

Advisory services and transition: negotiating natural capital markets

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ESEE  2023


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Outline

- Multiple directions & demands
 - Opportunities for farmers
 - Opportunities for private sector
- Emerging natural capital markets
- Implications for Agricultural Advisory Services (AAS)
- Frameworks for assessing disruptions in AAS
- Conclusions



Sustainable transition of agriculture: multiple directions & demands

- Climate, ecological degradation, social, political and economic challenges
- Food security, climate smart, circular economy, biodiversity, pesticide-free, clean water, innovation-led, rural economy and social justice demands
- Efficient production of safe affordable food, while protecting ecosystem services, achieving net zero, in an equitable way demands at farm level



Multiple directions & demands: opportunities for farmers

- Systems- regenerative agriculture, agroecology, carbon farming, climate smart agriculture, agroforestry, circular farming, nature-based solutions, rewilding
- Systems- precision farming, smart farming, digital agriculture, vertical farming, biotechnologies
- Practices & inputs- min till, bioinoculants
- Markets & enterprises– protein crops, energy (bioenergy crops, trees, AD, solar)
- Diversification
- Value chains & Policy schemes



Multiple directions & demands: opportunities for farmers

- Farmers are squeezed (market and inputs)- look for increase productivity, value added, new revenue sources, diversification
- Farmers produce private and a range of public goods such as wildlife conservation, water quality, carbon sequestration, recreational opportunities
- Increasing evidence of farmer entrepreneurship - effectively redeploying natural, financial, social and physical resources in and around farms to achieve benefits, reduce costs, or mitigate risks



Multiple directions: opportunities for private actors

- Value chain partnerships and arrangements
- Public policy-private partnerships, delivery
- Corporatisation- corporate industries aggregate inputs, markets, capture new markets
- Private sector-led international agricultural development – Climate Smart Agriculture

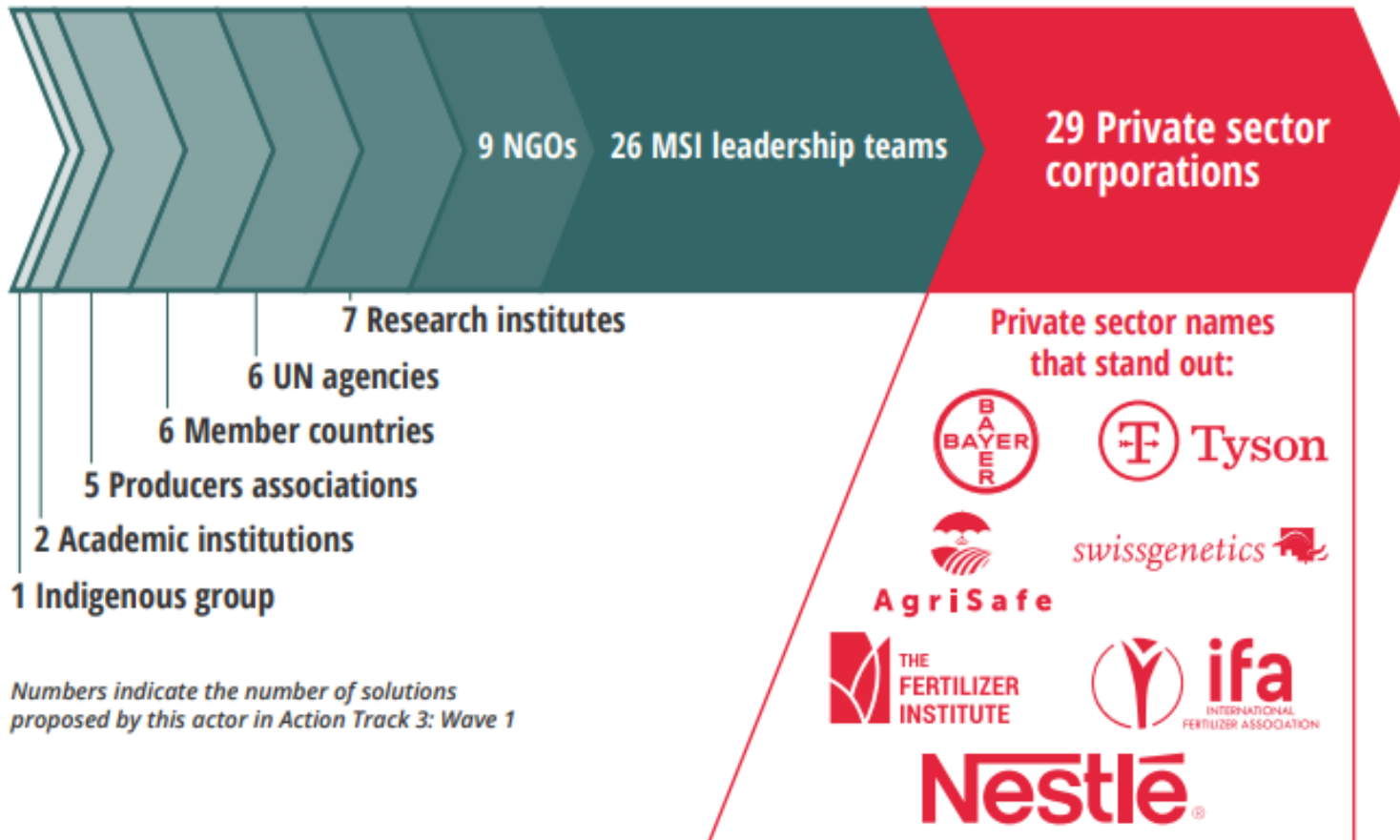


The image is a screenshot of a webpage from FarmProgress. At the top, there is a navigation bar with a search icon, the FarmProgress logo, a 'SIGN UP TODAY' button, and a 'Sign in' link. Below the navigation bar, there is a dark header with menu items: 'Crops', 'Livestock', 'Markets & Quotes', 'Farm Business', 'Marketing', 'Max Armstrong', and 'Events'. The main content area features the FarmProgress logo, the article title 'Bayer leverages regenerative ag shift', and a sub-headline 'Company sees potential to shape regenerative agriculture on more than 40 markets.' The author is identified as Rachel Schutte, dated June 20, 2023. To the right of the article, there is a quote: 'Bayer's crop science group announced a plan to capitalise on opportunities presented by the shift to regenerative agriculture to grow its core business'. At the bottom of the article, there is a large image of the Bayer logo, which is a cross inside a circle, with the word 'BAYER' written across it.

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Multiple directions: opportunities for private actors

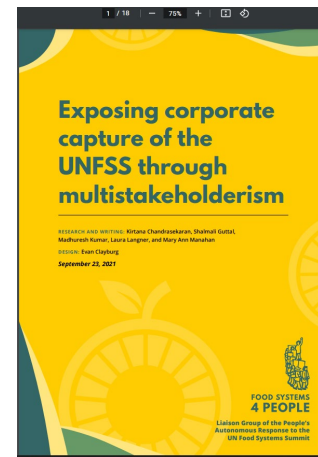
Corporate influence in UNFSS Action Track 3: boost nature-positive production



Corporate capture

Nestlé has made big commitments to support “nature based solutions” (NBS) for food or “nature positive food”

Nestlé has pledged to invest US\$1.2 billion in “regenerative agricultural practices,”



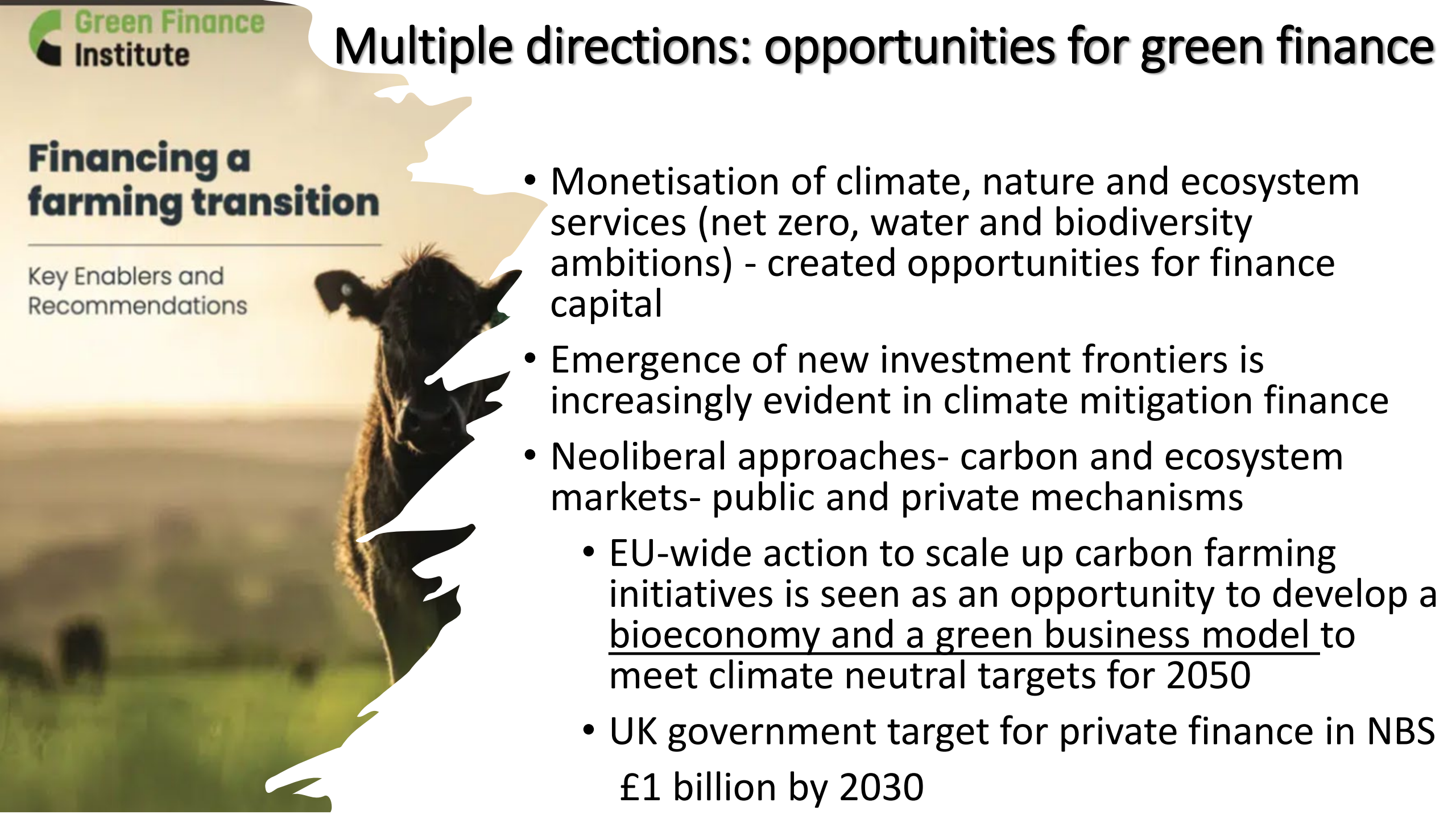
United Nations Food Systems Summit (UNFSS)

Food systems for people group

Multiple directions: opportunities for green finance

Financing a farming transition

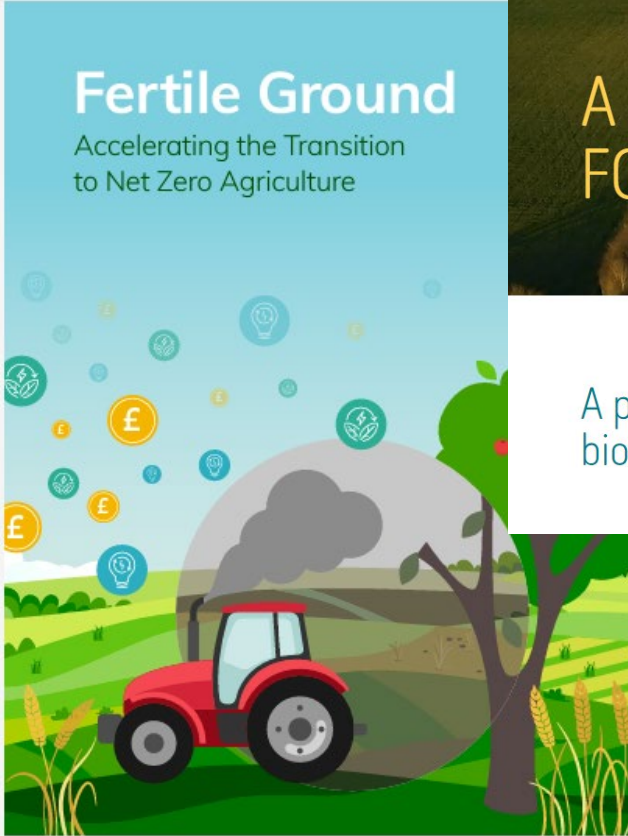
Key Enablers and
Recommendations

- 
- Monetisation of climate, nature and ecosystem services (net zero, water and biodiversity ambitions) - created opportunities for finance capital
 - Emergence of new investment frontiers is increasingly evident in climate mitigation finance
 - Neoliberal approaches- carbon and ecosystem markets- public and private mechanisms
 - EU-wide action to scale up carbon farming initiatives is seen as an opportunity to develop a bioeconomy and a green business model to meet climate neutral targets for 2050
 - UK government target for private finance in NBS £1 billion by 2030

Multiple directions: new investors



Finance for NBS - \$ 133 billion per year, needs to increase fourfold by 2050 to meet international climate, biodiversity and land degradation targets (UNEP, 2021)



A pioneering solution for biodiversity net gain



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Enabling investment into conservation, climate and communities.



Soil carbon sequestration global market value \$50-102 billion a year (at \$15 per tonne of CO2e) (Green Alliance, 2020)

About Bankers for Net Zero

Bankers for Net Zero is a collaborative initiative bringing together lenders from the UK

Natural capital markets: disrupting the AAS?

Natural capital includes a farm's assets of soil, trees, hedges and natural habitats. These are needed to deliver nature-based solutions. Measures of these natural stocks are required to be able to monetise them in natural capital markets.

Markets to facilitate funding from business in the food retail, construction, water, and other sectors to support sustainable farming and nature recovery projects

- Voluntary- companies invest to meet NZ
- Driven by regulatory obligations

January 2022

green alliance..

The opportunities of
agri-carbon markets:
policy and practice



MANCHESTER
1824
The University of Manchester

Natural capital markets: disrupting the AAS?

We know from other research (commercialisation and digitalisation) disruptive impacts can include:

- New actor relations and configurations
- Traditional roles and relationships redefined
- Questions about governance
- New demands on AAS organisational and human capacities
- New practices and systems require new knowledge - makes old knowledge less relevant



Natural capital markets: disrupting the AAS?

Things we need to think about for NCM:

- Underlying assumptions & values
- New forms of economic & social organisation
- New mechanisms for connecting to markets
- Proliferation – plurality & system complexity
- New intermediaries & configurations
- Power relations & asymmetries
- Credibility
- New practices & knowledge



Natural capital markets: assumptions & values

- **Neoliberal**- monetise nature, role for private investors
- **Offsetting** - voluntary carbon markets links voluntary buyers who pay for mitigation measures in return for payment (“offset credits” that equate to a removal or reduction of 1 t CO2-e)
- **Greenwashing** - concerns from environmental experts, the farming sector, politicians, investors and communities about poorly designed nature markets
- **Techno governance- metric-driven**, single focus, carbon fetishism negates other ecosystems services
- **Carbon commodification** enables ‘accumulation by decarbonization’ in the Global North through production of carbon credits in the Global South



HM Government

Nature markets:
A framework for scaling up private investment in nature recovery and sustainable farming

March 2023

Natural capital markets: new forms of economic organisation

Government monitors and support development of high integrity markets

Suppliers produce benefits from nature on the land they manage, to sell as units in nature markets

For example:

- farmers adopting wildlife-friendly management
- estate owners planting trees.

Marketplace – units are issued, trades take place

Buyers purchase units in nature markets.

For example:

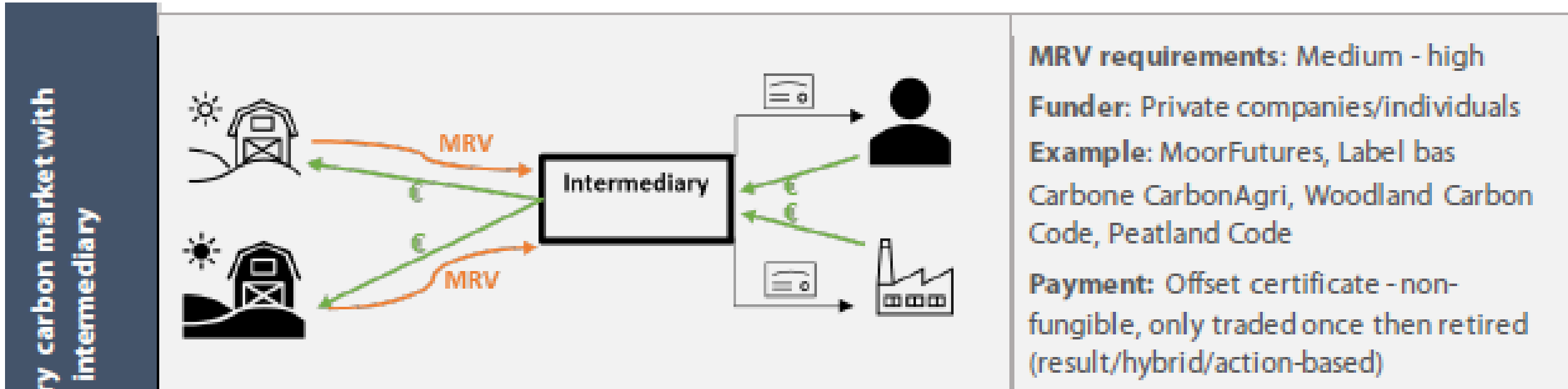
- developers required to deliver biodiversity net gain
- corporations seeking to meet Net Zero target.

A range of organisations support and facilitate market functioning

For example:

- Private investors such as banks and pension funds provide capital to finance projects
- Brokers, intermediaries and sales directories facilitate trades
- Business and technical consultants advise buyers and suppliers

Voluntary carbon markets: new mechanisms



Common carbon farming mechanisms: (McDonald et al 2023).

- Farmers sell via intermediary (private or public) who pays farmers for implementing mitigation measure, monitors and verifies mitigation impact and sells offset credits to private buyers
- Funder is public or NGO (e.g. CAP Pillar 2)
- Agrifood supply chain
- Sell direct certification mechanism

Differ in terms of who ultimately pays the farmers, form of payment and level of MRV

Natural capital: new mechanisms

Emerging offsetting initiatives can allow farmers:

- **Stacking** allows a landowner or farmer to put various overlapping elements of natural capital on a piece of land into separately packaged units or nature-based credit schemes.
- **Blended finance** is a combination of public or private capital. Having capital from across different sources helps to spread risk and allows organisations to collaborate on shared objectives while seeking either a financial, social or environmental impact return.



Natural capital: new forms of social organisation

Hampshire farmers join forces to trade in natural capital



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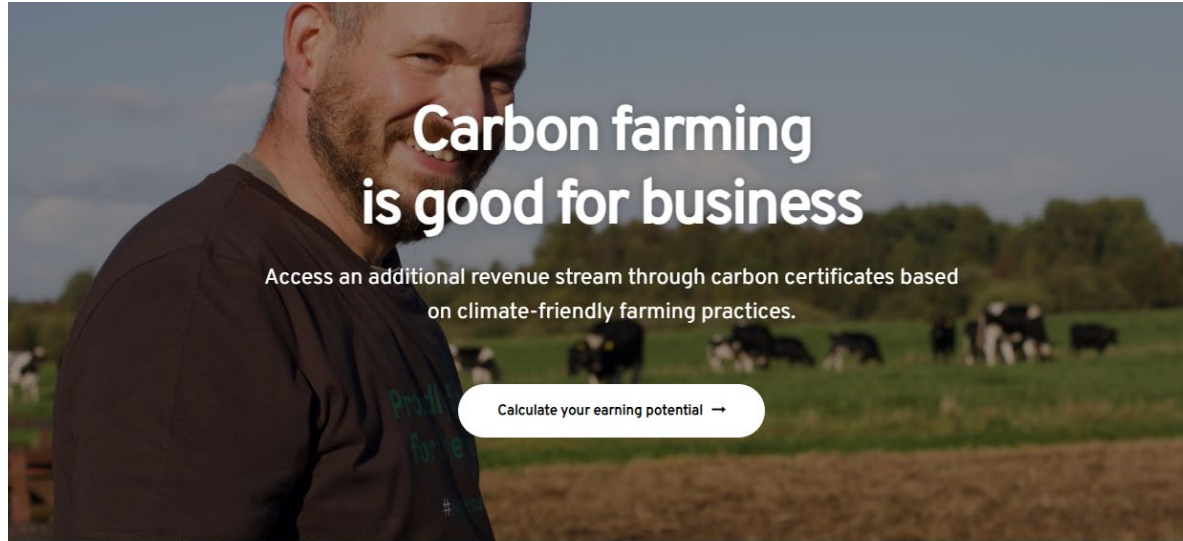
THE NATURE & CARBON INVESTMENT COMMUNITY

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The Environmental Farmers Group: a farmer-led approach as a natural capital one-stop-shop

Voluntary carbon markets: proliferation & scaling up






Carbon farming is good for business

Access an additional revenue stream through carbon certificates based on climate-friendly farming practices.

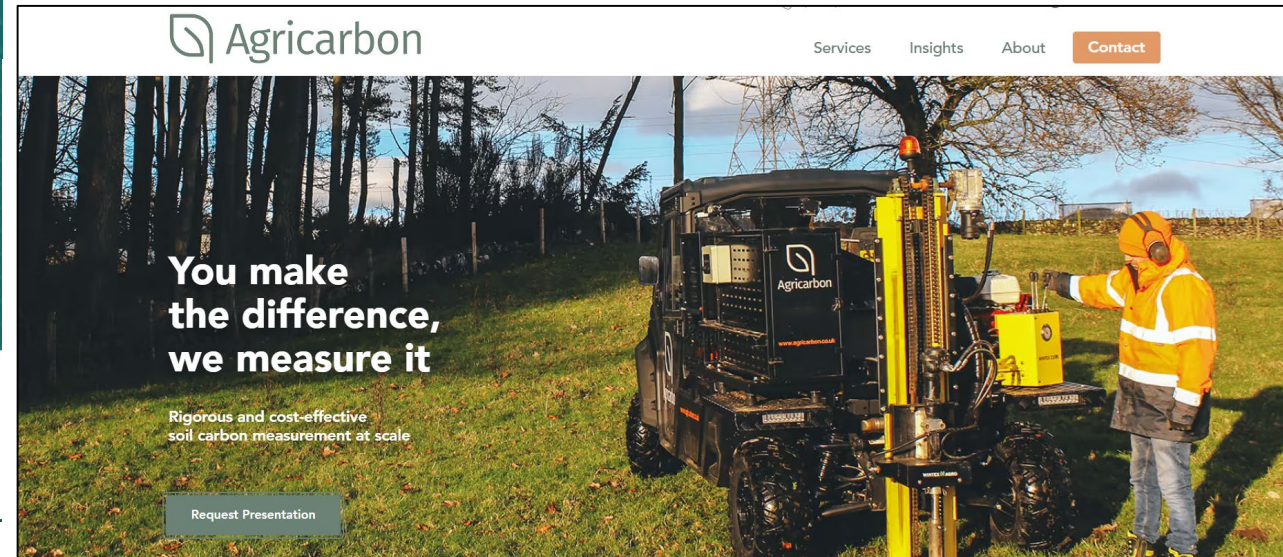
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In UK grew from 20 to 147 projects since 2020, sold €500,000 of certificates upfront.



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Supply chain & farmer initiatives



Tools, calculators & advice



Market actors

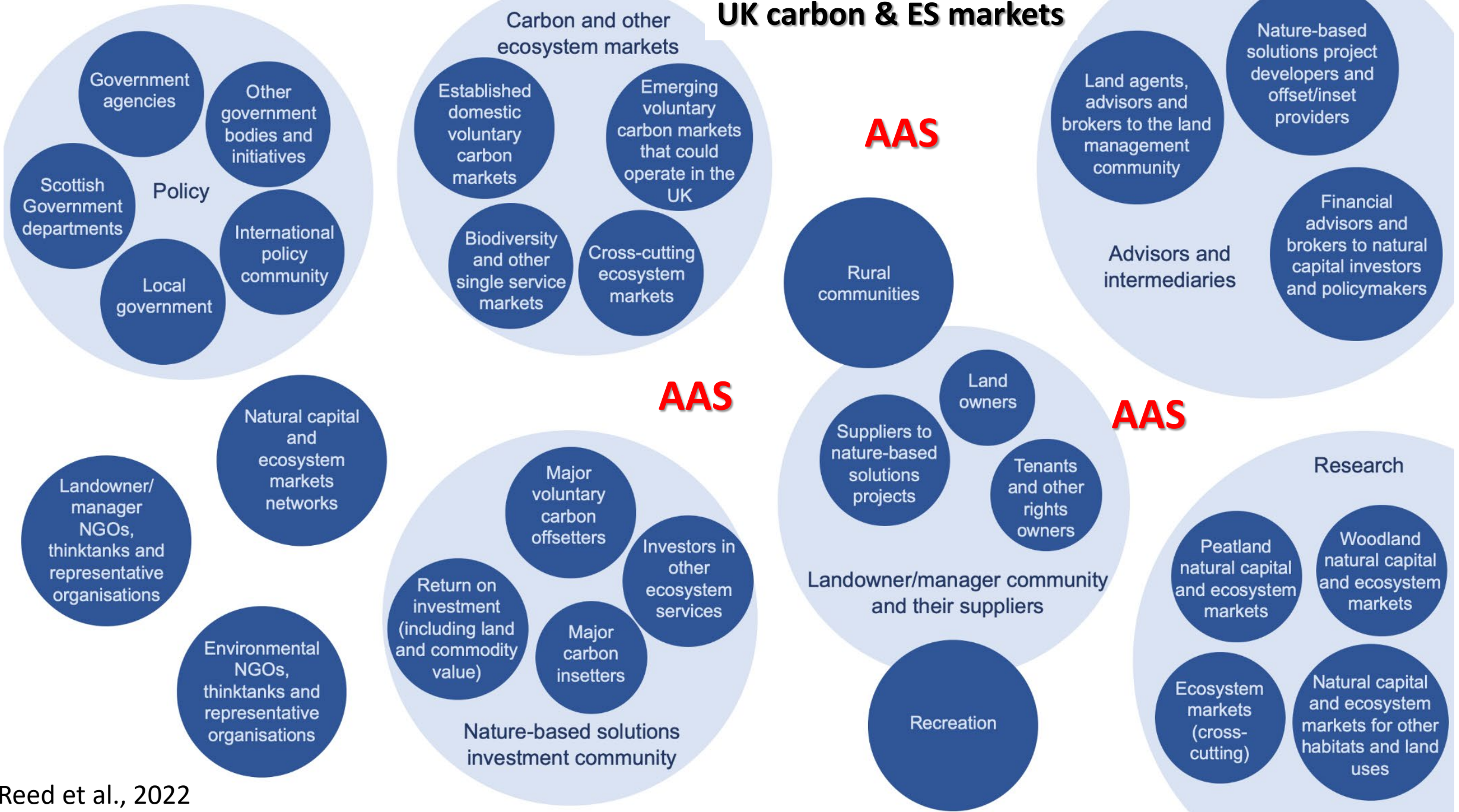


Natural capital markets: new actors & intermediaries

- **Carbon** commodification- resulted in the **constellation of financial actors** associated with the promotion, implementation and monitoring of carbon markets
- **New actors**- NBS project developers and offset providers, financial advisers and brokers to natural capital investors and policy makers
- Initiatives aggregate suppliers of nature benefits -developed by **private or not-for-profit actors**
- **New intermediaries-between farmers, landowners and investors** –necessary while the market becomes established

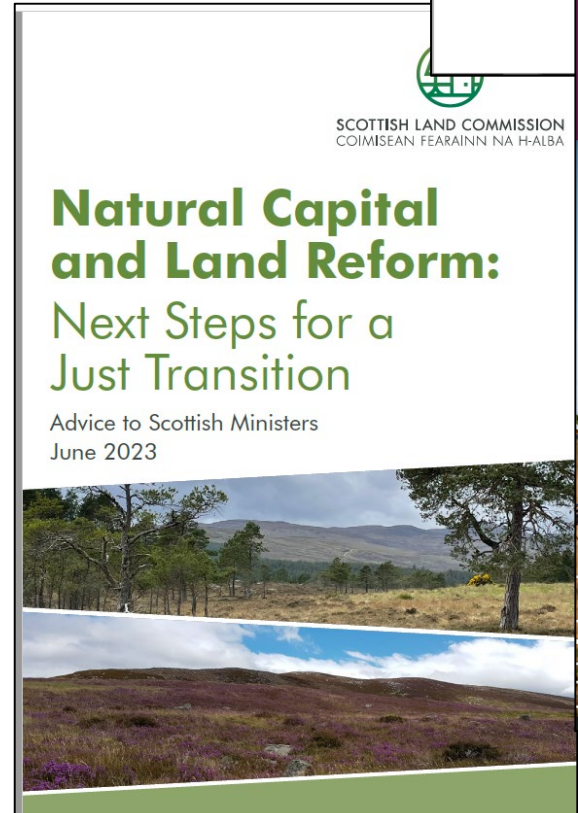
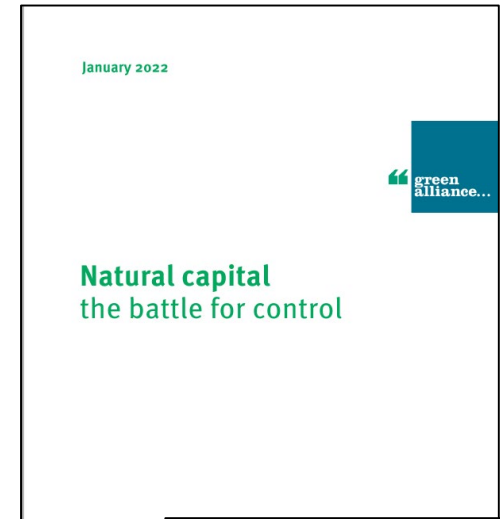


UK carbon & ES markets



Natural capital markets: power asymmetries

- **Imbalance between powerful** and experienced international markets players and individual farmers
- **Reinforcing** current power relations in supply chains- farmers feel unable to risk losing further control in their markets
- **No clarity** about what public and private finance can each do, within a coherent and aligned government vision
- **Land ownership-** landlord & tenant



Natural capital markets: credibility

- Soil carbon MRV- in UK no standard systems of measurement and calculation (permanence, additionality, leakage, trade offs, fairness) and numerous tools and methods
- Scientific concerns about claims for C gains from pra
- Uncertainty about knowledge claims
- Weak governance- carbon markets described as part west' territory of offset markets
- Market integrity "There is a need to balance supporting the growth of a market and protecting individual farmers with appropriate due diligence".

"None of the farmers are in control of the calculations, regulations or have any stake in the companies creating the system". A farmer

Natural capital markets: credibility



Position statement on soil carbon sequestration and its possible remuneration through CO₂ certificates



Original research article

Soil sciences and the French 4 per 1000 Initiative—The promises of underground carbon

Juliette Kon Kam King^a, Céline Granjou^{b,c,d,*}, Juliette Fournil^e, Lauric Cecillon^{f,g}

“Carbon credits are a shaky instrument: measurements inaccurate, C-stability questionable, humus pioneers disadvantaged...” Martin Häusling, spokesman on agricultural policy for the Greens/EFA group in the European Parliament

Contents lists available at [ScienceDirect](#)

Energy Research & Social Science

journal homepage: www.elsevier.com/locate/erss

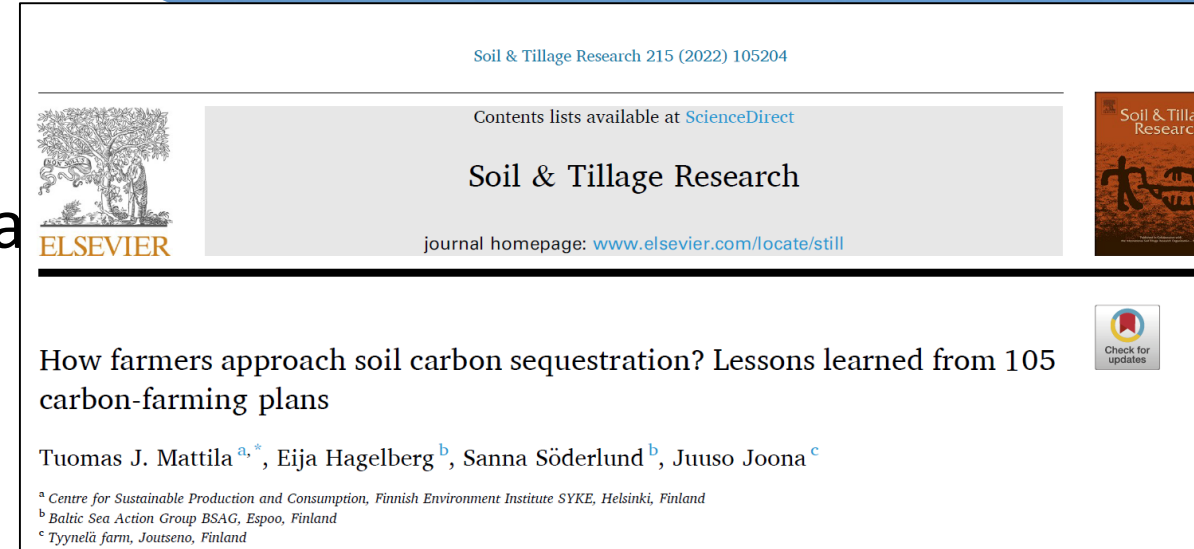


New practices & knowledge

“Participation often requires environmental know-how that farmers may not have”.

Carbon farming practices: new concepts, stocks and flows

The UK Farming Forum “Confused about carbon?” discussion thread generated 200+ questions and comments highlighting a range of uncertainties



Soil & Tillage Research 215 (2022) 105204

Contents lists available at [ScienceDirect](#)

Soil & Tillage Research

journal homepage: www.elsevier.com/locate/still

ELSEVIER

How farmers approach soil carbon sequestration? Lessons learned from 105 carbon-farming plans

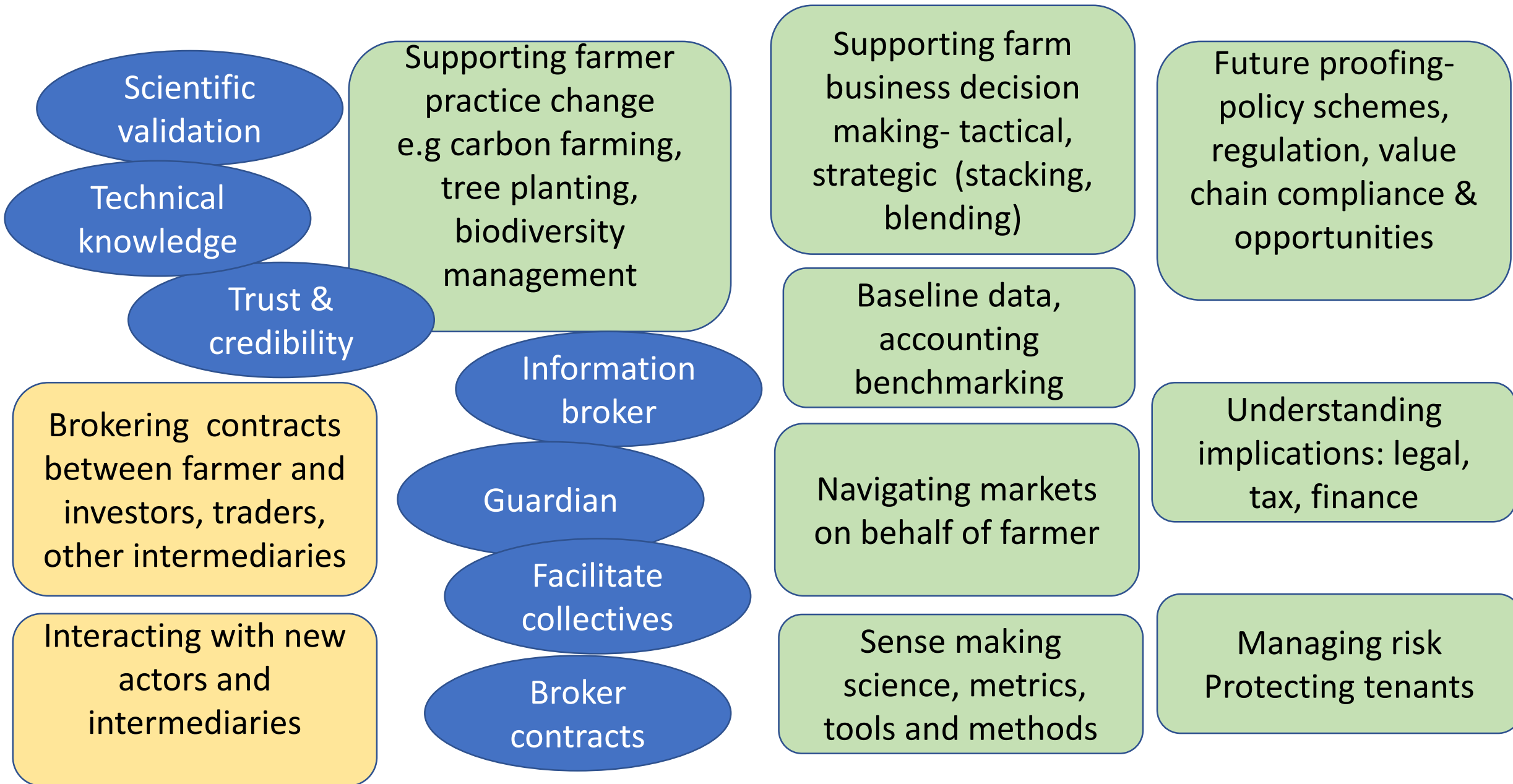
Tuomas J. Mattila^{a,*}, Eija Hagelberg^b, Sanna Söderlund^b, Juuso Jooa^c

^a Centre for Sustainable Production and Consumption, Finnish Environment Institute SYKE, Helsinki, Finland
^b Baltic Sea Action Group BSAG, Espoo, Finland
^c Tyynelä farm, Joutseno, Finland

Check for updates



Natural capital markets: AAS at the interface



AAS at the interface: guardians

“I think where we're headed is **individual farms are going to have to be carbon neutral**. And they're going to have to do a mix of things to get there” Adviser

Doing the right thing today – and for tomorrow

“I'm concerned about people who are selling off their carbon credits or whatever now, because there's something about that price that turns out to be way out of kilter with the market, they're actually going have to buy in some more carbon credits to be able to sell their lamb at the end of the day”. Adviser

Support is needed for carbon-centric business planning on farms

“It is still the case that a number of UK farmers lack a robust business plan to help guide future strategy, activities and profit forecasts – and there is a concern (especially among advisers) that the **whole “carbon management” agenda will contain elements of activities that will be done to farmers, rather than for, or with farmers**”. Adviser

AAS at the interface: brokers & facilitators

- Wildlife Trust advisers act as brokers for farmers and land owners with developers in biodiversity net gain deals



**Berkshire
Buckinghamshire
& Oxfordshire**
Wildlife Trust

BBOWT Habitat Banks

BBOWT has partnered with other Wildlife Trusts (Cheshire, Surrey and Warwickshire), and social enterprise financial advisors Finance Earth, to develop habitat banks that will be ready for the new BNG regulation coming into effect.

BBOWT's habitat banks will provide offsite biodiversity units to Local Planning Authorities and developers who are looking to fulfil their BNG requirements and go above and beyond for nature.

- Advisers facilitate farmer collectives

AAS at the interface: technical advice

AAS soil health and carbon farming expertise weak

Advisory companies building in house capacities, developing their own natural capital accounting methods and have data platforms, in house training
For larger landowners, approved lists




 

Article
Do Agricultural Advisory Services in Europe Have the Capacity to Support the Transition to Healthy Soils?

Julie Ingram ^{1,*}, Jane Mills ¹, Jasmine E. Black ¹, Charlotte-Anne Chivers ¹, José A. Aznar-Sánchez ², Annemie Elsen ³, Magdalena Frac ⁴, Belén López-Felices ², Paula Mayer-Grüner ⁵, Kamilla Jannes Stolte ⁶ and Mia Tits ³

¹ Countryside and Community Research Institute, University of Gloucestershire, Cheltenham, UK (J.M.); jblack2@glos.ac.uk (J.E.B.); cchivers@glos.ac.uk (C.-A.C.)
² Department of Economy and Business, Research Centre on Mediterranean Intensive Agrifood Biotechnology (CIAIMBITAL), University of Almería, 04129 Almería, Spain (j.aznar@ual.es (J.A.A.-S.); hlonezfelices@ual.es (B.L.-F.))

Coordination of International Research Cooperation on soil Carbon Sequestration in Agriculture (CIRCASA)


Horizon 2020

European Commission | Horizon 2020 European Union funding for Research & Innovation

20-SFS-2016-2017 (Sustainable Food Security – Resilient and resource-value chains)
Action: CSA (Coordination and support action)
Agreement: 774378-CIRCASA



DELIVERABLE D2.3
DELIVERABLE TYPE: Report
DELIVERABLE TITLE: Synthesis report on knowledge demands and needs of farmers

Start date of the project: November 1, 2017
End date of deliverable: M24
Submission date: M30
Funding source: European Union
Lead contractor: EIT Food
Classification level: PU/PA/PP/CC

NGOs- benchmarking, carbon clinics

Journal of Rural Studies 48 (2016) 115–128

Contents lists available at ScienceDirect

Journal of Rural Studies

journal homepage: www.elsevier.com/locate/jrurstud

Communicating soil carbon science to farmers: Incorporating credibility, salience and legitimacy

Julie Ingram ^{a,*}, Jane Mills ^a, Camilla Dibari ^b, Roberto Ferrise ^b, Bhim Bahadur Ghaley ^c, Jens Grønbech Hansen ^d, Ana Iglesias ^e, Zbigniew Karaczun ^f, Alistair McVittie ^g, Paolo Merante ^b, Andras Molnar ^h, Berta Sánchez ⁱ

^a Countryside & Community Research Institute, University of Gloucestershire, Longleville, Gloucester, GL2 0PH, United Kingdom

 
AGRONOMY NEWS FROM HUTCHINSONS
Crop Production Specialists

JUNE 2021

 
Matt Ward (Service Leader)

Omnia Carbon goes live

TerraMap Carbon - the UK's first Carbon Mapping Service is now available

Omnia Carbon is the UK's foremost farm carbon management service, designed to help you understand, manage and profit from your farm's carbon.

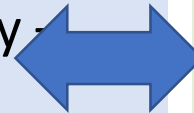
What frameworks to assess these disruptions to AAS?

Organisational

- Learning perspectives –institutional learning-learning how to do things in new ways (Hall-); organisational learning - incremental (single loop) and transformative (double loop) Charatsari et al 2020
- Frameworks- Social Ecological System & Resilience frameworks– shocks, stresses –robustness or adaptation, AIS as complex adaptive systems
- How to fit power relations into the AIS framework – Agricultural Innovation Ecosystems (Pigford et al., 2018), political ecology - critical analysis in offsetting literature
- Capacities & capabilities - capacity building and capability dynamics (Turner et al., 2017)
- Mapping tools that capture power and discourse in climate change

Individual

- Theorising adviser roles – intermediaries, brokers
- Individual identity and professionalism
- Capabilities and capacity building
- Reflexive practitioner



Conclusions: wider implications for AAS

- Navigating new landscapes of disruption & powerful private actors
- Plurality & complexity – disrupters or invigorators?
- Monetisation of nature -further segmentation of private services
- Implications for AAS approach
 - single metrics like carbon vs integrated approach
 - long term strategic advice for the whole farm system and business- blending & stacking
- Navigating complex concepts (carbon dynamics), law, tax, markets
- Capacity building – technical and other dimensions
- Interface- avoid new lock ins & empower through collectives or adapt & broker new deals?
- Implications for research – frameworks for understanding disruptions



Thank you



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