dales River Trust</b>	Natural Flood Management (NFM) programme manager for the <u>OUSEWEM project</u>	OUSEWEM
<b><u>Professor Neil Entwistle</u> – <u>Rebalance Earth</u></b>	Head of Science; previously Professor of River Science and Climate Resilience at University of Salford.	Rebalance Earth & Why sediment matters in river restoration.
<b><u>Keith Davie</u> – Environment Agency</b>	Senior Advisor for Green Finance	<u>Aire Resilience Company</u>
<b><u>Dr Bev Adams</u> – Marsh McLennan</b>	Consulting Director and Practice Leader. Responsible for Empowering Sustainable Futures and Sustainability consulting, Climate & Catastrophe Risk and Resilience solutions, and Remote Sensing Services.	Assessing the viability of scheme finance

Following all presentations, a 30-minute panel question and answer session was held to enable whole-room discussion of the presentations.

The second session, ‘Opportunities for green finance projects in West Yorkshire’, was an interactive workshop designed to promote discussion of opportunities between attendees. A seating plan was used to ensure each discussion table had a range of representatives from the sectors present, including diversity of gender, role and career stage. Each table also had a facilitator to prompt debate and capture discussion points. Per table, two questions were discussed:

- 1) What changes are needed to help unlock green finance in the region?
- 2) What is needed to enact these changes? Identify the top three priorities.

Attendees were asked to prioritise ‘no regret, win-win’ solutions which are achievable, realistic and linked to ongoing policy and/or strategy. Following table discussions, each table presented a summary of their discussion to the whole room.

<sup>8</sup> [Nexus](#) is the collaboration and innovation hub at the University of Leeds which seeks to connect business and academia.



## Findings

This section first summaries key points from the presentations given in session one: *what makes a good investment?* Following this, questions and responses from the panel Q&A have been summarised. Second, a summary of the second session: *Opportunities for Green Finance projects in West Yorkshire* is given, divided into the two questions discussed: 1) What changes are needed to help unlock green finance in the region? 2) What is needed to enact these changes? Identify the top three priorities.

### Session 1: Presentations - What makes a good investment? Key points summary

Prof Iain Clacher

#### **What makes a good investment?**

- Focuses on investments that bring long-term environmental resilience, such as projects that improve biodiversity or ecosystem stability.
- Encourages shifting away from the focus on immediate financial returns to prioritize long-term sustainability and resilience in investment decisions.
- Highlights the importance of investments that offer dual benefits—both reducing financial risks and enhancing environmental conditions, thereby providing a more compelling and holistic return on investment.

Amanda Crossfield – Yorkshire Dales River Trust

#### **What is the Ousewem project?**

- The Ousewem project aims to reduce flood risk through NFM techniques that work with natural processes to slow and store water in the landscape.
- It involves multiple stakeholders, including local councils, environmental agencies, and community groups, under the management of the Yorkshire Dales River Trust.
- The project is supported by DEFRA and part of the wider Flood and Coastal Resilience Innovation Program, which provides funding and guidance.
- Company website - [Yorkshire Dales River Trust](#)

#### **What do NBS projects need to be successful?**

- Active participation and support from the local community are crucial for the acceptance and maintenance of NBS projects.
- Sustainable funding sources are necessary to cover both initial implementation and long-term maintenance of NBS initiatives.
- Collaboration across various disciplines and sectors helps in designing effective solutions that are ecologically sound and socio-economically beneficial.
- Well-defined goals and measurable outcomes are essential for assessing the effectiveness of NBS projects and securing ongoing support.

#### **What are the primary delivery constraints?**

- Navigating the regulatory landscape, including obtaining necessary permits and complying with environmental regulations, can be complex and time-consuming.
- Engaging multiple landowners and addressing their concerns about land use changes are common challenges.
- Designing NBS projects that effectively integrate with local ecological and hydrological conditions requires advanced technical expertise.

- The increasing unpredictability of weather and climate patterns can impact the performance and reliability of NBS measures.

## Prof Neil Entwistle, Rebalance Earth

### What is Rebalance Earth?

- Rebalance Earth is an organization focused on leveraging natural capital to address climate change and biodiversity loss.
- It emphasizes the importance of maintaining healthy ecosystems as both a planetary necessity and an economic opportunity.
- Company website: [Rebalance Earth](#)

### The importance of natural river systems

- Natural river systems are crucial for maintaining ecological balance. They support biodiversity, regulate water cycles, and provide critical habitats.
- Sediment management in rivers is vital as it helps maintain river health, prevents erosion, and supports aquatic life.

### The need for landscape-scale investment

- Large-scale investment in natural landscapes is essential to effectively manage and restore ecosystems.
- Such investments help in creating resilient environments that can withstand and mitigate the impacts of climate change.
- Focusing on landscape-scale initiatives ensures comprehensive solutions that go beyond localized projects, addressing broader environmental challenges.

## Keith Davie, Environment Agency & Aire Resilience Company

### What is the Aire Resilience Company?

- ARC is a model for utilizing nature-based solutions to address flood risks and enhance urban green spaces.
- It demonstrates the value of investing in green infrastructure as a sustainable finance model.
- Company website: [Aire Resilience Company](#)

### How does ARC leverage Green Finance?

- ARC's approach involves an upfront CAPEX phase followed by ongoing maintenance, funded by £1.6 million from various sources including the EA Grant Aid and private sector contributions.
- The presentation highlights the need for proactive engagement with the private sector to support long-term climate resilience efforts.

### Recommendations for effective financing

- Keith Davie emphasizes the importance of partnering with private entities not only for direct financial returns like carbon credits but also for leveraging investment in resilience initiatives.

Dr Bev Adams, Marsh McLennan

### **Making a good business case**

- NBS schemes, and the business cases presented to attract funding for them, must be presented in a way that trustees and investors will understand.
- Existing resources may be used to support understanding and coordination:
  - Transition Today: A Progress Update. How investors can support climate transition across portfolios, Mercer 2024.
  - Financing Natural Flood Management. Full report. Green Finance Institute, 2024.
  - NFM research fund. Unlocking investment from the insurance sector into Natural Flood Management. Green Finance Institute HIVE, 2024.

### **Marsh have developed a five-step process for testing economic viability**

1. Quantify the potential benefits to the private sector
2. Assess wider economic, social and environmental benefits
3. Identify and assess the viability of value capture mechanisms
4. Estimate the potential financial returns under various scenarios
5. Assess the viability and shape of the overall blended finance model

### **What's missing to facilitate the above 5-step process?**

- Putting together buyers
- Value capture playbook – e.g., could you demonstrate savings?
- At what point is the model good enough? Confidence is needed by underwriters. This isn't a barrier, but we do need to do more to improve model confidence.
- Reverse modelling informs NBS design. What is the change in volume is needed to reduce fines? What NFM is needed to match that?
- One version of the truth regarding stacked benefits. Stacked benefits are important to meet multiple needs; is NFM in the right place to address these needs?
- Nature as a service (NaaS) is contractable.

### Session one: Panel Q&A

**Note:** *The panel was comprised of the above-named speakers. We have anonymised responses in this section as they represent personal opinions and are not necessarily the viewpoints of the panellists' affiliated organisations.*

### **Q1: What are the main challenges in aligning NBS projects with investor needs?**

- Panel Member 1: The primary challenge is the gap between the environmental impact of NBS projects and the financial metrics traditionally used by investors. There is a need for universally accepted standards to measure and communicate the benefits of these projects.
- Panel Member 2: Another issue is the lack of immediate returns, which can deter investors accustomed to short-term gains. Educating investors about the long-term benefits and potential risk mitigation offered by NBS is crucial.

**Q2: How can policy support the adoption of NBS initiatives?**

- Panel Member 3: Policy frameworks need to incentivize investments in NBS by providing clearer guidelines on returns and benefits. Government incentives and support are essential to foster a supportive investment climate.
- Panel Member 4: Policies should also facilitate easier access to funding and streamline regulatory processes that currently hinder the implementation of NBS projects.

**Q3: How do we ensure long-term maintenance of NFM measures once they're installed?**

- Panel Member 2: There isn't a formal enforcement mechanism. We rely on agreements with landowners, but these can be difficult to monitor over time. One approach is offering lump-sum or staged payments to incentivize proper upkeep, but who holds liability if something fails remains a tricky point.

**Q4: Why is sediment management so important, and how can we scale up NFM effectively?**

- Panel Member 5: Sediment is crucial for river health—over-dredging can damage habitats and destabilize banks. Education is key: many people still assume dredging solves floods, but dynamic, 'messy' rivers are often more resilient. Scaling up NFM requires coordinated effort, stable funding, and clear messaging about benefits to landowners and communities.

**Q5: What if a landowner wants to revert the land back to original use? Is there a way to enforce continued participation?**

- Panel Member 2: It's a challenge. If the agreement is purely voluntary, it can be hard to stop a landowner from changing their mind. Long-term contracts and incentives help, but it's a balancing act between flexibility and certainty.

**Q6: How can we finance large-scale restoration if budgets are tight and private investors are cautious?**

- Panel Members 2 & 5: We need a blend of public and private funding—government grants can de-risk projects, encouraging private capital. Demonstrating a clear return on investment (e.g., reduced flood damages, carbon credits, or biodiversity gains) is essential. Collaboration with insurers, water companies, and local businesses can also unlock new revenue streams (like Payments for Ecosystem Services).

**Q7: Are there simple interventions that have a big impact without heavy capital costs?**

- Panel Member 2: Sometimes just reintroducing natural features—like small woody debris or targeted tree planting—makes a difference. In many cases, letting rivers '**do their thing**' can be more cost-effective than big-engineering approaches. Monitoring is still necessary, but the cost of small interventions can be relatively low compared to hard flood defences.

## Session 2: Table Exercise - Opportunities for green finance projects in West Yorkshire

### Q1. What changes are needed to help unlock green finance opportunities in the region?

#### 1. Regulation

##### 1.1 Agree a common regulatory framework

- Currently, different councils have different approaches to meet government-led nature requirements; this makes it difficult to present a unified offer to investors, especially when working at larger catchment scales.
- Grant funding requirements and land-use change rules vary across county lines, which complicates large-scale project implementation.
- NFM planning regulations should be aligned with the 2024 National Planning Policy Framework.
- Need to adopt a more strategic approach to the design and evaluation of flood schemes.

##### 1.2 Develop unified guidance and language

- There are no clear regulatory guidelines or requirements on what natural flood management (NFM) projects should deliver, which hinders effective planning and execution.
- Clearer guidance for both the planning framework and how to access funding would help unlock capital and speed up project delivery, leading to improved confidence and desire to invest.
- Standardising the terminology used across both environmental and financial regulators could help align interests.
- All parties involved in the design, funding and delivery of NBS projects need to be aware of the current regulations, barriers and planning timeframes (linked to 2.3).

##### 1.3 Remove regulatory barriers

- Current regulation is not designed to help deliver large-scale green finance projects quickly, efficiently and effectively.
- Regulation often requires flood mitigating NBS measures to be installed where flooding occurs, whereas these measures are most effective when installed upstream of the flooding.
- Change regulations in pensions, insurance, and other parts of the financial system to recognise the role of nature in providing effective risk management in reducing losses to assets from flooding either through impaired values or lower asset productivity i.e., lower returns. By changing this it would enable long-term investments in nature, allowing pension funds and other institutional investors to contribute to flood mitigation projects as there is a direct economic benefit to them.

#### 2. Knowledge exchange

##### 2.1 Provide skills gap training

- Currently practitioners involved in the development and delivery of NBS projects have very little green finance experience or skills.
- Need to provide support to NBS practitioners to develop a business focused approach to project design and delivery.
- There is a sector wide shortage of field ecologists, which hampers the implementation and uptake of restoration projects.
- Need to undertake a skills gap analysis and funding is required to support the delivery of training to fill identified gaps.

##### 2.2 Raise general awareness of the opportunities that NBS can bring



- Demonstrating the benefits of NBS interventions more effectively could help in gaining public and investor support.
- Work is needed to change public opinion on NBS measures, highlighting their affordability in comparison to other flood mitigation methods e.g. dredging, concrete floodwalls etc.
- Some investors can be hesitant to invest in certain areas, indicating a need for better demonstration of potential benefits (linked to 4.2).

### **2.3 Facilitate knowledge exchange**

- Bring together stakeholders from private, finance, policy and public sectors (and others) to share knowledge, understand perspectives and inform actions.
- Connect projects together to share learning and best practise (linked to 5.1).
- Embed academic outputs and relevant research into the real world, which can help strengthen business cases and inform monitoring and evaluation of projects.

## *3. Modelling*

### **3.1 Improved representation of NFM in models**

- Many models use outdated data that doesn't reflect current environmental conditions, the latest climate projections or advancements in NFM techniques
- There is a pressing need for models that are driven by real-world data to accurately capture the benefits of NFM.
- An industry standard for data collection and models would build confidence for investors (linked to 3.2).

### **3.2 Build trust and ease of use in models**

- Models need to be evaluated against real world observations and data to evaluate the trust and build confidence in the different model types.
- There is a need to adopt either a standardised approved model or an approach for using an ensemble of models to capture the benefits of NFM.
- Models can be expensive to contract or complicated to run, therefore there is a need for a simplified form of model outputs that NBS project designers can run with minimal training, which still gives investors the confidence to invest (i.e. invest in developing easy to use front end web platforms for models).
- Establish a framework for what level of monitoring and evaluation is needed to unlock funding – in depth vs headline outcomes.

## *4. Funding mechanisms*

### **4.1 Adopt common business cases to facilitate the stacking of benefits**

- Lots of different NBS offerings are competing against each other (NFM, biodiversity, carbon sequestration etc) – adopting a joined-up approach can enable access to multiple funding pots to deliver larger schemes that deliver multiple outcomes.
- Current funding mechanisms are too complex, which is a barrier to deliver larger stacked NBS projects. Simple, but more integrated, funding pathways are needed.
- Governance is needed around the stacking of benefits to prevent a market of green washing.
- Government objectives are not sufficiently integrated so it is difficult to make the case for NBS that delivers stacked benefits e.g. NFM that also provides carbon capture, biodiversity improvement etc.

#### **4.2 Demonstrate the return on investment**

- There needs to be a clear understanding on both the value proposition and what the return on investment is (which is not always a financial return) and over what timescale.
- A clear definition of what the saleable product on offer is and how to keep investors retained is key.
- Need to ensure the right level of measurement, reporting and verification (MRV) is used to capture benefits without eating into potential income generated.
- Future assets in protected areas (e.g. upcoming residential property expansions) should be included to strengthen business cases.

#### **4.3 Develop new markets and funding streams**

- Private sector investment could be gained through the development of a 'Flood mitigation credit' from NFM.
- Re-invest water company fines. Should the UK Government / Ofwat direct water companies to invest the fine value in NBS investments?

#### **4.4 De-risking investment**

- If a voluntary market framework is adopted for NFM (e.g. flood mitigation credits) then robust regulation and evidencing would be required to de-risk the investment offer.
- NFM schemes should be designed to withstand shocks such as more extreme weather events and future climate scenarios and uncertainty
- There needs to be a cultural change to frame risk in a different way

### *5. Collaboration*

#### **5.1 Facilitating connections**

- Currently it is difficult for NBS deliverers to connect to the right people in the financial sector. Having a broker that can bring the finance and environmental sectors together is a vital first step in unlocking green finance investment.
- A resource that outlines upcoming projects and funding gaps would be a useful tool in connecting those that have funds with those that need it.

#### **5.2 Stakeholder engagement**

- NBS projects often have multiple stakeholders (landowners, regulators, funders etc.) with different priorities. Educating stakeholders on the broader impacts and benefits of NFM is vital for gaining support and understanding (linked to 2.2).
- Build trust with stakeholders through engagement activities to align project goals with stakeholder needs.

## Q2. What is needed to enact these changes?

### 1. *Ensembled models and capacity building*

- Develop a sector-wide recognised ensemble model method to unify hydrological efforts and recognise the innovation benefits of differences between different models, similar to climate change modelling. Having a more robust, evidence-based case for investment would increase confidence in the NBS benefits.
- Models should be adapted to account for different climate scenarios to future proof and de-risk the outputs.
- Models should be developed with input from stakeholders to ensure they are fit for purpose and have a user-friendly front end.
- A balance needs to be found between demonstrating benefits without being resource heavy. Don't allow perfect to be the enemy of good.
- A capacity building project is required to upskill stakeholders in the use of models and their outputs, as they inform all elements of NBS project design, funding and delivery (Linked to ii).

### 2. *Co-ordinate knowledge exchange*

- Undertake skills gap analysis to identify needs within the sector and seek funding to develop training packages to fill gaps.
- Deliver cross-sector knowledge sharing events to upskill, educate and embed new research, including workshops, conference, CPD courses and secondments.
- Work with all stakeholders to agree and define terminology.
- Develop NFM standards and market these globally.
- Improve public awareness of NBS benefits through targeted public engagement communications.

### 3. *Regulation change and alignment*

- Gather intelligence, from stakeholders, on the current regulatory blockers and barriers highlighting conflicts with current policies e.g. net zero, flood risk management plans etc.
- Produce policy briefs for local authorities and government outlining the current regulatory barriers for the implementation of NBS projects.
- Develop a shared position statement with stakeholders.
- Educate users on the latest regulatory changes such as the 2020 Greenbook amendments (linked to ii).

### 4. *Blended funding and staked benefits*

- Carry out opportunity mapping to identify locations where different fragmented policies could be delivered through a common business case e.g. NFM, Biodiversity Net Gain (BNG) and Sustainable Farming Incentives (SFI).
- Facilitate collaboration to develop larger holistic schemes which are more attractive investments to the financial sector, than current small scale marginal benefit projects (linked to vi).

### 5. *Create a NFM calculator*

- Develop a voluntary standard 'NFM calculator' that can be used to assess the benefits.
- Work with investors to understand the level of evidencing required to demonstrate benefits, moving away from detailed costly data metrics to more narrative headline outcomes.



## 6. Co-ordinate collaboration

- Establish a consortium to pool resources, test language and create holistic large-scale business cases.
- Conduct stakeholder analysis and opportunity mapping to identify beneficiaries and connect upcoming projects to funding pots.
- Facilitate the connections between environmental and financial sectors using trusted independent brokers.

## Recommendations and proposed next steps

We will now seek funding to deliver the following recommended actions, working with green finance and environmental organisations across the Yorkshire region with UK-wide policy implications.

1. Develop a value proposition with a full range of beneficiaries, mapping who they are, and what return / cost saving they receive.
2. Use research for (1) to create a NFM calculator, akin to the Peatland Code, which can be associated with simple monitoring that can demonstrate financial and environmental additionality.
3. Develop an approach for running ensembles of hydrological models, with associated training, to standardise NBS planning and benefit calculations, build confidence and reduce risk in investments.
4. Establish a range of training resources and products, including CPD courses, workshops and conferences to upskill, educate and influence stakeholders on the use of models, NBS implementation and evaluation, business case development and green finance mechanisms.
5. Produce policy briefs for different audiences highlighting the need for regulation change and a more streamlined planning process.
6. Facilitate the development of larger holistic schemes, with multiple stacked benefits, to attract investment from the financial sector.
7. Establish a consortium of stakeholders to share knowledge, identify synergies and co-ordinate activities.
8. Develop the framework above and market the approach as globally leading to i) attract investment into the region/UK and ii) provide our services to other countries and international clients.

## Contact information and useful links:

If you have questions about this project, iCASP or the WYFLIP, please contact us.



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