DISCUSSION PAPER

Our role in Natural Capital Markets

16 November 2022

INFRASTRUCTURE BANK

NOTE ON THIS PAPER

This discussion paper reflects our current understanding of the natural capital market, built on conversations with stakeholders and our own expertise. This is not a formal consultation, but we would welcome your thoughts. These will help refine our thinking ahead of the publication of our policy position on natural capital, expected early 2023. If you would like to let us know what you think, please email naturalcapital@ukib.org.uk. Feedback received by 7 December 2022 would be particularly useful.

Natural capital and our mandate

We will look to

- Deploy capital into promising high-integrity natural capital projects
- Facilitate investment in natural capital at the landscape-scale as markets mature
- Work collaboratively with stakeholders across the market to deliver our aims

Society and the economy depend on natural capital assets and services to function – including the carbon locked up by ecosystems, the provision of clean and reliable water supplies, and the biodiversity that underpins our food security. Our natural capital is a form of infrastructure, comparable to engineered solutions to problems such as flood risk and greenhouse gas removals. Often underpinning economic growth, it can protect other infrastructure assets, and deliver wider co-benefits, such as jobs. However, our base of natural capital assets has been rapidly eroded over recent decades and urgent investment is needed if the UK is to meet its net zero targets, adapt to an already changing climate, and secure future economic prosperity.

In HMT's Strategic Steer to the Bank, the Chancellor noted the significant scope for nature-based solutions to contribute to UKIB's objectives of tackling climate change and supporting regional and local economic growth and encouraged us to consider the role we could play in delivering these. In June 2022, we published our first Strategic Plan, which recognised the importance of natural capital and identified initial areas of opportunity for investment, whilst acknowledging the market for such projects is still developing. This paper sets out our latest thinking on where opportunities lie for UKIB to invest in natural capital markets, whilst delivering a financial return and crowding in additional private capital.

We are in a unique position to increase the pace and scale of private investment into natural capital markets. With an initial £22 billion of financial capacity, the ability to offer concessional finance, and flexibility to invest across the capital stack, we are well placed to invest in emerging areas of this market. At the same time, the business models for natural capital investment are often nascent and reliant on buyers in voluntary markets. In the long term, natural capital markets will rely on clear regulation and pricing to generate scale. In the meantime, UKIB can help prove the case for investment and develop interest in these markets.

Recognising the pipeline of investible projects will be limited at this early stage, we will focus on creating pathways for future private investment by demonstrating the soundness and replicability of emerging business models. As natural capital markets mature, we will also look at how we can break down barriers to investment at the landscape-scale. To achieve this, we will work collaboratively with policymakers, project developers, landowners and others. Our efforts and investments will be directed towards high-integrity markets for natural capital, capable of generating and evidencing clear gains for the climate, environment, and society.

Whilst the focus on this paper is on direct investment in natural capital markets, we are aware this is only part of how we can deliver on nature. For this reason, we are also considering how best to measure our impact on nature across our portfolio. Overtime, we are keen to see all infrastructure investment deliver a positive impact on nature and are closely following developments in this space. This includes considering how natural capital can increase the resilience of infrastructure. We will share more details on our approach as it develops.

Growing the natural capital market

We will look to

- Amplify existing initiatives to develop pipelines of investable natural capital projects
- Invest in aggregated project portfolios with diverse natural capital revenue streams

The Dasgupta Review found that large-scale and widespread investment in nature-based solutions can help address biodiversity loss and significantly contribute to climate change mitigation and adaptation, whilst delivering wider economic benefits, such as jobs. In response, the UK Government has committed to delivering a nature-positive future, and the economic and financial decision-making, systems and institutions required to deliver it.

Whilst public funding and philanthropy will remain critical to achieving the large-scale landscape recovery targeted for England by the 25 Year Environment Plan, evidence suggests private sector investment needs to scale significantly to bridge the financing gap for nature-related outcomes, which is estimated at £56 billion over the next ten years. The need for an ambitious increase in scale is reflected in the Spending Review 2021 target to mobilise at least £500 million of private investment into nature's recovery every year by 2027 and more than £1 billion a year by 2030. Private investment in nature currently stands at around £95 million per year, out of a total committed spend on nature of £700 million per year.

Whilst private sector interest in the natural capital market is increasing, most commercial lenders are waiting for the market to further mature before actively participating at scale. A principal barrier to enabling private investment of this kind is a lack of reliable sources of revenue from natural capital. A limited pipeline of smaller scale projects, mostly below £1 million in size, also limits the deployment of capital at scale. High transaction costs, the uncertainty and complexity of environmental policy and regulation, data gaps, the absence of

universal standards and market infrastructure, and novelty risk also make it difficult for most investors to price and manage the risks of investing in nature.

We are aware of several government-led initiatives seeking to address the above barriers and increase the pipeline of investible natural capital projects by establishing replicable business models. These include Defra's Natural Environment Investment Readiness Fund (NEIRF) and proposed follow-on Big Nature Impact Fund, and NatureScot's Investment Ready Nature Scotland (IRNS) grant scheme. We are interested in amplifying the benefits of these initiatives, including by investing in larger scale follow-on projects or by refinancing groups of promising ongoing projects. We will also make our financial and sector expertise available to local and national policy makers who are developing and progressing initiatives of this kind.

We are aware there is very limited opportunity for us to invest in single projects that meet our indicative minimum ticket size of £25 million. We are therefore interested in investment models that aggregate smaller projects, for instance through funds or SPVs. We are keen to invest in diversified project portfolios that use such models to achieve scale, enabling us to reach more nascent segments of the market whilst managing the risks of doing so.

Whilst we are keen to deploy our capital across the natural capital market, we have identified three distinct segments of the market that benefit from more established business models, clearer policy drivers, and developed market infrastructure. We will initially build our expertise and concentrate our efforts in these segments, whilst remaining open to wider opportunities.

Voluntary carbon markets

We will look to

- Invest in high-integrity projects in the woodland and peatland carbon markets
- Follow wider efforts to monetise the carbon value of habitat restoration
- Encourage responsible private investment in natural capital markets

To reach net zero by 2050, greenhouse gas removals through natural carbon sinks will be essential if the residual emissions arising from hard to decarbonise sectors, totalling around 90 million tCO2e, are to be compensated. To help mobilise private investment into the restoration and creation of natural carbon sinks, the Woodland Carbon Code (WCC) and Peatland Code (PC) have been developed to provide credible government-certified carbon offset units that can be traded on the UK Voluntary Market. Carbon buyers, typically private companies, purchase these units to report against UK-based emissions.

Demand for voluntary carbon credits has risen significantly, given ambitious corporate net zero targets and the growing appeal of UK-based projects that deliver tangible social and environmental benefits. However, there is a limited supply of such credits, with around 6 million carbon credits generated to date via the WCC and PC. Project pipelines are projected to deliver a three-fold increase in this supply, but this is still limited relative to expected

demand. Verified carbon units (ex-post), which can be used for offsetting and trade at a premium to pending issuance units (ex-ante), are in particularly short supply. Increased demand for carbon units has created a heated market for land in some areas – see Box 1.

Box 1. Social considerations in developing nature-based solutions

Scaling of nature-based solutions from their current low level will require significant land use change, which may have impacts on land values and local communities. The recent uptick in corporate demand for woodland and peatland carbon credits has led to heated land markets in some areas of the UK, and tensions between communities and project developers. Rapid shifts in agricultural policy have also created additional pressures by moving focus from food production to environmental improvement. To secure the long-term supply of land needed for nature-based solutions, landowners, rural communities and wider stakeholders will need confidence in natural capital markets and their ability to generate value for them fairly and over the long term. This includes considering the balance between food production and the delivery of environmental targets. We are committed to encouraging responsible private investment in natural capital markets, and intend to build on existing initiatives, such as Scottish Government's Interim Principles for Responsible Investment in Natural Capital, in developing our approach.

Given the relatively small size of the woodland and peatland carbon markets at present, we are interested in opportunities to aggregate nature-based carbon projects and invest in them at scale. This could include developing a fund to provide debt and/or equity into the market or investing in SPVs that provide a channel into individual projects. We will also look for opportunities to work with large landowners to develop investable projects at scale.

Project developers in the voluntary market typically sell a portion of their Pending Issuance Units (PIUs) to meet the upfront costs of project development. These PIUs are verified and converted into Woodland Carbon Units (WCUs) or Peatland Carbon Units (PCUs) over 5- and 10-year periods. We believe there may be opportunities for us to provide bridging finance that allows developers to hold their PIUs until conversion into WCUs or PCUs, so capturing the price premium of verified credits and smoothing revenue over the project lifecycle. Greater price transparency would help facilitate this model, as we have obtained only anecdotal evidence of a 20-30% premium offered for verified carbon units.

We consider the woodland carbon market to be most ready for investment. Some areas of this market are already fully commercial, such as where timber revenue forms a significant portion of a project's business model. We see a role for the Bank in scaling more nascent sections of the woodland carbon market, including projects delivering significant social and environmental co-benefits. Such projects typically face increased barriers to rollout at scale, including higher development costs and longer payback periods, but can also attract a price premium for their carbon. We are interested in investing in business models that help capture this additional value by overcoming barriers to commercial roll out at scale. This could include

diversified hybrid models that combine more established income streams, such as revenue from timber and carbon, with more novel revenue streams from natural capital.

Peatland carbon could present significant opportunities for achieving restoration at scale. However, restoration of peatland entails more complexity and risk than woodland creation, and peatland carbon projects have only recently begun to be developed. With a current voluntary carbon floor price of around £10-20 tCO2e most peatland projects are reliant on grant support, whilst the capital cost of restoring peat can vary significantly. These factors have led potential investors to set high IRR requirements. We intend to build our understanding of this market and potential role over time. This will include identifying opportunities for early investment in peatland projects, for example via diversified funds.

We are aware of wider efforts to monetise the carbon value of habitat restoration in the UK, including for grasslands, saltmarshes, hedges, and agricultural soils. A varying degree of research and development is still required to develop these initiatives to the point of certifiable carbon offsetting. In some cases, this includes underpinning scientific knowledge as well as market standards and infrastructure. Work is ongoing to develop these models, including a NEIRF supported pilot of the Seagrass Carbon Code. Achieving high-integrity is crucial to the development of the carbon market, and we will expect to see this demonstrated by emerging carbon codes, for example by adhering to the Core Carbon Principles set out by the IC-VCM.

Looking across the market, a higher floor price for voluntary carbon units would improve the business case for investing in habitat creation and restoration. Carbon in the UK Emissions Trading Scheme (UK ETS) compliance market currently trades at approximately £70-80 tCO2e compared to an average UK voluntary market price of around £10-20 tCO2e for woodland carbon. The potential for the UK ETS to provide a future market for both nature-based and engineered greenhouse gas removal credits is being explored by the UK Government through a recent call for evidence.

We will only invest in carbon projects that sell carbon offsets to credible buyers – see Box 2.

Box 2. The role of offsetting in achieving net zero

Increasing tree planting to sequester carbon and protecting and restoring peatlands to address carbon emissions will be necessary to achieving the UK's net zero target. Markets for the sale of carbon offsets can mobilise private investment towards these objectives. However, carbon offsets should only be used to address residual emissions as part of the journey towards full decarbonisation. To ensure we're delivering fully against our climate objective, we will only invest in high-integrity carbon projects that sell to end buyers which:

i. Have a public commitment to achieve net zero by 2050
ii. Have signed up to a credible initiative for delivering on this commitment, such as the Science Based Targets initiative
iii. Are only using offsets to address unavoidable residual emissions

Biodiversity net gain

We will look to

- Closely follow and feedback on biodiversity net gain policy as it develops
- Monitor the early development of the market and consider where we might step in
- Invest in hard to deliver areas of the market where there is risk of future scarcity

Mandatory biodiversity net gain will be introduced in England from November 2023, with the aim of securing positive outcomes for biodiversity, improving the planning process for developers, and creating better places for local communities. Implemented through the planning system, biodiversity net gain will require most substantive development to achieve at least a 10% net gain in biodiversity compared to pre-development values. Gains and losses will be measured in the form of biodiversity units, with landowners and managers able to create or enhance habitat to generate these units.

It is likely a significant portion of the economic infrastructure in England targeted for investment by UKIB will be mandated to deliver biodiversity net gain. We are therefore eager to see the establishment of a well-functioning market for biodiversity.

There is not expected to be an immediate scarcity of biodiversity units following the introduction of net gain, except for some urban and coastal locations. However, shortfalls are expected in the medium to long term as the market matures. There may also be a geographical mismatch between the location of demand for biodiversity units, such as in urban areas, and the supply of these units, which may be easier to deliver in remote areas. To avoid this, market supply will need to be encouraged ahead of demand from developers, including the establishment of habitat banks to smooth supply and promote market liquidity.

A key determinant of success for the biodiversity market will be the design of underpinning policy and regulation. Whilst the Environment Act sets the framework for biodiversity net gain, full details on its implementation are still being provided through secondary legislation, policy, and guidance. This includes the proposed role of UK Government as a seller of last resort, which could reduce private investment in supply. We will maintain an active interest in the development of biodiversity net gain policy, including the role of private finance in bringing forward supply, offering advice to government where appropriate.

Difficulty in projecting the future structure of the biodiversity market is an important barrier to private investment. Uncertainties include demand for offsite habitat creation and the price of biodiversity units. We will monitor the early development of the market and consider where it may be appropriate for the Bank to step in and take additional risk to bring forward necessary supply. This could include investment in the development of habitat banks, for example where demand is expected to exceed supply, but private capital is unable to price or manage demand risks. We also see a potential role for the Bank in hard to deliver areas of the

market, where the risk of future scarcity is higher. This could include investment in the creation of intertidal habitats to unlock port and renewable infrastructure.

Local authorities will play an important role in overseeing the delivery of biodiversity net gain and in some areas are applying this requirement ahead of statute. We will engage with these early adopters to better understand market dynamics and the lessons learned to date. Where opportunities emerge, we will look to invest in projects that address scarcity of supply within Local Planning Authority areas. We are also interested in whether the Bank can play a role in raising the skills and capacity of LAs seeking to deliver biodiversity net gain projects.

Voluntary markets for biodiversity gain may also provide a route for investment. For example, work is underway in Scotland to develop a voluntary system of credits for biodiversity enhancement, rather than placing a legal requirement on developers to deliver net gain.

Water services

We will look to

- Invest in green infrastructure approaches that deliver climate and wider benefits
- Help develop financial models that are more transferable across catchments
- Identify early opportunities to invest in promising blended finance models

The 25 Year Environment Plan signals a fundamental shift to driving environmental improvements in England through a natural capital approach. This is reflected in Defra's recent statement of strategic priorities for the 2024 Price Review (PR24), which calls on Ofwat to increase the use of nature-based solutions by water companies. Defra expects these solutions to be delivered as a matter of preference, where risks are understood, controlled, and proportionate to potential benefits. Nature-based solutions are perceived as riskier than traditional engineered solutions to raw water protection, wastewater treatment and flood mitigation, and are likely to require patient capital to support their roll out at scale.

Water companies are trialling the application of green infrastructure, such as constructed wetlands, that reduce carbon emissions and provide wider environmental and social benefits. We are aware that, unlike asset-based solutions, nature-based solutions must be funded from operating expenditure within each regulatory price cycle. This creates additional financial risk through revenue uncertainty and presents a barrier to the wider roll out of these measures. We are keen to consider investment opportunities that help mitigate this financial risk within the current regulatory framework. We will also maintain an interest in Ofwat's proposals to reduce the bias towards asset-based solutions through PR24, and in initiatives to overcome wider barriers, such as the regulatory hurdles facing green infrastructure.

Across the UK, catchment-based approaches will be necessary to tackle the complex and cross-sector issues affecting the water sector, including diffuse pollution and flooding. Potential buyers of nature-based solutions in catchments include water companies and

developers seeking reduced nutrient loads, whilst there may also be opportunities to monetise declines in flood risk through the insurance market. These revenue sources could be combined with funding from agri-environment schemes (see Box 3) and revenue from carbon and biodiversity units to create new blended finance models. We are keen to identify early opportunities for investment in catchment-level projects that blend multiple revenue sources.

The design of catchment-based approaches is often bespoke, which can limit easy access to private finance. To overcome this barrier and support scale, we are particularly interested in developing and investing in financial models that are transferable across catchments. We will also maintain an interest in initiatives working to overcome wider barriers to catchment-based approaches, including market infrastructure, cross-sector governance, and data.

Box 3. Opportunities for blended finance

Work is ongoing to design the new agri-environment schemes that will replace payments previously made though the EU's Common Agricultural Policy (CAP). The move towards these new systems of subsidy is expected to open new opportunities to blend public and private finance. By crowding-in private finance from biodiversity net gain, carbon markets, and catchment services alongside agri-environment subsidies, blended finance models could potentially support increased investment across natural capital markets. Challenges to scaling blended finance models include the development of appropriate standards and measures, market infrastructure, and clear tests for additionality. We are aware of ongoing and planned pilots seeking to overcome these barriers, including trials of the Environmental Land Management scheme (ELMs) in England. We will follow the development of these pilots and look for early opportunities to invest in promising blended finance models.

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