The Aggregation of Ecosystem Services Suppliers

A study by Eunomia Research & Consulting for the Environment Agency

2nd May 2023

eunomia

Report Contents

Glossary

Biodiversity Net Gain (BNG)	An approach to development that requires developers to pay for biodiversity improvements offsite in order to mitigate biodiversity loss which cannot be avoided due to development, such that an overall increase in natural habitat and ecological features is achieved. BNG is to be legally mandated at a 10% gain from 2023 onwards as calculated by the Defra Biodiversity Metric.
Blended Finance	Can be understood in multiple different ways. In this study, blended finance is defined as the use of catalytic capital from public, philanthropic or private sources to increase investment in sustainable development
Ecosystem services	The benefits that people obtain directly or indirectly from nature. These are typically divided into provisioning services (food, water, wood, raw materials), regulating services (pollination of crops, flood and disease control, water purification, prevention of soil erosion, sequestering carbon dioxide), cultural services (recreational, spiritual and educational services) and supporting services (nutrient cycling, maintenance of genetic diversity)
Nature-based Solutions (NbS)	Using natural (as opposed to man-made) techniques to either prevent, mitigate or adapt to the effects of climate change as well as other challenges such as biodiversity loss and food security.

eunomia

01 Project Overview

Introduction

Natural capital investment can help address the climate and biodiversity crises. For it to be effective, it requires an understanding of how best to facilitate the delivery of funding and finance.

In recent years, new markets have developed to meet environmental goals. These environmental markets connect sellers of ecosystem services - goods and services provided by nature such as carbon sequestration and air pollution removal - to public and private buyers. At a time when public sector environmental funding is constrained, the leverage and facilitation of private investors is crucial.

Bringing multiple suppliers of ecosystem services together- **aggregation-** can increase the availability of sellable benefits, creating a mechanism through which landowners/managers can access alternative revenue streams. Importantly, collaborative working can enable the delivery of environmental benefits at a landscape scale, thus contributing towards UK environmental targets.

For the purposes of this study, we have defined aggregation as: bringing multiple ecosystem service suppliers together into a group/cluster to receive funding or investment. This differs from bringing multiple buyers and investors together into a group/cluster to fund ecosystem services, and does not include matching individual buyers and individual sellers in a market/through a trading platform.

Project Overview

The aim of this research project has been to explore the benefits and drawbacks of different models currently in place for aggregating ecosystem service sellers.

The research sought to answer the following research questions:

1. What are the different models for aggregating the supply of ecosystem services at the landscape scale?
    I. How can we best bring together sellers across multiple objectives and multiple sectors?
    II. What are the benefits and trade-offs of these different ways of bringing people together?

2. How do the supplier aggregation models explored in question one, fit with governance structures, and how best should risks, liabilities, and equity between actors be managed?

Note: The aggregation models explored in this study do not include landowners coming together to sell food. Instead, the research focuses on where landowners are delivering climate and nature benefits.

eunomia

Project Approach

Scoping

- Confirmed the research questions and the six aggregation models to be examined.
- Six aggregation models chosen to cover a range of complexity, from a single, unaggregated landowner to more developed environment funds/trusts with multiple stakeholders.

Review of supplier aggregation models

- Literature review of models.
- Details gathered on: the level of aggregation of each model, scale, how the model aggregates suppliers, how risk is managed and prices negotiated, governance structure/legal form and equity in decision making.

Review of case studies and stakeholder engagement

- Examination of eight case studies across the different aggregation models.
- Literature review followed by interviews with each case study to identify the advantages, challenges and trade-offs of different ways of working together.

Assessment of supplier aggregation models

- Assessment of the six aggregation models according to a set of criteria.
- Criteria were developed in order to examine the benefits and trade-offs of each model, such as ease and cost of set up and maintenance and level of risk to landowners/managers.

Assessment of financial instruments

- Four different types of finance for investment in nature were described and reviewed, namely: Direct Commercial Finance, Intermediate Commercial Finance, Concessional Finance And Blended Finance.
- The pros and cons of each instrument were captured.

Analysis and Discussion

- Summary of the advantages, challenges and trade-offs of each aggregation approach.
- Discussion of key messages and overall findings.

02 Supplier Aggregation Models

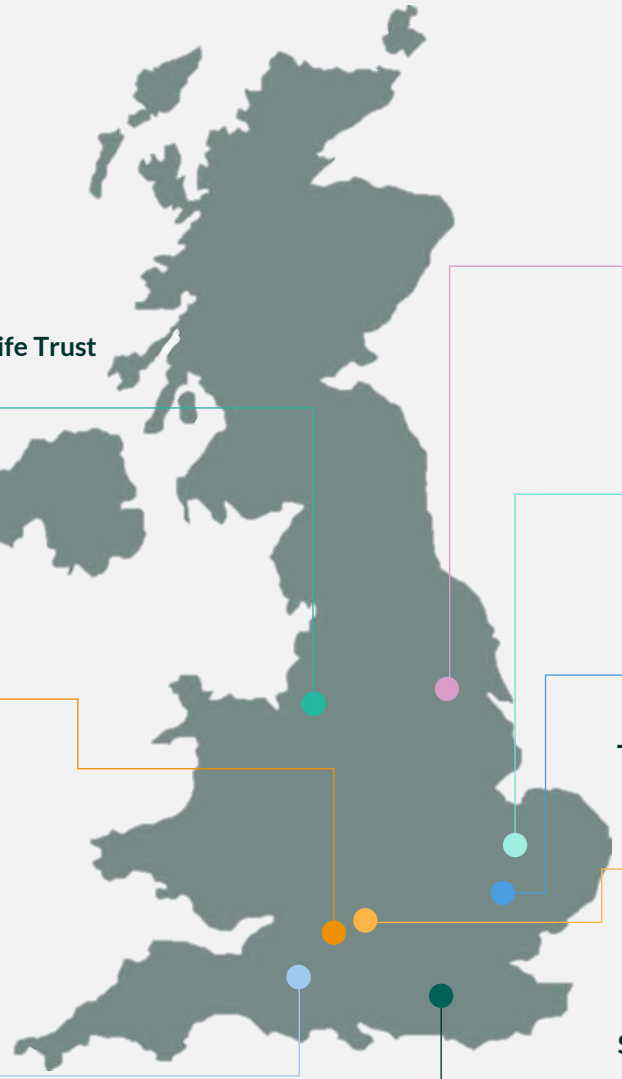
Overview of Supplier Aggregation Models

Six aggregation models covering a range of complexity were examined. As shown in the table below, these models broadly increase in aggregation and complexity, from the single unaggregated landowner, to large, formal organisations. Some models have potential to be more or less complex depending on their set up and the number of stakeholders involved.

Increasing level of aggregation

Aggregation model	Description
Individual landowner	Single landowner sells ecosystem services from own land to buyer(s). Unaggregated.
Landowner partnerships	Collaborative arrangements which bring multiple landowners/managers together to achieve common aims. Can range in complexity from just two, to several partners.
Farmer clusters and superclusters	Groups of farmers in a geographic location/landscape come together to address environmental issues.
Habitat bank	Market-based enterprise that 'banks' habitat credits from mitigation projects and sells them to developers or other buyers who need to compensate for biodiversity loss in a new development.
Landscape Enterprise Networks (LENs)	3Keel initiative creating a marketplace to aggregate buyers and suppliers of ecosystem services.
Environment funds/trusts	An organisation which raises money and strategically allocates grants, funds or finance to environmental projects.

Case Studies



Greater Manchester Environment Fund
Charity managed by Lancashire Wildlife Trust
Environment Fund

Habitat Banking and Investment Model (NEIRF)
Four Wildlife Trusts
Habitat bank

Martin Down Farmer Cluster
12 member farmers
Farmer cluster

Environmental Farmers Group
100 members
Farmer cluster cooperative

Rethinking Farmed Peatland (NEIRF)
Lapwing Estate
Single landowner

Wendling Beck Exemplar Project (NEIRF)
Wendling Beck Operating Company
Landowner partnership

East of England LENs
Landscape Enterprise Network
LENs approach

Trust for Oxfordshire's Environment
Charitable company ltd by guarantee
Environment Trust

Natural capital investment company for habitat banks (NEIRF)
Surrey Wildlife Trust and six landowners
Habitat bank

Single Landowner Approach

Description

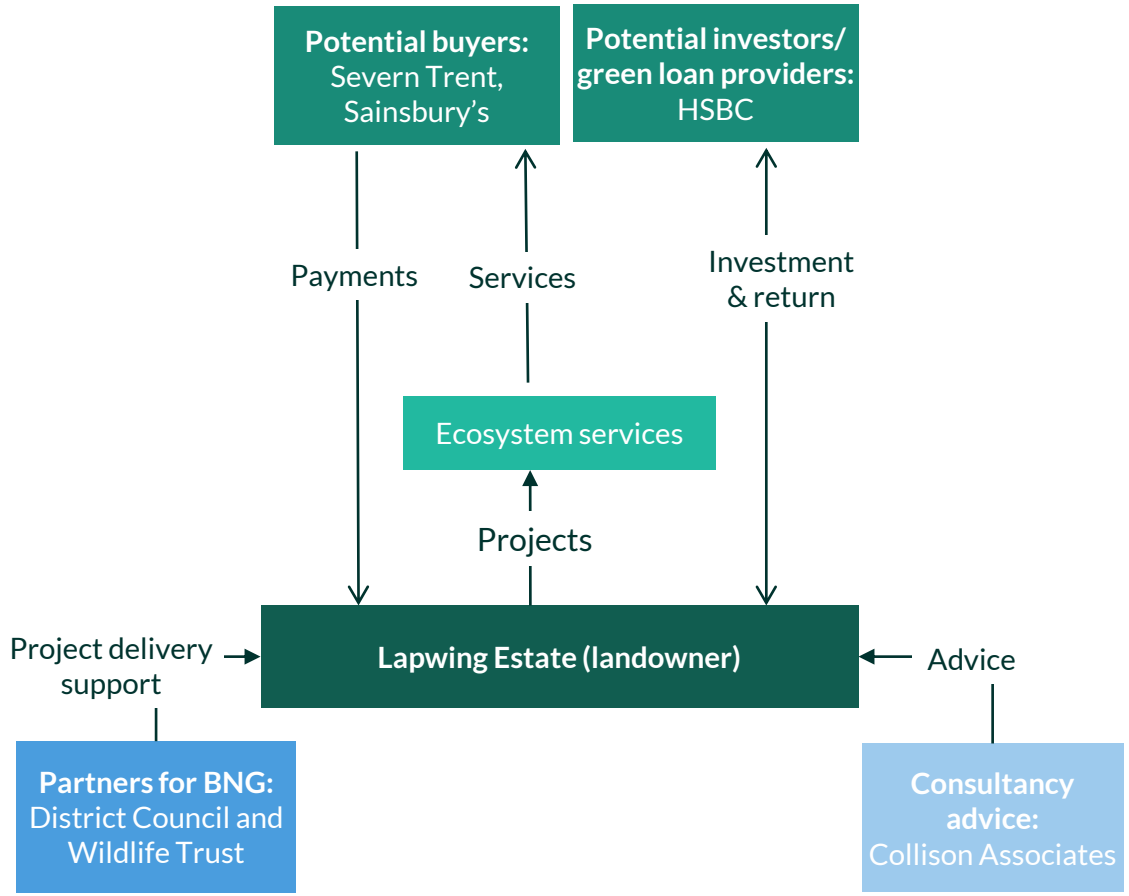
- A single landowner sells ecosystem services from their own land to buyer(s).
- Local or single farm scale.
- Typically operated through an individual farming business with pre-existing corporate structure and processes.
- Potential to set up a special purpose vehicle (SPV)[1] or a charitable arm to manage trades.

Risk Management & Service Price Negotiation

- Risk is managed at an individual level by the single landowner.
- Prices for ecosystem services are negotiated directly between the landowner and buyer(s).

[1] A separate legal company that is formed by a holding/parent company to undertake a specific business purpose or activity. SPVs are usually created for a specific objective such as to isolate assets, operations or risks. Typically, the legal forms of SPVs are partnerships, limited partnerships, or joint ventures.

Example model- Lapwing Estate Peatland Restoration NEIRF project



eunomia

Case Study: Lapwing Estate Peatland Restoration (NEIRF Project)

Description

- Aiming to convert an initial 800ha (2,000ha in the long term) of intensively farmed lowland into wet woodland for biomass production with related water, carbon and biodiversity ecosystem services.
- Unable to work with neighbouring farms due to different priorities- neighbours are not looking to deliver ecosystem services.
- Operates through the existing corporate farming business. Other legal forms were considered, such as a charitable company, but a corporate entity was chosen due to:
  - I) ability to scale,
  - II) ability to trade, and
  - III) desire to create a model which could help persuade other farming businesses to do something similar.

Risk management and service price negotiation

- Risk is managed by the individual landowner who is also conducting all discussions, including price negotiations, with various stakeholders.
- Currently collaborating with Puro.earth in order to sell carbon credits. Also exploring direct sales where Puro.earth would operate as the credit verifier.

Case Study: Lapwing Estate Peatland Restoration

Positives

- Does not require multiple negotiations with other landowners.
- The landowner has full agency over decisions.
- Not liable for other partners' projects.
- One contract between a single buyer and single seller can be simpler from a legal perspective.
- Potential to use pre-existing corporate farming business to manage trades.
- Has found that large corporate entities or families with large funds are ideal investors. It was reported that some large corporates favour private deals as it allows them to see the credit risk of the individual farmer and reduces their exposure to spot carbon market prices. Additionally, families with large funds have 'patience capital' and are open to returns being made over longer periods of time (30+ years).

Challenges

- Negotiation power may be lower compared to working in a group.
- Time and administrative burden for the individual landowner. For instance, arranging multiple contracts with different buyers is a challenge. A consortium of buyers might be easier as there would only be one contract.
- Limited ability to share knowledge, ideas and skills.
- Has experienced difficulties identifying interested buyers.
- Tricky to secure contracts when there is one buyer and multiple sellers who are competing to offer the lowest price. It was reported that there is a risk this creates a 'race to the bottom' in terms of project quality.
- Uncertainty over how a change in land use would impact the capital value of the land, and in turn, loans secured against that land.
- The environmental benefits are limited to the single farm and may be restricted by geographical conditions.
- Some investors are open to investing in tools used as part of the project (e.g., software) but not the project itself.
- Conversations with one bank highlighted that green loans are the same as regular loans in terms of the levels of risk the bank would accept.

Landowner Partnership Approach

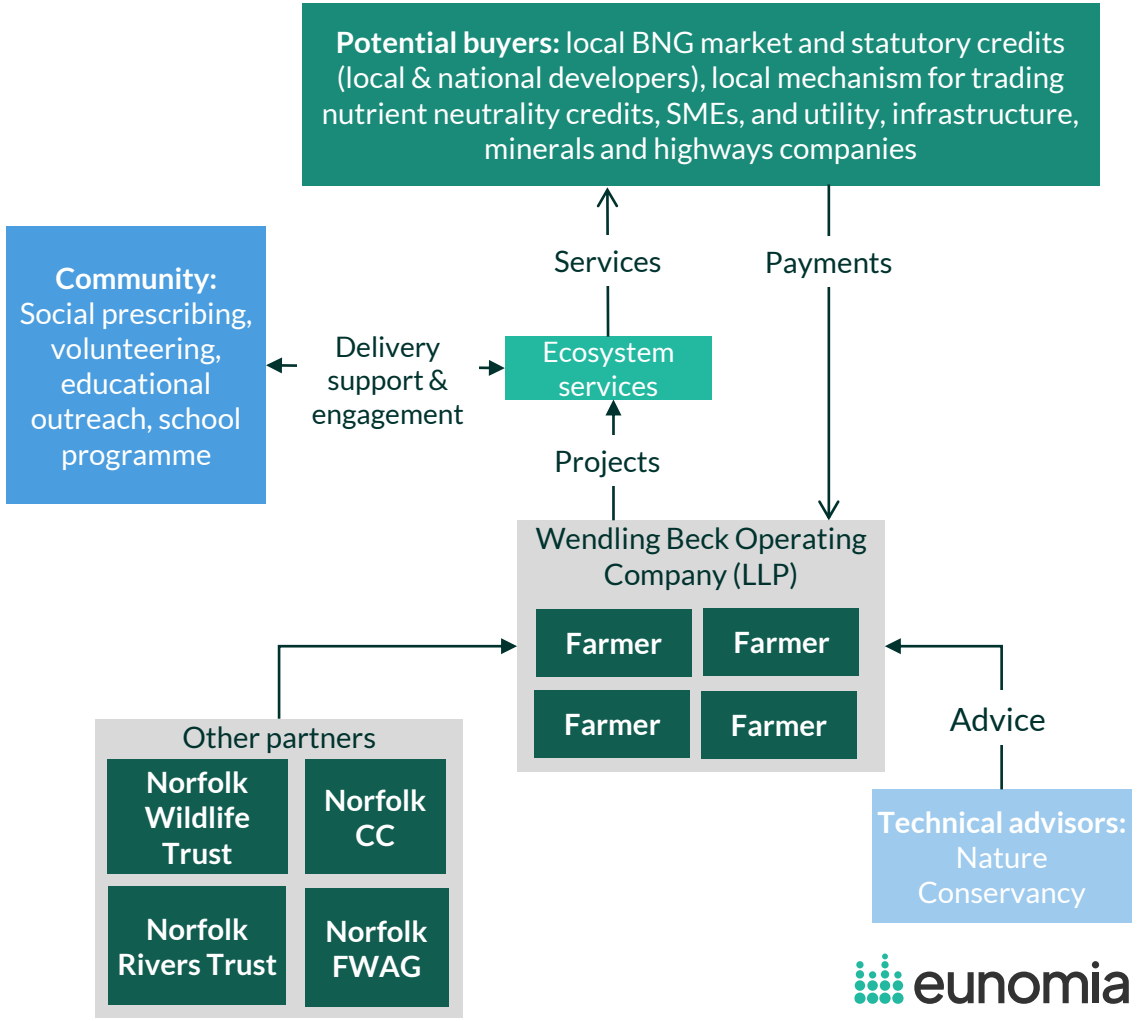
Description

- Collaborative arrangements which bring multiple landowners/managers together to achieve common aims.
- Partnerships have flexible structures and can adopt a range of governance and legal forms.
- Partnerships can function without a legal entity e.g., through Memorandums of Understanding (MoUs) or partnership agreements.
- Relevant legal forms for partnerships include: charitable operating company, Community Interest Company (CIC), co-operative, limited liability partnership (LLP) and a company limited by guarantee.
- Where partnerships are larger in size (e.g., they operate at the level of landscape recovery), CIC or co-operative structures may be the most effective. Larger scale partnerships may operate more successfully with an umbrella organisation under which individual landowners hold responsibility for their own transactions.

Risk Management & Service Price Negotiation

- In an incorporated partnership, the new legal entity/vehicle created takes on risk. Partners can be protected through limited liability (e.g. limited by shares or limited by guarantee).
- In an unincorporated partnership, partners manage their own risk.
- Prices are negotiated as a partnership rather than at the level of individual landowners/managers.

Example model- Wendling Beck Exemplar Project



eunomia

Case Study: Wendling Beck Exemplar Project (NEIRF)

Description

- A collaborative project between private landowners, environmental NGOs and public sector organisations seeking to create 2000 acres of habitat and nature restoration across an intensively farmed landscape in Norfolk.
- The partnership set up a single operating company- the Wendling Beck Operating Company (WBOC) LLP. The company is owned by the four landowners who decided to incorporate in order to trade and to enter and sign contracts.
- The WBOC is the main vehicle for the project and is responsible for: delivering the projects, negotiating prices, paying contractors, creating and monitoring habitat(s) and selling environmental credits. The company pays the farmers a license payment for using the land.
- MoUs exist between all partners, including with the NGOs and local authorities. MoUs detail the partners' responsibilities, roles and methods of communication. They are not legally binding.
- The project is seeking to monetise co-benefits such as through eco-tourism, a farm shop and a café.
- The project is aiming to be self-funding through the sale of biodiversity units, natural capital services and regenerative agriculture.
- Potential to sell nutrient neutrality credits through a joint local venture which will be a trading mechanism for nutrient neutrality credits in Norfolk.
- There is a provision in the partnership agreement to allow more landowners to join the partnership, although it is unlikely that additional landowners would join the LLP itself, instead a new agreement would be created.

Risk Management and Service Price Negotiation

- Risk is managed through a comprehensive partnership agreement which details what would happen in multiple different eventualities.
- Already selling units and working at risk due to the speed of set-up.
- Risks from climate change are managed at an individual project level e.g. combining different planting techniques/species to reduce vulnerability to drought.
- The WBOC negotiates ecosystem service prices.

Case Study: Wendling Beck Exemplar Project

Positives

- Partnerships can build synergies between different sectors and stakeholders by pooling resources, skills, knowledge and institutional and governance capacities.
- Can work at scale and deliver a more investable proposition with four farms e.g., they can provide more, and connected, habitat types.
- Better negotiating power as a group.
- Strong team with diverse expertise, provides support and knowledge and idea sharing.
- The WBOC is liable for risk, not the individual farmers.
- An LLP gives flexibility to trade and ability to sign contracts compared to a charity or informal partnership approach which would have more limitations regarding trading.

Challenges

- Expensive legal fees for the partnership agreement as there was no existing template for this type of partnership.
- Challenges with tax as different stakeholders in the partnership are subject to different tax rules. There is a need to ensure the farmers are not double taxed through the company. Changing land use is also likely to have tax implications for the farmers.
- Working in a partnership requires negotiation and compromise amongst partners. Partners may have different priorities, needs and risk appetites.

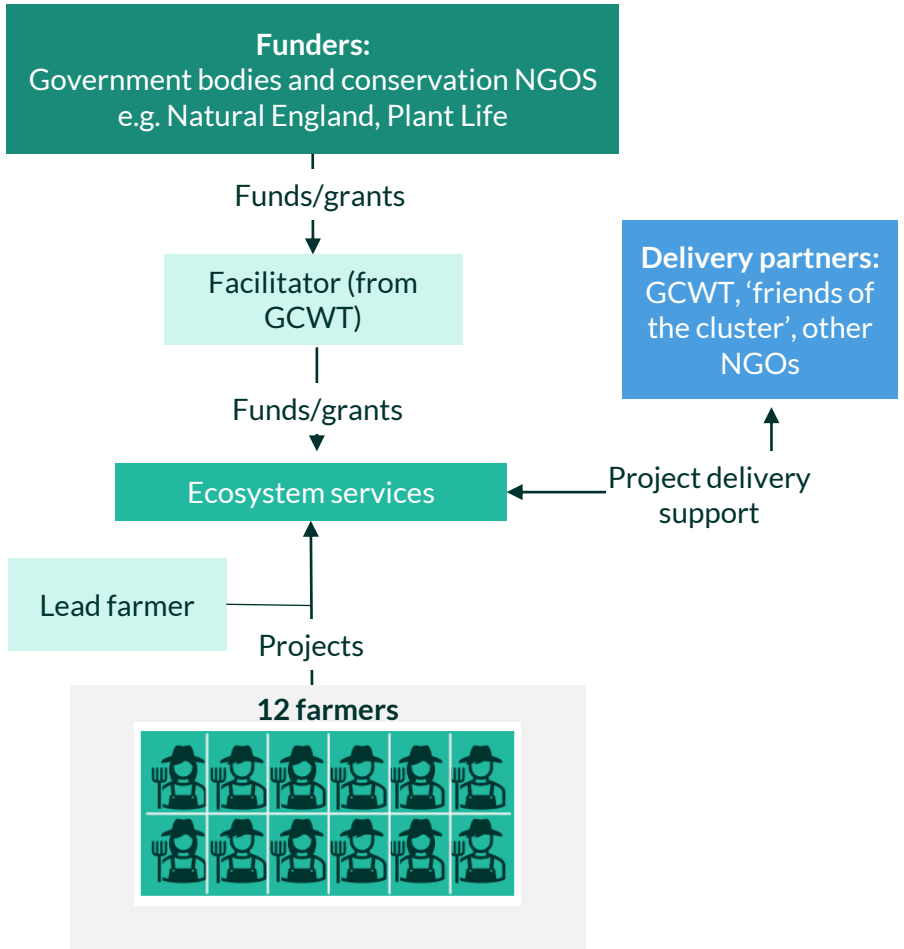
Farmer Clusters and Superclusters

Description

- Farmers work together with other stakeholders in a landscape to decide conservation aims and seek funding. Aims may include improving soil health, connecting habitats and protecting local wildlife.
- Since first piloted by the Game and Conservation Wildlife Trust (GCWT) and Natural England in 2013, there are now over 120 clusters across the UK, working with more than 1000 land managers.[1]
- **The facilitator** (funded role): administrates the cluster, seeks funding, organises activities and training, coordinates environmental work/funding and monitoring. The facilitator is chosen by the farmers to reflect the aims of the group, e.g. a catchment focused cluster may choose a Rivers Trust Officer as facilitator.
- **Lead farmer** (or chairman): steering member of the cluster, well connected, good environmental credentials, knowledgeable about environmental issues, brings neighbours together.
- Farmer clusters can be set up in different ways. Some are set up through Countryside Stewardship facilitation funding and others are privately funded or farmer-led, where the farmers pay annually into a central fund based on individual hectarage.
- Clusters can range in size from under 10 member farmers to over 50. Clusters can also come together to form a supercluster e.g. the Martin Down Supercluster combines three local clusters and covers 236 km^2.

[1]GCWT (2019) Farmer Clusters. Available at: https://www.farmerclusters.com/

Example model- Martin Down Farmer Cluster



eunomia

Farmer Clusters and Superclusters

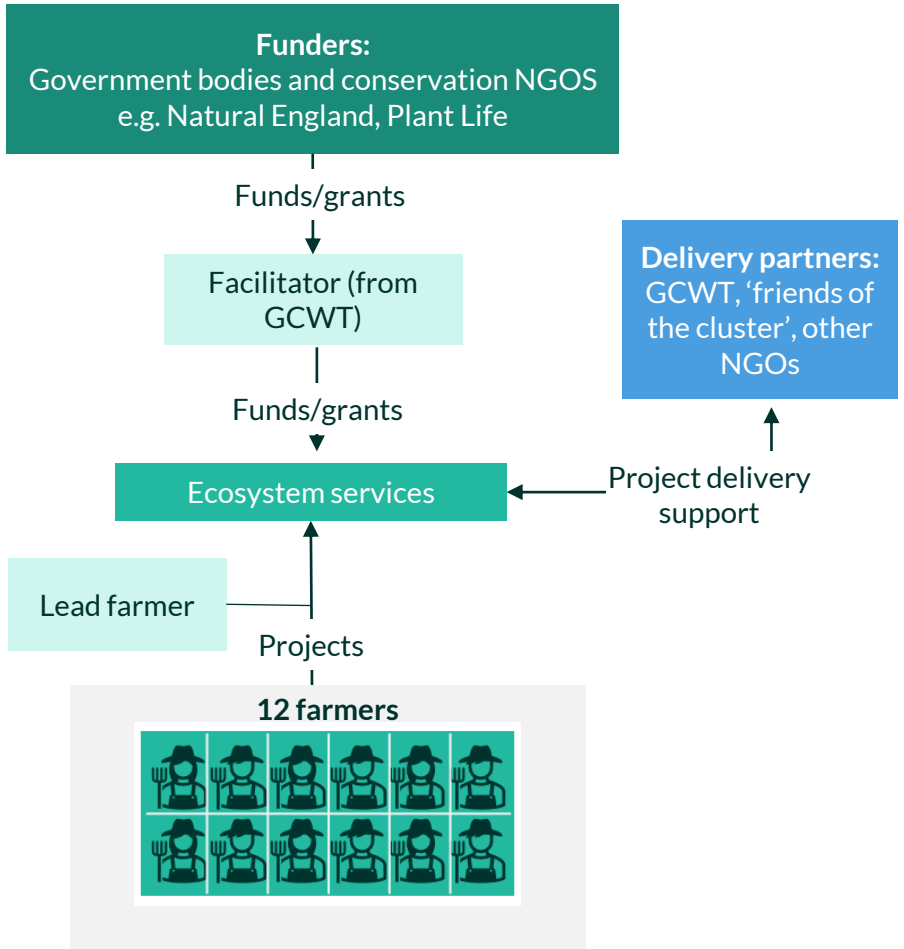
Risk Management and Service Price Negotiation

- Risk is managed at an individual landowner level.
- If a cluster is selling ecosystem services, prices could be discussed and then negotiated as a group. The facilitator, or a similar role depending on the set up, could facilitate and support those negotiations, as well as identifying and engaging with potential buyers.
- Farmer clusters can have flexible legal structures. Some clusters have legal agreements and trade, others are informal groups which do not trade.

The **Northeast Cotswold Farmer Cluster Group** for instance, is a CIC engaging with carbon and biodiversity net gain markets, water quality and natural flood management. The group started with 30 founder farmer members and was set up as a CIC to ensure surplus funds are reinvested to achieve social aims. In terms of structure, the group has a steering group and three directors. It has grown to over 127 farmer and landowner members in two years and has drawn in public funds, private corporate grants and philanthropic donations.

The cluster has received Landscape Recovery Pilot funding for a project across 50 farms, part of which will involve identifying investors for ecosystem services (carbon, BNG, water quality, NFM and access to nature). Running costs of the farmer group and management of the current project pipeline is in the region of £100,000.
https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2023/03/GFI-Financing-a-Farming-Transition.pdf

Example model- Martin Down Farmer Cluster



eunomia

Case Study: Martin Down Farmer Cluster

Description

- Farmer-led with the facilitator role fulfilled by a Game & Conservation Wildlife Trust (GCWT) staff member and funded by a donor charitable trust.
- Collective decision-making based on trust between the farmers.
- This particular cluster is not trading or offsetting so has no legal entity or agreements (however, there are examples of other farmer clusters engaging with environmental markets, e.g. selling ecosystem services such as water quality to water companies).

Risk Management

- Farmers each individually manage risks to their farming business.

Positives

- Projects have seen a significant increase in biodiversity because of working collectively at a landscape scale.
- The facilitator does all the surveying and monitoring etc- the farmers do not have to do the admin work.
- Farmers each have the same agency in decision making.
- Enables group working, knowledge sharing, events and training with neighbours/peers. There is a beneficial social element to meetings.[1]
- An independent trusted/respected facilitator reduces the chance that a farmer will bring their own politics and preferences to the group.[1]

Challenges

- Time burden for the facilitator.

[1] Northern Real Farming Conference (2023) The advantages and challenges of working within a Farm Cluster Group: a discussion: Session outcomes. Available at https://www.northernrealfarming.org/the-advantages-and-challenges-of-working-within-a-farm-cluster-group-a-discussion-session-outcomes/

Case Study: Environmental Farmers Group (EFG)

Description

- Formed in 2021, the EFG is a farmer-led cooperative bringing several farmer clusters together in the River Avon catchment.[1]
- 100 members covering over 60,000ha, which represents 35% of the catchment area. Farms range in size from 20ha up to several thousand hectares.[2]
- The governance structure is formed of a Board (made up of farmers), a Director and a Chief Executive. Members attend quarterly meetings.
- The group aims to build a funnel of trades for members to sell their natural capital products, focussing on biodiversity net gain, nutrient neutrality and carbon offsets.
- 88% of the value of a trade will go to the farmer providing the ecosystem service/environmental outcome. 9% is shared with the farms in the catchment area (equalisation policy) and the rest pays for EFG operational costs. [2]
- The GWCT through Natural Capital Advisory (NCA) provides support to EFG, while the NFU provides guidance. The advisory is well connected with a scientific network e.g. Rothamsted Research regarding soils. The group also receives funding from NEIRF and sponsors.
- Funds are raised through a subscription fee for members (£1.25/ha/yr) and sponsorship from local farm suppliers.
- Looking to start groups in Northamptonshire, Lincolnshire and the Peak District.

Risk Management & Service Price Negotiation

- Farmers take the risk of project delivery on an individual basis.
- Each farmer signs up to a membership agreement with EFG which details expectations. Further agreements/contracts are made for individual trades directly between the farmer/agent in question and the buyer.
- The NCA/EFG team facilitates price negotiations, often with farmer agents. Buyers include: housing and infrastructure developers, corporates looking to offset for ESG ratings and retailers. There are also potential opportunities with water companies.

[1] EFG (2022) EFG Second Members Meeting. Available at https://www.environmentalfarmersgroup.co.uk/efg-second-members-meeting/
[2] GFI (2023) Financing a farming transition: key enablers and recommendations. Available at REPORT (greenfinanceinstitute.co.uk)

Case Study: Environmental Farmers Group (EFG)

Positives

- Farmer-led which builds trust. Ability to enable environmental change alongside food production.
- Individual farmers are being approached for trades and offered different rates. The cooperative has come together because rather than being 'picked off one by one', the group can collectively set prices.
- Selling within supply chains gives the farmers more buying power.
- It was reported that farmers are wary of working with organisations like Wildlife Trusts, Environment Bank and other intermediaries- they prefer to maintain independence. Through the EFG, farmers can sell natural capital directly to the end buyer and their land is not sold or leased.
- The group can be strategic about which buyers/investors they engage with. Their primary aim is to keep profits in local communities.
- If a really big trade comes in, no one farmer can do a big trade all on one farm. In the EFG, the farmers can split the trade requirements between a number of farms.
- Ability to take a strategic view to environmental interventions through developing a whole catchment conservation plan, such as focusing on connectivity of habitats between farmer clusters.

Challenges

- Farmer scepticism towards markets- requires a mindset shift from previously receiving money for basic environmental schemes, to now providing higher quality environmental services.
- Farmers manage risk on an individual level.
- Balancing the size of the cooperative/network with maintaining key benefits i.e. being able to deliver environmental outcomes across a contiguous landscape. Members are able to join from outside the specific local area, but they may not get as many benefits as they would compared to if they were within one of the key catchment areas (e.g. they would be less likely to get the equalisation pay or as much focus).
- Time and resources required to run and maintain the group.

[1] EFG (2022) EFG Second Members Meeting. Available at https://www.environmentalfarmersgroup.co.uk/efg-second-members-meeting/
[2] GFI (2023) Financing a farming transition: key enablers and recommendations. Available at REPORT (greenfinanceinstitute.co.uk)

Habitat Banking

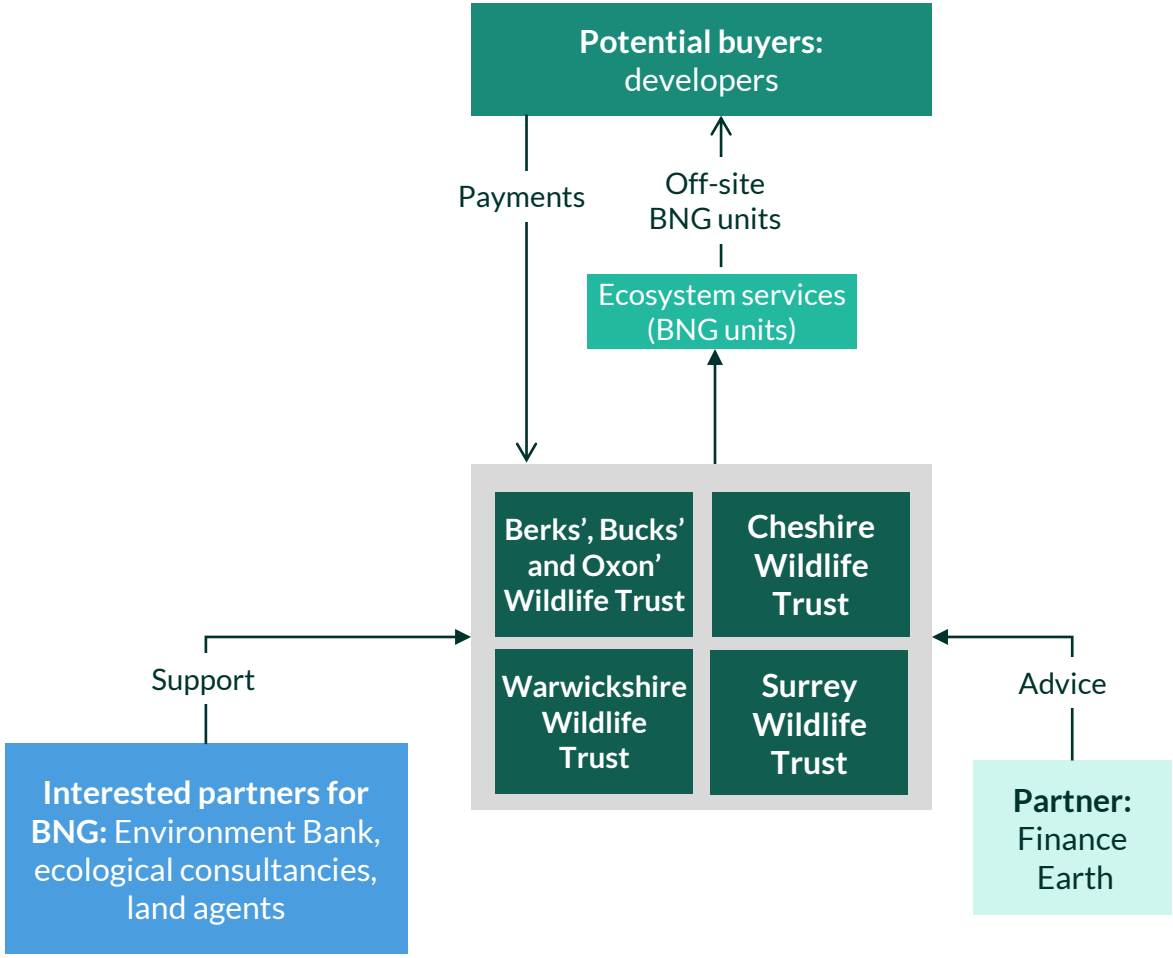
Description

- A market-based enterprise that 'banks' habitat credits from mitigation projects and sells them to developers or other buyers who need to compensate for biodiversity loss in a new development. The habitat banks guarantees the long-term protection and management of the land.
- Buyers avoid the need to handle the details of BNG compliance themselves.
- Can operate at multiple scales- landscape/local to regional/national. Can also focus on a particular habitat type e.g. wetland mitigation habitat banks in the US.[1]
- BNG credits could be aggregated from different sites, or sold for a particular site, based on buyer preference, especially a site local to the development being compensated.[2]
- Landowners can use the scheme as a means to diversify. They benefit from skills and knowledge available through the habitat bank, as they may not be proficient in all the many skills required to sell BNG.

Risk Management & Service Price Negotiation

- May aggregate many small projects, thereby spreading risk across many sites.
- Mitigates uncertainty for suppliers and investors as revenues and timelines can be predicted.
- Price negotiations are managed and/or facilitated by the habitat bank entity.

Example model- Wildlife Trust's habitat banking and investment model



[1]Briggs BDJ, Hill DA, Gillespie R (2008). *Habitat banking – how it could work in the UK*. https://doi.org/10.1016/j.jnc.2008.12.006
[2]The Environment Bank (2010). *Habitat Banking FAQs*. Habitat Banking and Conservation Credits FAQs (senedd.cymru)

eunomia

Case Study: The Wildlife Trusts' Habitat Banking Investment Model

Description

- Berkshire, Buckinghamshire and Oxfordshire Wildlife Trusts, Warwickshire Wildlife Trust, Cheshire Wildlife Trust and Surrey Wildlife Trust are partnering with Finance Earth to develop a scalable Habitat Banking Investment Model.
- The land which will provide the ecosystem services is either already owned, or will be bought, by the three Wildlife Trusts.
- They are currently partnering with Finance Earth for consultancy advice.
- The model has potential to incorporate third-party sites, as well as to aggregate units across sites and sell them together.
- Aggregation depends on the habitat types (e.g. they would not mix wetland and grassland credits) and what the developer wants.

Risk Management and Service Price Negotiation

- No legal agreements between partners in place yet – currently identifying services they can provide and the level of risk they are willing to take on.
- They are selling and negotiating prices on a case-by-case basis – each deal is individually negotiated when a buyer approaches them.

Case Study: Surrey Wildlife Trust Natural Capital Investment Company (NCIC) for Habitat Banks

Description

- Surrey Wildlife Trust is working with six pilot sites- two large estates, two small farms and two golf courses- to help landowners develop business cases for delivering environmental projects.
- The projects will focus on BNG, followed by carbon sequestration and Environmental Land Management schemes (ELMs).
- At least two habitat banks will be created, with the pilots delivering 500-700ha of habitat creation.
- The natural capital investment company (NCIC) will be the vehicle which sells the BNG units.
- The main BNG buyers will be local and national developers.

Risk Management and Service Price Negotiation

- Risk will be managed through a wholly-owned subsidiary e.g. a special purpose vehicle. This subsidiary would manage agreements with third parties and isolate risk. A separate vehicle also enables the charity to engage in trading.
- Price negotiations between landowners and buyers are facilitated and supported by the Trust.
- The Trust is trying to encourage landowners not to undersell BNG units.

Case Studies: The Wildlife Trusts' Habitat Banking Investment Model and Surrey Wildlife Trust NCIC

Combined positives and challenges from both habitat banking case studies.

Positives

- The habitat banking model can give a prediction of revenues and a clear plan for when to deliver and sell the credits. This can give trustees and investors confidence.
- Many skills are needed to sell BNG. It is unlikely that a single landowners would have all those skills. Grouping together and using an intermediary (i.e. a Wildlife Trust) with the skills and knowledge to sell, form contracts and offer a fixed price would be advantageous for the landowner.
- Easy for the Trusts to do management plans, surveys etc on their own sites, which they can manage in perpetuity.
- Potential for landscape scale benefits as different landowners can provide different habitats. The habitat bank can strategically locate those habitats. E.g. Surrey WT ensures that the BNG units developers buy are a) fully funded, and b) connected or in geographical proximity in order to enhance benefits for nature.
- Increased efficiency for the Wildlife Trusts working together- can help reduce duplication of effort at a national scale.

Challenges

- Uncertainty around long-term price and demand for BNG credits.
- Difficulties pricing future staff and material costs in business/financial plans.
- There is uncertainty about signing Conservation Covenants, both for the Trusts and third-party landowners. Ultimately this depends on individual risk appetite and the level of liability each stakeholder would be comfortable taking on.
- Some third-party landowners are cautious about tying up their land for 30 years to deliver BNG. This raises challenges around ongoing land management, maintenance and enforcement.

The Landscape Enterprise Network (LENs) Approach

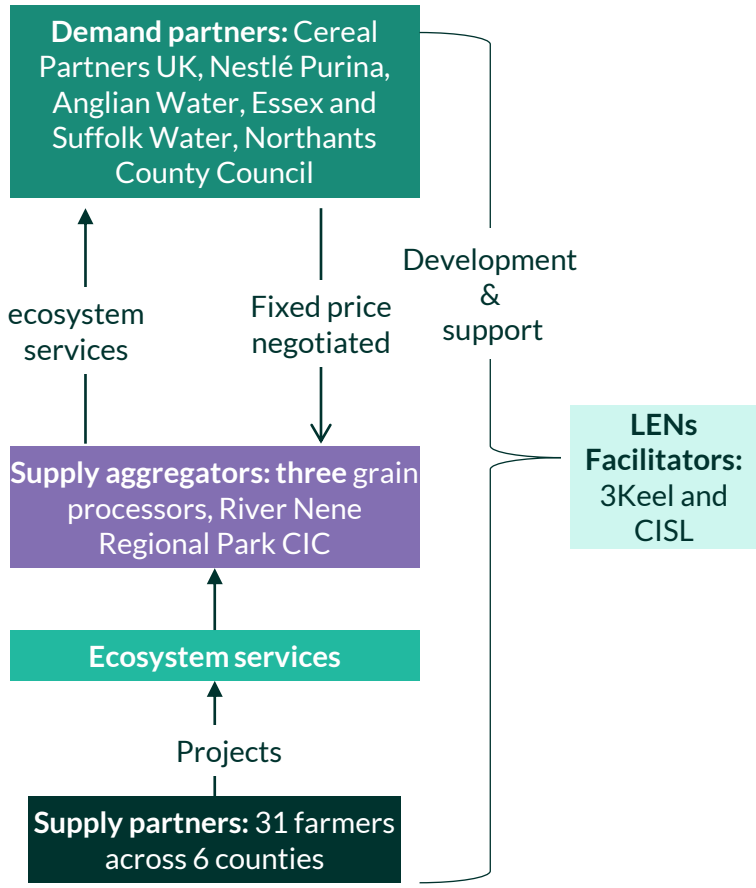
Description

- LENs is a 3Keel initiative creating a marketplace to aggregate buyers and suppliers of ecosystem services.
- LENs is a demand driven model- the first steps focus on business (buyer) collaboration and ensuring a market for the services offered.
- Landscape-based trading network where buyers are matched with land managers who deliver environmental outcomes.
- Suppliers are brought together by 'supply aggregators'. Pre-existing groups e.g. Catchment Partnerships or Countryside Stewardship Facilitation Fund farmer groups could act as supplier aggregators, as can product processors e.g. grain or milk processors.
- LENs focus on local landscapes, local businesses and local private investment.

Risk Management & Service Price Negotiation

- Project delivery risk sits with each individual farmer- they do not get paid if they fail to deliver a project. There is some flexibility to allow for delays and issues with interventions.
- Supply aggregators take on some risk management through strategic overview of which farms are delivering what projects. For instance, the supply aggregators manage commitments to environmental outcomes which are achieved across a group of farms. If there is an issue down the line, the aggregator can substitute one farm for another.
- Risk is further managed through a string of contracts between suppliers, buyers and the supply aggregators.
- Demand partners identified as first step of project which ensures resilient funding streams.
- Supply aggregators decide prices with farmers and then negotiate with buyers.

Example model- East of England LENs



[1]3Keel. *Landscape Enterprise Networks.* https://landscapeenterprisenetworks.com/
[2]Reed MS, Curtis T, Gosal A, Kendall H, Andersen SP, Ziv G et al. *Integrating ecosystem markets to co-ordinate landscape-scale public benefits from nature.* Integrating ecosystem markets to co-ordinate landscape-scale public benefits from nature (journal.plos)

eunomia

Case Study: East of England LENs

Description

- Launched in Northamptonshire in 2019 and subsequently spread across four more counties: Cambridgeshire, Bedfordshire, Suffolk, Norfolk and Essex. Includes 31 farmers, four supply aggregators, six demand partners, two facilitators.
- The supply aggregators are local grain processors in Nestlé's supply chain, plus the River Nene Regional Park CIC in one specific trading area.
- The aggregators are paid by LENs for their services which include: farmer engagement, development and delivery of farmer contracts with demand partners, combining bids from farmers in each trading area and agreeing an aggregated unit price to present to demand partners.
- Farmers submitted proposals to supply aggregator via NatureBid. Landowners can decide what services they deliver on their land and set their own price. All participating landowners sold all the services they offered, and some were over subscribed.
- Contracts signed between the supply aggregators and demand partners, and separate contracts between each supply aggregator and the farmers and the relevant demand partners.

Risk Management and Service Price Negotiation

- Increased numbers of investors reduced the risk of an individual investor withdrawing funds.
- The facilitators (3Keel and Cambridge Institute of Sustainable Leadership) developed contracts between demand and supply partners. The contracts detailed measures, term length, quantity of units, unit price, timescale of year 1 implementation and when maintenance happens.
- Prices negotiated between buyers and sellers via supply aggregators.

[1]CISL, 3Keel (2022). *Modelling Nature-Positive Land Management: Lessons from the East of England Landscape Enterprise Network.* https://www.cisl.cam.ac.uk/resources/publications/modelling-nature-positive-agriculture-and-land-management-case-studies

Case Study: East of England LENs

Positives

- Used trusted business-to-business brokers and intermediaries.
- Reduced transaction costs for buyers.
- Supply aggregators saw it as an opportunity to diversify.
- Possible to work with many demand partners on a range of local issues.
- **Cumbria LENs:** farmers saw additional, stable income, flexibility, minimal difficulties integrating with existing management practices and improvement of environmental outcomes and animal health.[1]

Challenges

- Takes time to set up and develop to effective operation.
- LENs might be more limited in certain geographic regions, e.g. extremely rural areas dominated by small agricultural producers.
- NatureBid needed upgrading to make it more efficient to use and robust enough to handle increased activity.
- Contract signing will be simplified to reduce legal and admin burden e.g. demand partners will only sign one contract with a supply aggregator that will bind all relevant farmers.
- Questions over how the scheme is funded long term: the first round of trading was subsidised and the LENs paid the supply aggregators for their facilitation activities, but in future the demand partners may need to fund the scheme.
- **Cumbria LENs:** the approach increased their reporting burden. [1]

[1] Reed MS, Curtis T, Gosal A, Kendall H, Andersen SP, Ziv G et al. *Integrating ecosystem markets to co-ordinate landscape-scale public benefits from nature.* Integrating ecosystem markets to co-ordinate landscape-scale public benefits from nature (journal.plos)

Environment Trust/Fund

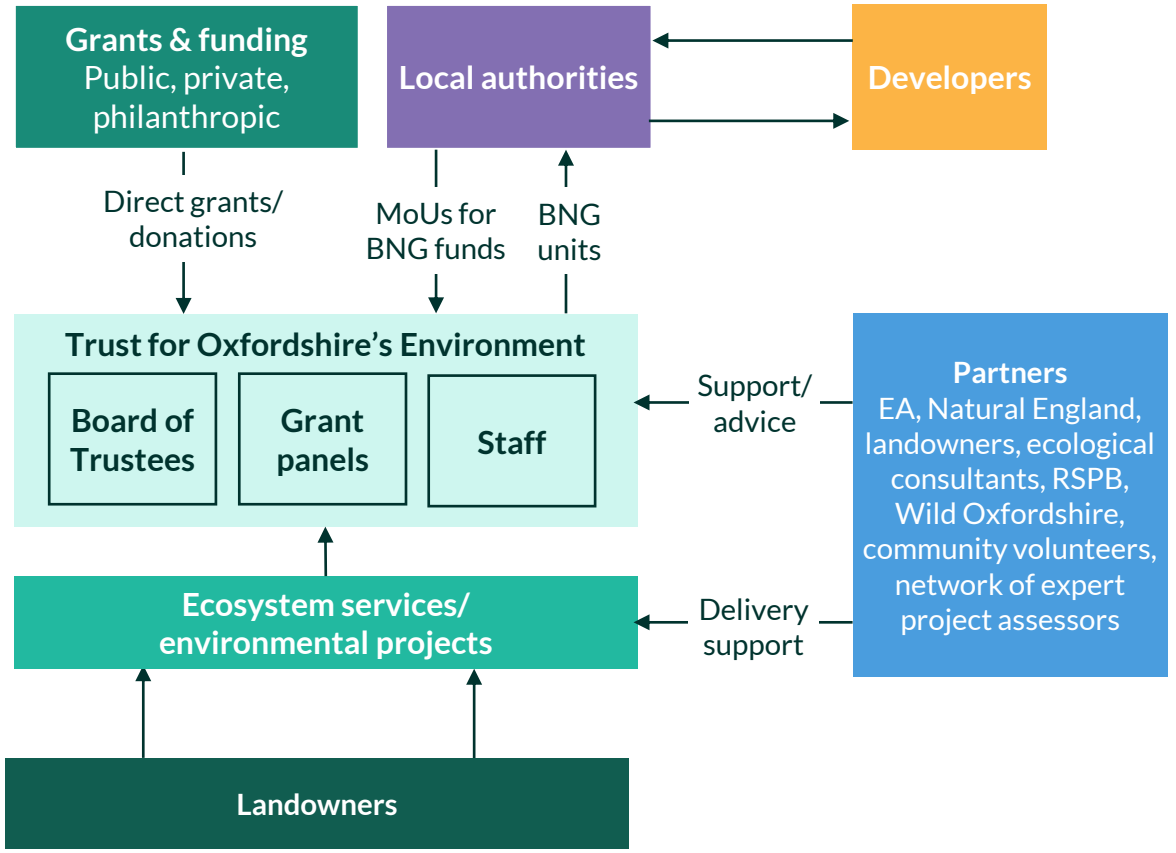
Description

- An organisation which raises money and strategically allocates grants, funds or finance to environmental projects.
- Multiple organisations can invest in multiple different projects- a 'portfolio approach'.
- The vehicle/entity is responsible for: seeking funds and finance for environmental projects, administering those funds, brokering transactions between buyers and suppliers, evaluating bids for grants by suppliers, developing legal agreements, establishing investment priorities, monitoring and evaluating the impact of projects.[1]
- Buyers and investors do not need to engage with several different organisations or individual land owners.

Risk management & Service Price Negotiation

- Risk is managed by the trust/fund.
- Landowners are required to deliver the services agreed on if a legal agreement or contract, MoU or other obligation is in place.
- Trades negotiated and managed by the trust/fund.

Example model- Trust for Oxfordshire's Environment



[1]Eunomia (2022). *Governance of Blended Finance*. Available at https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2023/02/Governance-of-Blended-Finance.pdf

eunomia

Case Study: Trust for Oxfordshire's Environment (TOE)

Description

- Regional scale, operating at the county level.
- Governed by a board of trustees who bring relevant experience, including a local landowner, environment experts, and a representative from their corporate funders. They work with a grant panel of independent environment and sustainability experts, a network of expert project assessors, and other local charities and trusts.
- Manages micro and macro scale projects, from community grants (which could be projects smaller than 1 ha) up to BNG funds (up to 30 ha projects).

Risk management & Service Price Negotiation

- Risk is managed by the Trust at a portfolio level.
- Landowners are required to deliver the plan which they have agreed to.
- TOE acts as a 'risk sponge' to prevent the majority of risk sitting with the landowners. If part of a project fails and there is a financial loss, TOE would absorb that by having a broad and diverse portfolio. TOE look at their whole portfolio and overdeliver on their (BNG) commitments to mitigate risk.
- TOE has MoUs with some delivery partners. This reduces risk by establishing rules of engagement, removing ambiguity and stating responsibilities.
- MoUs with local government are also in place to handle TOE's engagement with developers/buyers through the local authority.
- Grants, funding and ecosystem service price negotiations managed/facilitated by the Trust.

Positives

- The Trust can provide a strategic overview of environmental needs in the region.
- Responsible for administration and monitoring etc which can reduce burden on landowners.
- Support for landowners seeking BNG payments.
- Landowners maintain agency over the projects they deliver.
- Risk is managed at the portfolio level by the Trust which reduces risk burden for the landowners.

Challenges

- BNG ties up the land for over 30 years which can raise issues around land ownership, contract enforcement, maintenance and succession.
- Challenges around long-term capacity and financial stability.

Case Study: Greater Manchester Environment Fund (GMEF)

Description

- Established at a city region scale to support the aims of Greater Manchester's Five-Year Environment Plan.
- Managed by Lancashire Wildlife Trust (LWT). The governance structure includes a board of trustees, a grant advisory group, programme team and a steering group.
- Community members and organisations involved through project delivery e.g. as volunteers or as applicants for funding.
- Developing habitat bank and carbon offsetting facilities to draw in private finance.

Risk Management & Service Price Negotiation

- A risk register which is regularly reviewed, updated and monitored by the Board.
- Agreements rather than contracts with landowners. The agreements state what the landowner will do and for how long.
- At one site, it was proposed that the landowner could set up a long-term lease with LWT who would take on the investment model on their behalf (reducing risk for the landowner).
- Grants, funding and ecosystem service price negotiations managed/facilitated by GMEF.

Positives

- Brought in more than £4.6 million in funding within the first 18 months which was distributed to a range of local projects.

Challenges

- Challenges around capacity and long-term financial stability: current staff and resource capacity is limiting growth (i.e. the number and size of projects which GMEF can manage).

[1]Eunomia (2022). *Governance of Blended Finance.* Available at https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2023/02/Governance-of-Blended-Finance.pdf

03 Financial Instruments

Financial Instruments

Four categories of instruments were chosen as these have been highlighted in the literature, and previous Eunomia work, as the types of financial instruments that may be used for investment in nature:

1) Direct commercial finance

- *Debt finance*: funds are borrowed with an expectation of capital repayment and a regular interest payment at market rate. For example, a commercial loan.
- *Equity finance*: funds are provided in exchange for an ownership interest and a share of profits, based on project performance and the level of risk that is taken.

2) Intermediated commercial finance

Involves a financial intermediary facilitating the financial transactions.

- *Intermediated debt*: the intermediary 'on-lends' finance originally provided by a different financial institution. The intermediary might be a local bank, on-lending finance originally provided by, for example, a public development bank. But the contractual relationship is only between the end-borrower and the intermediary.
- *Equity fund*: has a fund manager that raises capital from investors and/or financial institutions, which is then invested in a portfolio of projects. The fund manager is usually familiar with a particular sector.

3) Concessional finance

Funding on more favourable terms than commercial funding, usually provided by public and philanthropic sources.

- For example, *grant funding (repayable or non-repayable)* or *concessionary loans*, which have reduced interest payments or preferential terms, or *first-loss capital*, which absorbs initial losses in the event of default or other adverse event.

4) Blended finance

- Does not have a single clear definition and means different things to different people.
- Here, it is considered as combining concessional and commercial finance to provide financing on terms that makes projects financially viable and/or financially sustainable. This is more a structure than a financial instrument.
- The idea is to maintain some of the advantages of concessional finance, while overcoming some of the drawbacks relating to dependence on non-commercial sources.

Advantages and Disadvantages of Financial Instruments

Instrument		Advantages	Disadvantages
Direct commercial finance	Debt	✓ No share of ownership to lender ✓ Debt interest payments are tax deductible	• Requires regular repayments • May have additional conditions e.g. collateral
	Equity	✓ Limited cash flow requirements ✓ Investors contribute expertise	• Borrower relinquishes share of ownership to lender • Dividend payments are not tax deductible
Intermediated commercial finance	Debt	✓ Can improve access to finance/ support ✓ Smaller loans possible ✓ Has lower transaction costs	
	Equity Fund	✓ Can improve access to finance/ support ✓ Fund manager expertise ✓ Portfolio approach offers diversification benefits/risk reduction	• Has higher transaction costs
Concessional finance, e.g. grant funding or concessionary loans		✓ Improves access to finance, esp. for early stage projects ✓ Can bring together financing with sector-specific /technical knowledge	• Funds limited in size • Can be linked to specific funding cycles • Project developers may need to regularly re-apply for funding
Blended finance		✓ Improves access to finance, can help de-risk projects for investors ✓ Can incorporate support for project preparation and pipeline development	• May involve complex financing structures and arrangements • High transaction costs

04 Supplier Aggregation Model Assessment

Assessment Criteria

The assessment criteria were developed in order to examine the **benefits and trade-offs** of each model of aggregating ecosystem service suppliers. The criteria therefore focus on the **suppliers (landowners and managers) and the environmental outcomes**.

The assessment criteria further aim to capture information relevant to groups or individuals seeking to sell ecosystem services.

The criteria address level of complexity, ease and cost of set up/maintenance, agency of suppliers in decision making and risk management. Ability to deliver environmental benefits is also identified.

In addition to these assessment criteria, the analysis also identifies **relevant legal forms/governance structures and financial instruments** for each aggregation model examined.

Key messages, general findings and reflections from the interviews are discussed following the assessment.

Assessment criteria

1. Complexity of aggregation (i.e. number of stakeholders involved)
2. Ease and cost of set up and maintenance
3. Ability to deliver maximum environmental outcomes
4. Agency of landowners/managers in decision making and price setting
5. Level of risk to landowners/managers from project under-delivery (i.e. not achieving the expected environmental outcomes to generate revenue stream)

Supplier Aggregation Model Assessment (1/3)

Model	Level of complexity (i.e. number of stakeholders involved)	Ease and cost of set up and maintenance	Ability to deliver maximum environmental outcomes	Agency of landowners/managers in decision making and price setting	Level of risk to landowners/ managers from project under-delivery
Individual farmer / landowner (non-aggregated)	✓ Low complexity, only one landowner. ☒ May place more time burden on the landowner to network individually with stakeholders. ☒ Limited ability to share knowledge, ideas and skills with partners.	✓ Simple to set up, does not require negotiation and compromise between multiple partners.	☒ Outcomes limited to single land holding conditions and geography, not able to deliver benefits on a landscape scale.	✓ Full agency over decisions. ☒ Single private contracts may be favoured by some private buyers but this can increase transaction costs. ☒ Limited negotiating power.	☒ Land owner takes on full risk.
Landowner partnerships	✓ Can range in complexity from two to several partners. ✓ Ability to pool and share knowledge, skills and resources. ☒ Partners may have different priorities, needs and risk appetites. ☒ Partners may have different tax rules which adds complexity.	✓ Informal/ unincorporated partnerships simpler and cheaper to set up. ☒ Formal/incorporated partnerships take more time and cost to set up and maintain (e.g. legal fees, registration fees for Companies House).	✓ Potential to deliver more environmental benefits at a landscape scale as different landowners can provide different habitats. This can in turn make a project more investable. ✓ Potential to increase habitat connectivity by working across (farm)land boundaries. ☒ May require negotiation and compromise between partners.	✓ Depending on the set up, landowners can maintain a high level of agency. ✓ Better negotiating power as a group. ☒ May require negotiation and compromise between partners.	✓ If a new legal entity is formed, that entity will take on the risk for the landowners. ☒ If no new legal entity is formed, risk would sit with the individual landowner but could be managed to some degree through MoUs and partnership agreements.

Supplier Aggregation Model Assessment (2/3)

Model	Level of complexity (i.e. number of stakeholders involved)	Ease and cost of set up and maintenance	Ability to deliver maximum environmental outcomes	Agency of landowners/managers in decision making and price setting	Level of risk to landowners/ managers from project under-delivery
Farmer clusters	*The level of complexity depends on the size of the cluster, with some made up of less than 10 farmers and others with over 50. The aim is for cluster* ✓ Enables group working, knowledge sharing, events and training with neighbours/peers.	✓ Small clusters are simpler to establish and run meetings. ☒ Depending on the set up, the group either secures grant/private funding to run, or farmers pay annually to be a member of the cluster. ✓ Reduced time and admin burden for the farmers as the facilitator administers and organises the group. ✓ In the EFG, farmers have limited responsibilities and commitments after initial joining admin.	✓ Potential to deliver more environmental benefits at a landscape scale as different landowners can provide different habitats. ✓ Potential to increase habitat connectivity by working across farm boundaries and in a contiguous landscape. ✓ An independent trusted/respected facilitator reduces the chance that a single farmer's preferences will dictate actions. ✓ Can help keep the money in rural communities.	✓ Collective decision making. ✓ Each farmer has agency over what they do on their land and whether they trade or not. ✓ Greater ability to negotiate prices when acting collectively.	☒ In an informal/unincorporated cluster, each farmer manages their own risk to their farming business. ☒ In the EFG cooperative, farmers also manage risk on an individual level.
Habitat bank	*Complexity depends on the nature of the habitat bank. Some can involve just one landowner or alternatively many landowners/suppliers across multiple sites.* ✓ Enables collaborative working, knowledge sharing and support to third-party landowners.	✓ Easier to set up if the habitat bank entity already owns the land. ☒ Requires long-term maintenance of habitats to meet BNG metric rules.	✓ Potential to deliver environmental benefits at a landscape scale as different landowners can provide different habitats. ✓ Selling BNG credits secures specific projects for at least 30 years.	✓ Greater agency for the habitat bank as a landowner to negotiate prices and make decisions. ☒ If third-party sites are aggregated, the agency of each landowner may be reduced. ✓ Prices negotiated by the habitat bank as a whole.	✓ Risk is spread across multiple sites.

Supplier Aggregation Model Assessment (3/3)

Model	Level of complexity (i.e. number of stakeholders involved)	Ease and cost of set up and maintenance	Ability to deliver maximum environmental outcomes	Agency of landowners/managers in decision making and price setting	Level of risk for landowners/ managers
LENs	*Medium to high level of aggregation, with potential for a large number of stakeholders. Size is ultimately limited by the complexity of the trade. LENs involve multiple collaborative trades in a region as opposed to one complex single deal.* ✓ Compatible with farmer clusters i.e. a farmer cluster could become a supply aggregator.	☒ Takes time, effort and resources to set up and maintain. Involves the input and support of 3Keel and other partners as facilitators. ✓ Supply aggregators take on much administrative and organisational burden for the farmers.	✓ Ability to deliver environmental outcomes at a landscape scale and regionally specific. ☒ As a buyer-driven model, environmental benefits may be limited by buyer preferences and demand.	✓ Land owners can decide what projects they carry out and offer a price. The offer to buyers is decided between the landowners and the supply aggregator. ✓ Supply aggregators then negotiate prices between buyers and suppliers.	☒ Majority of delivery risk sits with individual farmers (if they do not deliver a project they do not get paid). ☒ Supply aggregators take on some risk management through strategic overview of which farms are delivering what projects.
Environmen t Fund/Trust	*Medium to high level of aggregation and complexity, with potential for a large number of partners and stakeholders.*	☒ Takes time, effort and resources to set up and maintain. ✓ The trust or fund vehicle is responsible for seeking and administering funds, brokering transactions, developing legal agreements, evaluating projects etc. This reduces the burden for individual landowners.	✓ Ability to deliver environmental outcomes at a landscape scale with a strategic overview of interventions/ projects.	✓ Landowners have agency over what projects they carry out on their land. ☒ Brokering and negotiation performed through the trust/fund reduces burden for the landowners but can limit their agency.	✓ Risk is 'absorbed' and managed by the trust/fund vehicle- the majority of the risk sits with the trust/fund rather than the landowner. ✓ A trust/fund is able to manage risk at a portfolio level by overdelivering on some projects if others fail.

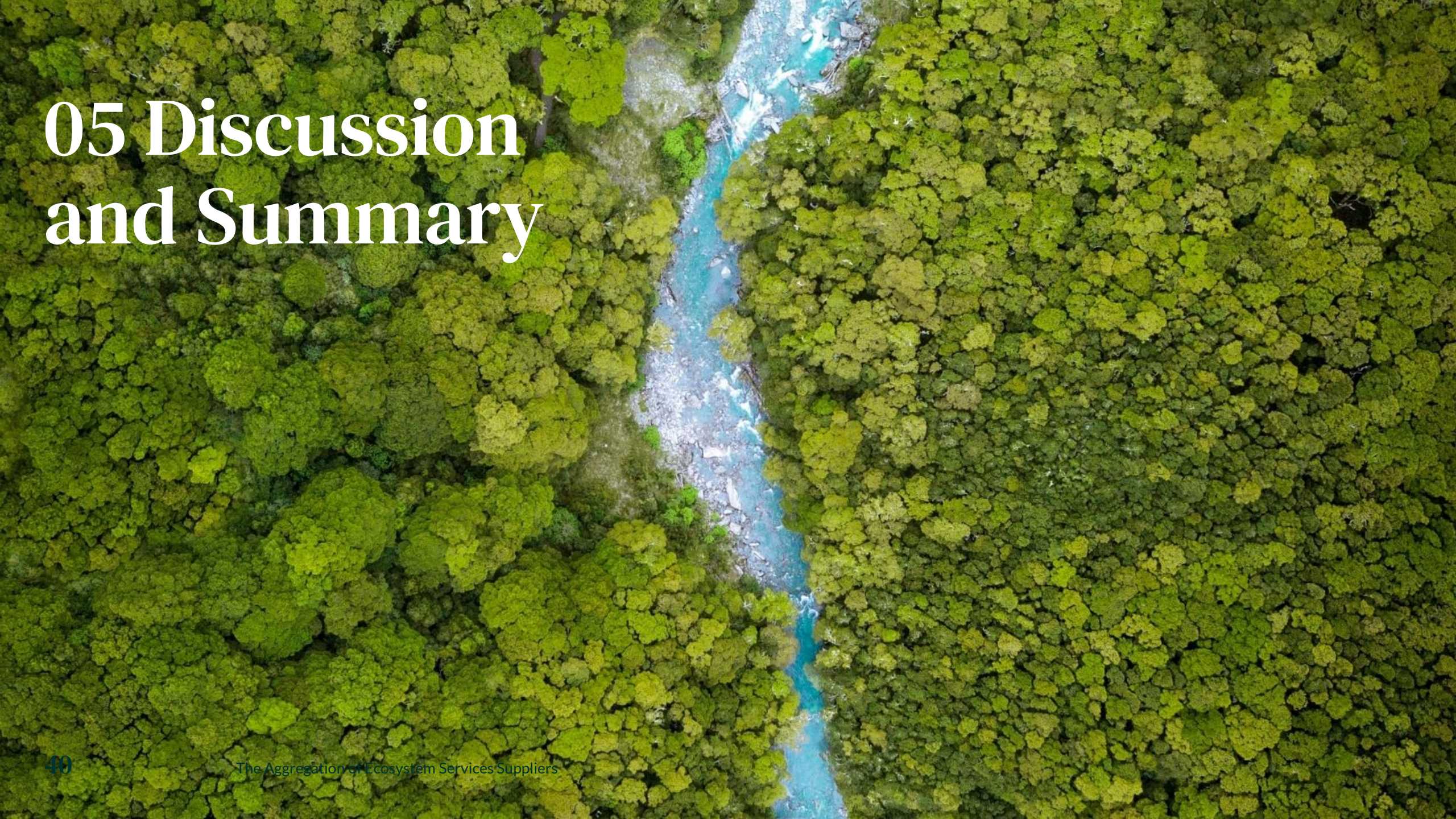
Aggregation Models and Governance/Legal Form Assessment

Model	Legal form/governance structure
Single land owner	✓ Already an individual farming business with pre-existing corporate structure and processes. ✓ Potential to set up an SPV or charitable arm to trade but this would increase admin complexity.
Landowner partnerships	✓ Flexible legal form and governance structure. • Relevant legal forms include: limited liability partnership (LLP), Community Interest Company (CIC), company limited by guarantee, charitable company.
Farmer clusters	• Governance structure for farmer clusters include: a facilitator, lead farmer and member farmers. ✓ Flexible legal form- potential to be an informal cluster or to form a legal entity e.g. a CIC or cooperative.
Habitat banking	✓ Flexible legal and governance form: could be set up and run by a local authority, a limited company or a charitable company, although there are some restrictions to trading by charities.
LENs	• The three largest LENs in England- Cumbria, Yorkshire, East of England- will become incorporated as CICs (not for profit social enterprises). CICs were chosen to in order to lock in the social purpose. • Each LENs will have a steering group of around eight members (the board) including, demand and supply partners, relevant agencies e.g. the EA and civil society. • In the long term, each LENs will employ staff.
Environment Fund/Trust	✓ Flexible legal form and governance structure. • Relevant legal forms include: limited liability partnership (LLP), CIC, company limited by guarantee, charitable company, co-operative.

Aggregation Models and Financial Instrument Assessment

Model	Financial instruments
Single land owner	• Individual land owners may lack the collateral necessary to secure a commercial loan. • Poor project performance could make regular debt repayments difficult under this model. Debt instruments may, therefore, be better suited to more aggregated models, e.g. landowner partnerships and farmer clusters, because risk is spread over different landholdings and payments can come in from different suppliers at different times, allowing for a more predictable cash flow from which to make repayments. • Debt instruments may not be appropriate for already indebted farmers. • Equity investment can bring with it the additional expertise of the investor(s). This may be particularly advantageous under the single land owner model, but less so for the more aggregated models, where other partners may contribute this expertise. Direct equity finance will likely be more appropriate than an equity fund, if the project size is small.
Landowner partnerships	• The suitability of different financial instruments will depend on the size of the partnership. For example, intermediated debt instruments can provide access to smaller loans, which may be required by smaller partnerships. • Equity instruments may lead to additional frictions in decision-making across the different partners and equity holder(s).
Farmer clusters	• Intermediated equity investment (e.g. an equity fund) may be appropriate because the higher transaction costs associated with this financial instrument are split over multiple farmers.
Habitat banking	• Habitat banks require long-term investment and returns may not be realised for many years. Whether commercial financial instruments are suitable for this purpose will depend on the terms of the financing agreement between the habitat bank provider and the funder. Equity finance or concessional finance might be more appropriate, given the requirement for upfront investment and the longer term returns.
LENs	• The objective of the LENs approach is to harness commercial interest in landscapes; the approach is deliberately 'market-led'. Therefore, concessional financing instruments are unlikely to be appropriate for this model. • Given that the LENs model is buyer driven, equity finance might be most appropriate.
Environment Fund/Trust	• The primary goal of an Environment Fund/Trust is not necessarily to generate financial returns, but instead to achieve environmental objectives. Therefore, debt instruments requiring regular repayments may not be appropriate. • Various sources of concessional finance may be appropriate, depending on the environmental objectives of the Environment Fund/ Trust.

05 Discussion and Summary



Analysis and Discussion

A collaborative approach to selling ecosystem services can be beneficial for suppliers as well as for environmental outcomes, but there are different advantages, challenges and trade-offs according to the approach.

Advantages of Aggregation

- Aggregation, particularly if a facilitator or expert advisor is involved, can increase knowledge, skills and resource sharing as well as peer-to-peer learning.
- In some aggregated models such as the farmer clusters, LENs and a trust/fund, an intermediary or vehicle takes on the admin burden, brokering, price negotiation, management etc for the landowners/managers.
- In more aggregated formal legal entities, such as some partnerships and the trust/fund model, the legal entity takes on the risk of project under-delivery for the landowners/managers.
- With regards to engagement with environmental markets and buyers, working together, from simple to complex aggregation models, can create more investable projects while covering a wider geography can more strategically deliver environmental benefits.
- Possible incentives for working and delivering in clusters through ELMs (2nd tier: group farming and delivery across number of holdings/landscape scale).
- Aggregation can give ‘strength in numbers’ for price negotiation and reduce transaction and administrative costs.
- Depending on the approach, land owners/managers can retain agency in decision making.
- There is a risk of a ‘race to the bottom’ when buyers have the power and there are multiple (disaggregated) sellers i.e. buyers will often look for the cheapest option, which may not deliver maximum environmental benefit and could result in the same types of outcomes. Aggregation can help avoid this risk.

eunomia

Analysis and Discussion

A collaborative approach to selling ecosystem services can be beneficial for suppliers as well as for environmental outcomes, but there are different advantages, challenges and trade-offs according to the approach.

Challenges and trade-offs of Aggregation

- Any collaborative working requires negotiation, stakeholder management (e.g. due to different priorities and risk appetites) and possibly compromise with other landowners/managers; all of which can take time and effort.
- Highly aggregated/developed models take significant time and resource to develop and maintain. The environmental trusts/funds for instance employ staff in the running of the organisation and legal, contract and agreement fees (e.g. for MoUs and partnership agreements) can be costly. Simpler, unincorporated aggregation approaches, such as farmer clusters, can be more straightforward to set up.
- Multiple different tax rules for different stakeholders within a legal partnership can add complexity.
- There are not always favourable conditions for working together, collaborative working is unlikely to happen if there is no shared vision or common aims between landowners/stakeholders.
- Environmental payments tend to be phased over a long period of time e.g. 30years+ for BNG, meaning long-term, potentially complex, contracts are needed.

Summary of Findings

This project aimed to explore the benefits and drawbacks of different models currently in place for aggregating ecosystem service sellers. Six different aggregation models were examined through a literature review and key case studies.

Key findings and emerging messages

- There are several different ways landowners/managers can work together to deliver environmental benefits and sell ecosystem services.
- These can vary in complexity and include, but are not limited to: landowner partnerships, farmer clusters, habitat banking, the LENs approach and environment trusts/funds.
- As highlighted by the case studies and interviews, each of these models have advantages, challenges and trade-offs.
- Different models also have varying levels of flexibility regarding legal form and governance structure. Broadly, the choice of legal form depends on the purpose of the group. Different financial instruments are also appropriate for each of the aggregation models. Some financial instruments will be unsuitable for a particular model, depending on characteristics of the model and the objectives of the supplier.

Summary of Findings

Key findings and emerging messages

- With regards to community involvement, each model has capacity to involve the local community to a lesser of greater degree. However, direct community participation in decision making is not inherent to any of the models studied here. In the case studies examined, local community members were typically involved as volunteers in project delivery or through educational outreach activities.

- Moreover, there are general challenges regardless of level of aggregation, such as uncertainty around how to use conservation covenants and uncertainty regarding future BNG and carbon credit prices.

- Whether suppliers work together to sell ecosystem services is likely to depend on several factors:
  - need/incentives
  - joint priorities and aims
  - level of risk exposure
  - the type of trade/ecosystem service being sold. High value trades which can be delivered on a single landholding for instance (e.g. BNG) may not always favour aggregation.
  - ease and cost of set up and maintenance, longevity and sustainability of any partnership or collaborative endeavour.

➢ **Ultimately, there are a number of considerations and possible approaches for aggregating the supply of environmental benefits.**

➢ **Landowners/managers would need to weigh-up the costs and benefits of working together with others to sell ecosystem services.**

Appendix

Stacking and Bundling Rules

Stacking and Bundling Rules: Combining Environmental Payments

Defra and Natural England recently published guidance on combining (or “stacking”) environmental payments

- i.e. selling multiple environmental credits or units - such as biodiversity net gain (BNG) and nutrient mitigation - separately from the same activity on a piece of land.
- This can be seen as a form of aggregating ecosystem services.

Guidance

Combining environmental payments: biodiversity net gain (BNG) and nutrient mitigation

How land managers can combine biodiversity units and nutrient credits, and sell them alongside other environmental payments.

From: Department for Environment, Food & Rural Affairs and Natural England

Published 21 February 2023

Last updated 23 February 2023 — See all updates

eunomia

Combining Environmental Payments

- **Biodiversity units and nutrient credits can be stacked, provided the eligibility criteria is met for each market**
- **Can be stacked with voluntary carbon sales**
    - Example: through the Woodland Carbon Code (WCC) and Peatland code
    - Provided nature recovery activities are additional to those paid for by voluntary scheme
    - The environmental baseline for calculating BNG or nutrient credits must take into account the land use change required to generate the carbon credits, and not the current land use.
    - In practice, stakeholders indicate that passing these eligibility and additionality requirements makes stacking with carbon difficult
- **Rules for stacking credits with public sources of money and Corporate social responsibility (CSR) payments**

Prepared by:

Tanzir Chowdhury, Nicola Ainger, Rob Daniel, Charlotte Taylor, Hannah Gillie, Petra Bistričić and Navyaa Mathur

For more information contact:

Tanzir Chowdhury
tanzir.chowdhury@eunomia.co.uk

Eunomia Research & Consulting Ltd
37 Queen Square
Bristol
BS1 4QS
United Kingdom

Tel +44 (0)117 9172250
Fax +44 (0)8717 142942
Web www.eunomia.co.uk

eunomia

Disclaimer

Eunomia Research & Consulting has taken due care in the preparation of this report to ensure that all facts and analysis presented are as accurate as possible within the scope of the project. However, no guarantee is provided in respect of the information presented, and Eunomia Research & Consulting is not responsible for decisions or actions taken on the basis of the content of this report.