

Executive summary

Context

Flooding is the UK's number one natural hazard, with damages and the associated investment in flood risk reduction costing the UK around £2.2 billion annually. Beyond these costs, flooding impacts the economy, business, homes, people, and physical and mental health. As the climate changes, managing flood risk is likely to cost significantly more in the following decades. Indeed, flooding has been identified as a priority risk by the UK Committee on Climate Change. Continued investment in traditional flood risk infrastructure, even at today's record levels, will not be enough to cover potential costs. A more holistic approach to flood risk management and how it is funded, will be required going forward.

Natural flood management is a complementary approach to traditional flood risk infrastructure. Natural flood management (NFM) involves working with the natural processes of a catchment to reduce flood risk, for example by improving soil management, planting of wet woodland, and creating retention ponds and wetlands in urban environments. These measures can reduce the burden on traditional flood infrastructure, prolonging the useful life of hard flood defences. NFM measures can also deliver a host of wider environmental co-benefits such as carbon sequestration, biodiversity uplift and water quality improvements. NFM has been highlighted as key to reducing flood risk by the UK Government within the current capital programme, and as part of the Third National Adaptation Programme. However, it currently receives a small proportion of all flood risk management spending and will require increased funding going forward if it is to be delivered at the scale required to address the challenges associated with climate change.

There is the opportunity for NFM to attract private sector capital, relieving some of the burden on the public purse. There are examples in the UK of NFM projects where the private sector has paid for flood risk reduction such as the Wyre River Natural Flood Management project, in which a water company United Utilities was part of a buyer consortium.

The environmental co-benefits generated by NFM projects also play an important role in attracting private sector capital for NFM projects. In some cases, payments for the potential flood risk reduction alone may be insufficient for an NFM project to reach financial viability. The purchase of co-benefits, such as carbon sequestration, water quality, and/or water resource improvements, may generate sufficient revenues to pay for the capital and maintenance requirements, or allow for upfront financial investment to be repaid with interest.

At present, however, there is limited buy-side demand for the flood risk reduction or ecosystem services generated by NFM. Proposed NFM projects, in which the private sector is a provider of capital, often as a co-funder with the public sector, are stalling. Over the course of several months, the Green Finance Institute brought together a cross-sector Working Group to identify the barriers to scaling private capital into NFM, and to propose actionable solutions, outlined in this report. Over one hundred external stakeholders also provided their insights.

Barriers

The barriers have been categorised under three key themes: Confidence, Coordination and Co-Benefits.

Confidence

For a beneficiary of reduced flood risk to contribute to the capital and/or revenue requirements of an NFM project, confidence in NFM's ability to reduce flood risk is essential. However, concerns around data and evidence, a lack of standards, and a lack of clear government guidance on resilience, are all impacting that confidence.

Insufficient data and evidence: At present, there is a perception that NFM has not been fully evidenced as being an effective delivery method for flood risk reduction and wider environmental co-benefits. Furthermore, the evidence required by buyers can often be bespoke and costly. For investors or lenders providing upfront capital to projects, investable NFM propositions are also too nascent, or too few, to have confidence in the risk-return profiles.

No nationally accepted design standards: At present, there is no overarching, nationally accepted standard to which NFM projects must adhere, ensuring that projects are designed and monitored to deliver the stated outcomes for both flood risk reduction and co-benefit generation. Records of NFM assets, their purpose, as well as maintenance records, are also not held centrally or easily accessible. These factors lead to legal and reputational risks for those entities paying for delivery of these projects.

Lack of clear government guidance: There is currently no government strategy that highlights how NFM supports, or interacts with, the wider environmental, social, and economic priorities in a region. NFM buyers therefore lack confidence that payments for ecosystem services and flood risk reduction are in line with broader targets. There can also be a concern that NFM projects may not be being designed in a location where they would deliver maximum impact. In addition, there are currently no resilience targets set out by government for the private sector.

Co-Benefits

As mentioned above, flood risk reduction alone may not be enough to secure the financing required to pay for the delivery of the project and ongoing costs. The sale of environmental co-benefits to private sector buyers is, therefore, vital in ensuring that NFM projects are financially viable.

However, at present, barriers remain that are preventing the sale of these co-benefits. These have been identified as:

Limitations of the partnership funding structure: Within the Environment Agency's partnership funding programme, co-benefits do not confer sufficient value to meet cost-benefit requirements to secure funding. These co-benefits are bundled into NFM projects, rather than sold separately as tradeable units that the private sector would be incentivised to purchase. For example – the sale of carbon credits or Biodiversity Net Gain (BNG) units cannot easily be added to the revenue stack to attract more buyers. This limits the number of potential private sector buyers, and therefore reduces the overall potential private sector partnership funding secured to deliver the Flooding and Coastal Erosion Risk Management (FCERM) capital programme.

Ecosystem service stacking clarity: A lack of clarity on the ability to stack revenue streams from multiple ecosystem services alongside flood risk reduction through NFM, reduces the potential pool of paying beneficiaries which may only be interested in paying for a single ecosystem service. For example, it is currently unclear if a project that plants trees to increase infiltration and reduce flood risk can also sell carbon credits for the carbon sequestered by those trees.

Natural capital assessment tool framework: The valuation of natural capital for NFM project is imperative to highlight the multiple ecosystem service opportunities potentially available to buyers. However, there are many natural capital assessment tools in use and in development with no overarching framework to which these tools must adhere. This can also reduce confidence that NFM projects will deliver high integrity outcomes.



Coordination

Scaling demand for NFM will require multiple beneficiaries, as covered above, and therefore a coordinated approach is required. Challenges included under coordination are as follows:

Country-wide strategic NFM prioritisation: As mentioned above, there is no overarching guidance from government about where NFM interventions would be most effective, complement traditional flood risk management plans, and deliver against wider environmental, social, and economic priorities. Buyers are not given the confidence that the projects they fund will deliver the maximum benefit for both flood risk reduction and environmental outcomes.

Stakeholder mapping: There is currently no standardised or strategic mapping of potential beneficiaries of reduced flood risk and wider environmental co-benefits within a region.

Coordinated buyer engagement: There is currently no centrally managed process to bring together potential private sector buyers with other key NFM stakeholders around NFM priorities within a geography.

Key Enabling Solutions

Seven key enabling solutions have been identified that could unlock these demand-side barriers, and result in an increase in private sector co-funding of NFM projects. These are set out below.

#	Solution	Overview	Barriers Addressed
1	Strategic prioritisation of NFM	A free and open-access mapping software to prioritise NFM opportunities across England, and to capture where NFM can deliver for flood risk reduction and wider environmental outcomes.	Confidence Coordination
2	Natural flood management asset database	An NFM asset database to record NFM asset information for all projects across the country.	Confidence
3	Natural capital assessment tool framework	A framework to guide the development of natural capital assessment tools, to provide a comparable approach to co-benefit valuation.	Confidence Coordination
4	Funding for buyer facilitation and partnership development	Funding for the effective facilitation of buyer engagement and demand aggregation for the development of NFM projects	Confidence Coordination
5	NFM design standards and guidance	Development of UK Government-backed NFM standards to ensure high integrity.	Confidence
6	Clarity on ecosystem service stacking	Clarity provided for the stacking of individual ecosystem services alongside NFM.	Confidence Coordination
7	Update to FCERM grant-in-aid partnership funding processes	Co-benefits of FCERM schemes valued as verified credits/units available for third-party purchase	Confidence Coordination

Further Work

While the above solutions capture an overarching view of how to unlock private sector capital to pay for flood risk reduction or ecosystem services delivered by NFM, there are specific demand drivers that will need to be addressed based on the type or sector of buyer. The Working Group has, therefore, recommended a series of more detailed work to be taken, prioritising the below sectors that have a natural interest in reducing flood risk.

Insurance sector deep dive: Throughout the course of this project, the potential role(s) of the insurance sector in scaling delivery of NFM as either buyers of reduced flood risk, or investors in NFM projects, were discussed. While the sector is seen as a potential key stakeholder in flood risk, there are multiple challenges that are preventing these roles being fully realised. The GFI will be exploring these and potential solutions in more detail in a follow up report.

Water sector deep dive: As key stakeholders in the management of flood risk and water resources, further investigation into the barriers preventing the water sector from acting as a buyer of flood risk reduction and water resources benefits from NFM, should be considered. For example, the way in which water companies value nature-based solutions is currently prohibiting widespread adoption of NbS to reduce flood risk, protect water resources, and improve water quality.

Mortgage sector deep dive: The increased risk of flooding will have a detrimental effect on people and properties, and the affordability of flood insurance. This will have a marked impact on affordability of homes. Increasing the knowledge base within the sector (and within the lending sectors more widely) on NFM and how it could be a cost-effective method of reducing risk across mortgage portfolios could increase demand from the sector as a buyer of flood risk reduction.

Also, as mentioned previously, there are still gaps in the evidence base for how NFM can reduce flood risk. More work, therefore, needs to be done on the causal links between catchment-based NFM interventions and downstream effects where impacts on people, properties and businesses would be felt.



Further Recommendations

Finally, over the course of the working group, other key recommendations were uncovered:

Development of evidence for NFM: Developing the evidence base for the efficacy of NFM is important if NFM is to become an intervention of choice alongside traditional flood risk infrastructure. Further research should be done in partnership with the private sector, to build a common understanding of the benefits of NFM within the private sector. Consideration should be given to mandating evidence capture across all NFM projects receiving grant funding.

The need for governance and suitable institutional structures: If private finance is to help scale nature-based solutions across the landscape alongside public money, a more coordinated and systems thinking approach to the delivery and financing of NbS will be required, alongside appropriate governance and institutional structures that include representatives from multiple stakeholders.

Targets and guidance for delivery of NFM: There are still no explicit targets or government signals that set out the potential future funding gap due to increased flood risk from climate change. Nor have there been targets set for the proportion of that gap that will need to be delivered through NFM, and through private investment. This results in a lack of urgency and direction within the private sector, slowing engagement and therefore delivery of NFM via private capital.

Multifunctional Land Use Framework: NFM will need to be delivered across large areas and at a certain intensity, and this will come up against several competing priorities for land including food production, housing, and tourism. Therefore, we strongly recommend that the creation of a suitable Land Use Framework be prioritised.

Community engagement: Communities are an important stakeholder and a key beneficiary of a reduction in flood risk. As with the private sector, NFM is a relatively new concept for communities and presents as an unfamiliar option to preventing the flooding of their homes. It is important that communities are engaged and empowered during the process of scaling delivery of NFM across the landscape, including when private finance is involved. There are numerous groups that can be engaged such as Local Flood Action Groups, the National Flood Forum, and Climate Action Groups.

