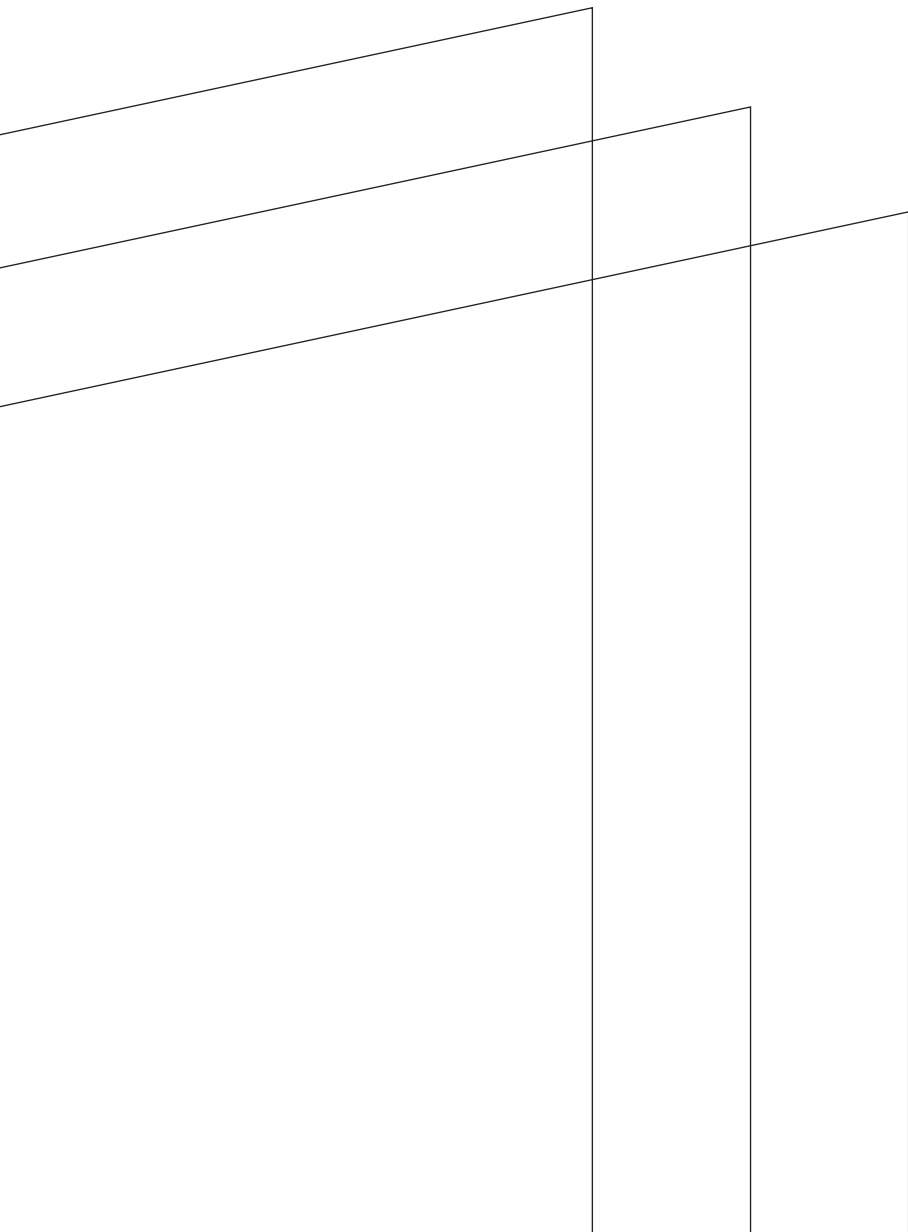


# CREDIT WHERE DUE

FINANCING A JUST TRANSITION  
TO AGROECOLOGY IN THE  
AFTERMATH OF BREXIT







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## EXECUTIVE SUMMARY

**H**ow we farm has a major impact on our health, our communities, our climate and nature. Today, our global food systems are responsible for a third of all human-caused greenhouse gases and have contributed to the destruction and degradation of our soil, water bodies and biodiversity. The way we farm has contributed to the UK being one of the most nature-depleted countries in the world. But UK agriculture is now at a crossroads. 2021 has marked the effective exit – meaning the phasing out of Direct Payments in England from 2021 to 2027 – from the European Union’s Common Agricultural Policy (CAP) and the arrival of the first Agricultural Bill in more than half a century. With this comes significant opportunities to transition towards the more ecologically and climate friendly food and farming system that is urgently needed to address the twin threats of climate change and biodiversity loss.

However, this post-Brexit transition also presents numerous uncertainties for British farming. Agricultural subsidy schemes will shift from guaranteed basic payments under CAP, which – in many cases – previously provided a majority of farm income, to a new regime focused on Environmental Land Management schemes (or ELMs). But the details of the new schemes are yet to be confirmed. Any major changes will risk disruption that could ripple through the food and farming system, just as the industry is already rocking from the impacts of Covid-19 and the current and future implications of the climate crisis.

Some farmers are gradually adopting nature-friendly farming practices such as agroecology – systems such as organic farming or regenerative agriculture that reduce or eliminate chemical inputs to improve soil and ecological health and work with nature – to mitigate the negative environmental impacts of agriculture. Agroecology provides distinct benefits for both natural ecosystems and economic wellbeing through improved soil carbon content, fewer greenhouse gas (GHG)

emissions, enhanced biodiversity, restoration of degraded land, improved water and nutrient cycles, enhanced pollination, ecological pest and disease management, higher nutritional value of produce, higher and sustained year-round employment, shorter supply chains and an integration of traditional knowledge into farming practices.

Nonetheless, agroecology remains at the fringes of our food and farming systems. Less than 3% of farmland in the UK is currently certified organic. The key constraint to growth for agroecology remains access to finance, within which there are four key aspects:

- The comparatively small size of agroecological farms, making them less attractive to conventional finance
- Limited access to land owing to unequal ownership and a rise in land value
- The dwindling size of publicly-owned farmland
- The complex web of metrics and banking jargon that alienates new farmers interested in agroecology.

Addressing these barriers is vital in supporting a fair transition for current farmers and new entrants to nature-friendly farming. All forms of capital such as public and private debt and equity, philanthropic resources and other creative financial and fiscal instruments will be needed to support this agenda. We therefore make, among others, the following headline recommendations:

- 1. Ensure ELMs offer specific incentives for a just transition to agroecology.** The Department for Environment, Food & Rural Affairs (Defra) must include agroecological farming and a whole farm systems approach in ELMs to deliver a just transition for farmers. Farmers will initially require assistance to reduce environmentally harmful impacts (for example, emissions, chemical inputs or pollution) but should be supported to do so alongside transitioning into delivering *positive* outcomes (for example, increasing soil carbon).
- 2. Set up an agroecological development bank.** In alignment with the recommendation of the Food, Farming and Countryside Commission, we believe agroecology needs a bespoke, state-

backed investment bank to finance the transition at scale. However, there is also scope for the new National Infrastructure Bank (NIB) to perform that function if given an explicit agroecological purpose in legislation.

- 3. Philanthropic and impact investors should pool their resources and direct their community grants to further support agroecological enterprises and foster knowledge exchange.** As new opportunities emerge to procure land for ecosystem services, investors should back agroecological farming wherever feasible and support new entrants that can bring innovative, cooperative and community-based models to food and farming.

# 1. INTRODUCTION

**F**inancing agroecology at scale is urgent. Farming systems that reduce or eliminate chemical inputs to improve soil and ecological health and work with nature are imperative to address the multiple crises of climate change, biodiversity degradation, fragile food systems and economic inequality. Investors in the UK are clamouring for opportunities to back solutions to the climate crisis and in a far more sustainable food and farming system. They include a growing group of philanthropic foundations associated with initiatives such as Farming the Future and Divest Invest Philanthropy, as well as other socially and environmentally concerned investors.

However, it remains far easier to allocate capital to areas such as renewable energy and clean technology or to environmental, social, and governance (ESG) investing strategies than to make targeted investments in sustainable agriculture in the UK. Many UK-based investors interested in the growing fields of agroecology, regenerative agriculture and sustainable food systems are presented with far more professionally managed investment opportunities abroad in the European Union (EU), North America, Australia and New Zealand, and across the Global South.

The British banking sector is dominated by a limited number of high-street banks. It has largely failed to provide appropriate forms of financing to support an agroecological transition of Britain's food and farming system – even as bank lending remains the chief source of capital for UK agriculture as a whole.

Farm lending, even by specialist lenders such as the Agricultural Mortgage Corporation plc (AMC) (initially created by the Agricultural Credits Act in 1928 but now a wholly owned subsidiary of Lloyds Banking Group) remains highly conventional, focused on industrial agriculture, and largely indifferent to emerging areas such as regenerative, organic agroecology. Martin Lines of the Nature

Friendly Farming Network says: “We have an agricultural mortgage company, but what we really need is an agroecology mortgage company.”<sup>i</sup> Without getting the finance right, we cannot transition our farming system into one that will meet our interlinked challenges in the limited time we have available to reform our agricultural system to meet the climate targets.

There is however a steady momentum towards transition in our farming and finance systems. A groundswell of interest in experimenting with new forms of finance for agroecology, both public and private, are beginning to emerge in the UK. Groups such as the Food, Farming and Countryside Commission have called for the establishment of a National Agroecology Development Bank as part of the new Agriculture Bill. Charities such as the Real Farming Trust have piloted a private loan fund for ‘enlightened agriculture’ with philanthropic support and in partnership with community-based financial institutions. Mission-driven banks such as Triodos Bank UK have dedicated lending teams focused on organic agriculture and agroecology. Disillusionment with high street banks is motivating a flight towards new kinds of regional and community-based financial institutions.

Without reimagining finance, both structurally and in terms of its purpose, transition will be impossible at the scale and pace necessary to prevent climate and biodiversity collapse. As innovative, cooperative and community-based models for financing regenerative, organic transitions emerge in the US and Europe, numerous groups in the UK are beginning to establish investment projects, farmland funds and regional banks. This paper provides an overview of the obstacles and opportunities associated with financing a more rapid transition to agroecology in the UK in the aftermath of Brexit. We describe several of these emerging mechanisms and models that could be established or expanded with the support of philanthropic grants and investment.

<sup>i</sup> Semi-structured interviews were undertaken with key stakeholders in banking, farming and wider civil society as part of the research for this report

## 2. AGRICULTURAL TRANSITION IN THE UK: FROM AN INDUSTRIAL PARADIGM TO AGROECOLOGY

A dramatic change in farming methods in the UK took place following World War II. Mechanisation, the introduction of synthetic chemicals – fertilisers, pesticides, and herbicides – diminished domestic food production, and new technologies replaced the need for labour. As a result, farms across the UK have increased in size, capitalising on economies of scale and increasing yields per Ha. Although large-scale, industrial agriculture can be highly productive, it has contributed significantly to biodiversity loss, soil erosion, and pollution and to negative impacts on human health, climate and farm income.<sup>1</sup> Increased use of large machinery and reliance on external chemical inputs (pesticides and fertilisers) degrades land, water, habitats and wildlife populations.<sup>2</sup> To accommodate these large-scale changes to the arable landscape, hundreds of thousands of kilometres of hedgerows disappeared from the countryside in the second half of the 20th century. A focus on increasing yields has also led to specialisation on a limited number of energy-rich but nutrient-poor staple crops, such as barley, sugar beet, and oilseed rape.

The social dimension of this shift means that the livelihoods of many farmers remain precarious, and an export-focus works against both food sovereignty (allowing communities control over the way food is produced, traded and consumed) and food security.<sup>3,4</sup> Monoculture commodity crop production and large-scale feedlots for livestock leave the entire system vulnerable to climate shocks, and as is becoming apparent, economic shocks resulting from pandemics.<sup>5</sup> The UK imports 47% of its food and 84% of its fresh fruit through a ‘just-in-time supply chain’ (i.e., without stockpiling),

with a particularly high concentration of vegetables coming from Spain, Italy and the Netherlands, many through the bottleneck of the Dover Straits.<sup>6</sup>

Conventional, industrial agriculture is a leading contributor to soil erosion, threatening soil quality and function while also impacting water bodies and local communities through its contribution to flooding. However, government agencies, water companies, and the farming industry have been late to acknowledge and address these problems.<sup>7,8</sup>

According to Defra, the farmland bird index has decreased significantly since 1970. During 2018 fewer than half the total farmland species found half a century ago were identified.<sup>9</sup>

Intensive agricultural practices cause arable soils to lose 40–60% of their organic carbon.<sup>10</sup> Soil degradation costs range from £0.9–£1.4 billion per year in England and Wales, due to a combination of organic content loss, compaction and erosion.<sup>11</sup> Indeed, 80% of these impacts occur off-site as ‘downstream costs’ which do not impact those who are degrading the soil directly.<sup>12</sup> Agriculture accounts for 10% of total UK greenhouse gas emissions (GHG), including nitrous oxide, methane, and carbon dioxide, while the UK food supply chain contribution (excluding land use change) to GHG emissions was estimated at between 152 and 159 MT CO<sub>2</sub> (approximately 20%) or closer to 30% with land use changes.<sup>13</sup> Global estimates are that 24% of emissions come from agriculture<sup>14</sup>. According to the Natural Capital Committee, UK farming is responsible for net external environmental costs to society valued at £700 million per annum.<sup>15</sup>

Agriculture now covers 17.5 million Has or 72% of all land in the UK and is fundamental to transitioning to a healthier, climate and nature friendly food system.<sup>16</sup> However, farming employs less than 2% of the population (1.45% or 476,000 people in 2019 according to Defra), whereas the agrifood value chain collectively employs some 4 million people in the UK.<sup>17</sup> Farming in the UK contributes less than 1% to GDP.<sup>18</sup> Agriculture in England suffers from an ageing farmer population. The average age of farm holders in the UK is 59 years; 30% are over retirement age; and only 3% are under 35<sup>19</sup>. Retirement rates are low, creating barriers of entry to new and beginning farmers. Agriculture also suffers low recruitment into the sector as a result of high start-up costs and low returns, and a shortage of available land and tenancies. The crisis around migrant labour as a

result of both Brexit and Covid-19 has also brought the structural problems in farming into sharp focus. Concentration, where farms without succession plans are bought up, has led to fewer, larger farms overall.<sup>20</sup>

## **2.1 AGROECOLOGICAL TRANSITION**

In response to the negative environmental and social impacts produced from conventional, large-scale industrial agriculture, sustainable approaches to farming are emerging. These improve soil health, water quality and biodiversity, provide fair and liveable income for farm workers and farm owners, increasing the resilience of the system. Systems that encompass these characteristics include agroecology, organic and regenerative agriculture.

Organic farming is perhaps the most established and well recognised form of sustainable agriculture and represents a significant step towards agroecology. Organic is now understood primarily as a certification system based on the documentation of practices, primarily vouching that synthetic chemical herbicides, pesticides, and fungicides, or antibiotics on animals, have not been used. The Soil Association is one of the UK's largest and oldest champions for organic agriculture, and its affiliated certification body licenses more than 70% of the UK's organic food. The Soil Association's organic market report has documented steady growth in organic sales in the UK over the last decade – from around £1.75 billion in 2010 to £2.79 billion in 2020.<sup>21</sup> With the Covid-19 pandemic heightening consciousness about public health and the value of nature, 2020 saw the greatest year-on-year sales increase for organic products in over a decade and a half – more than 12%. Lockdown forced consumers to cook at home, and demand for organic veg box schemes and locally produced food soared accordingly.

Nevertheless, as a proportion of UK farmed land, organic agricultural production remains very small, with less than 3% of land certified. This figure has fallen slightly over the past decade.<sup>22</sup> Transitioning conventional farmland to a certified organic license typically requires three years of operating without synthetic chemicals before farmers can benefit from the pricing premium often associated with the label, which varies by produce but often averages around 30%, according to the Agriculture and Horticulture Development Board.

Interest in 'regenerative agriculture' has been growing and emerged among British farmers adopting techniques such as reduced tillage, cover cropping, and holistic management of livestock – often rotationally grazed on pasture – in order to sequester carbon and build soil health. In the UK, Groundswell has become one of the leading organisations and events to convene farmers interested in regenerative agriculture and environmental conservation. Regenerative agriculture has yet to become standardised internationally in the way that organic certification has, and in the absence of formal standardisation, 'regenerative' can be defined in many ways with a variety of practices.

The Regenerative Organic Certification, developed by Rodale Institute and a series of socially responsible businesses in the US,<sup>23</sup> is one of the first voluntary efforts to do so, building upon organic practices with enhanced labour and animal welfare standards that resonate with many of the principles of agroecology. Other voluntary regenerative certification schemes focus in narrower ways on soil health, carbon sequestration, and grass-fed, pastured livestock management. These include the Savory Institute's Land-to-Market Ecological Outcome Verified system and AGW's forthcoming regenerative certification. They do not require full compliance with organic standards, and rarely do they address the social and cultural dimensions of farming that distinguish agroecology from standardised certification systems, whatever they may be.

The Food and Agricultural Organization (FAO) of the United Nations describe 10 interlinked and interdependent elements of agroecology: diversity; knowledge co-creation; synergies; efficiency; recycling; resilience; human and social values; culture and food traditions; responsible governance; circular and solidarity economy.<sup>24</sup> Agroecology focuses on a synergistic relationship between people and nature. It can be seen as applying both ecological concepts and principles to the sustainable design and management of agroecosystems<sup>25, 26</sup> with a universal logic for redesigning and shifting agricultural systems through a holistic transition to maximise biodiversity and increase interactions between plants and wildlife.<sup>27, 28, 29</sup> These strategies seek to build long-term land fertility through connected agroecosystems as well as secure livelihoods. Agroecology also aims to localise distribution systems, for example through farmers'



markets and local cooperatives.<sup>30</sup> It follows a 'whole systems' approach to sustainability, social justice, and a secure global food system – but fundamentally requires a shift in power and ownership structures.<sup>31</sup> Agroecology can address multiple interlinked crises and brings together three components: science, practise and social movements. It has a clear political dimension and aims to change social relations, empower farmers, add value locally, and create short value chains.<sup>32, 33, 34</sup>

An urgent and just transition to agroecology presents a major opportunity for improvement in farming practise and supporting those farmers who want to contribute to overcoming the challenges. Although we recognise that agroecology cannot be readily reduced to any particular system of certification of environmental farming systems, in this report, we use the term 'agroecology' as a shorthand to cover various forms of sustainable farming systems. These seek to significantly reduce or eliminate chemical inputs to improve soil and ecological health, including regenerative, organic agriculture and specific kinds of practices associated with conservation agriculture, holistic livestock management, agroforestry, biodynamic farming, or 'permaculture', all of which work in closer concert with natural ecosystems.

## 2.2 BENEFITS OF AGROECOLOGY

Agroecological farming has the potential to produce higher incomes for farmers than high-input-based industrial farming, by reducing the costly inputs of chemicals. It *can* therefore improve farm viability and profitability, expand agricultural employment, increase gross value added by the sector, and strengthen rural economies.<sup>35, 36</sup> Successful examples develop new markets and management systems, as well as short supply chains that result in higher prices.

Sustained income levels and maintaining farm occupancy are crucial. Agroecological farming supports local and regional economies, reduces fossil fuel use and supports the maintenance of landscapes and biodiversity, which is the foundation of profitable, sustainable agriculture.<sup>37</sup> Agroecology reduces inputs (mainly in terms of chemicals), focuses on dynamic improvement and knowledge, and supports biodiversity while being culturally sensitive, socially just and economically viable.<sup>38</sup> Simply put, this is future-proofing farming.

Documented benefits of agroecology include:

- **Environmental:** Carbon stored in soil, reduced GHG emissions, increased biodiversity, restoration of degraded land, improved water and nutrient cycles, enhanced pollination, pest and disease management.
- **Health:** Higher nutritional value, reduced pesticides/antibiotics/nitrates, diverse, healthy diets.
- **Social:** Higher employment per hectare (Ha), employment year-round, shorter supply chains.
- **Cultural:** Diversity and integrated traditional knowledge.<sup>39</sup>

Agroecological farming has been shown to generate up to 26 times more employment per Ha (in itself a major opportunity for a higher employment agricultural transition) than the UK average of 0.026 FTE / Ha<sup>40</sup>. Globally, Project Drawdown estimates that agroecological and other climate-friendly food, farming and forestry solutions (including land use changes) could sequester between 204–273 gigatons CO<sub>2</sub> equivalent between 2020 and 2050.<sup>41, 42, 43</sup>

Despite these wide ranging social and ecological benefits, agroecological farming practices have yet to make a wide-scale impression on the market for food or the use of land in the UK. The clearest evidence of this is in organic certification; farmers or landowners transitioning their land from conventional to certified organic methods is perhaps the best proxy for the scale of transition in the UK. According to Defra, the total area of land currently certified for organic production stands at 474,000 Ha, almost three-quarters of which is permanent grassland (primarily used for grazing pasture-fed, organic cattle, sheep and other livestock). This represents just 2.7% of UK farmland, down from a 2009/10 peak of more than 650,000 Ha of organic farmland. Defra notes that the volume of productive land has not changed significantly with much of the fall being accounted for by land of low productive value, such as temporary pasture or woodland.<sup>44</sup> We cannot wait for the market to fix this problem. Our current agricultural paradigm, so closely linked to a broken financial model (both through private banks and public subsidies), needs to be radically and urgently redirected.

## 2.3 THE UNCERTAINTIES OF THE AGRICULTURAL SUBSIDY SYSTEM

In terms of agricultural subsidies, total direct payments to UK farmers reached £3.34 billion under the EU Common Agricultural Policy (CAP) in 2019.<sup>45</sup> This comprised of:

- A Basic Payment Scheme (BPS) of £2.77 billion, which supports farmers' income
- Payments linked to agrienvironment schemes of £449 million, and
- Payments under the Less Favoured Area Support Scheme (LFASS) of £52 million.<sup>46</sup>

The CAP basic farm payment has been paid in proportion to the area of land farmed, so the largest landowners have been paid most (80% of the payment goes to the largest 20% of businesses).<sup>47</sup> A financial return, independent of market forces, as well as a rent divorced from production, increases the market value of land, making it harder for renters and buyers to afford. These direct payments also boost incomes for unprofitable crops and fund the use of fertilisers and pesticides that pollute water and impact wildlife.<sup>48</sup>

Farm Business Income (FBI) is extremely variable, but more than 20% of UK farms failed to make a positive FBI in 2018/19 while only 28% of farms had an FBI above £50,000. Most farm-grown goods are processed to some extent before they reach consumers, so the retail price is shared among farmers, processors, distributors and retailers in the agricultural supply chain. Soil health is not accounted for in this conventional financial analysis, even by Defra, although it is clearly a risk to the land asset and has negative impacts on surrounding communities. The negative consequences of industrial farming on soil are ignored, and taxpayer's money is used to prop this system up.<sup>49</sup>

Because Brexit requires an end to the UK's participation in the CAP, uncertainty has arisen over the precise outcomes of a renationalised agricultural policy. Consequently, the industrial farming sector is bracing itself for an end to productivity subsidies and the introduction of a new, more environmentally focused subsidy system akin to long-standing countryside stewardship schemes. Groups such as the National Farmers Union and the Country Land and Business Association have highlighted that the 50–80% of farm income

typically derived from BPS subsidies will be lost if a new system is not put in its place.<sup>50</sup>

## 2.4 AGRICULTURE ACT

The UK's new Agriculture Act replaces the CAP's current system of direct payments to farmers with a new set of Environmental Land Management schemes (ELMs). This will subsidise farmers with public funds, at approximately £3 billion per annum (this is what Defra says is currently available and there are no long-term guarantees). The funding is aimed at generating 'public goods', such as clean water, healthy soils, carbon sequestration and greenhouse gas reductions, greater biodiversity, wildlife conservation, public access to open spaces and natural heritage sites, and measures to reduce flooding and tackle the effects of climate change.<sup>51</sup> These incentives aim to achieve the goals of the government's 25 Year Environment Plan (25YEP) and commitment to reach net-zero emissions by 2050. The Bill became an Act of Parliament in November 2020. The precise details of these new arrangements remain to be worked out by Defra through pilot schemes over the next four years, before the full roll-out in 2024.<sup>52</sup> England, Wales, Scotland, and Northern Ireland are free to implement schemes according to their own needs.

In December 2020, Defra announced a 'path to sustainable farming',<sup>53</sup> which made the following commitments:

- A seven-year phase out of direct payments (reducing progressively by 15% each year from 2022/23)
- A goal for farmers to be 'subsidy independent by 2028'
- To de-link payments from land ownership starting in 2024
- To provide grant support for 'farmers' productivity', research, development and sustainability
- To provide advice and business planning support to farmers
- To provide funding for slurry reduction, tree planting, research and development scheme with industry, innovation support, new entrant support, as well as lump sum payments for those leaving farming.<sup>54</sup>

Defra state that ELMs will support the conservation of 30% of UK land for biodiversity and habitat creation or restoration by 2030. The UK will set up an international 'coalition of the willing' to 'build a 'Just Rural Transition', rather than a focus on food production. A plan to support and improve local supply chains, linked to the Agriculture Act and National Food Strategy, is also being developed. In terms of spending plans from 2021/22 to 2024/25, Defra indicated an average of £2.4 billion a year would be spent on the delivery of these schemes.<sup>55</sup>

Multiple parties have recognised the importance of finance, but not offered any specific details for how to mobilise it in any detail – this is a fundamental barrier to the urgent and necessary change in the sector.

While the Agriculture Act mentions agroecology, soil protection and greater recognition of whole-farm approaches for sustainable farming, the major opportunity and ambition on agroecology has not been realised by this framework legislation, not least because ELMs were not conceived as payments for agroecological food production but for the production of ecosystem services. The Agriculture Act does not cover agroforestry, new entrants and county farms, climate and pesticide reduction targets, despite assurances that these are priorities for Defra. Legislation supporting public health as a purpose in the Bill as well as better protection for farm workers are both notably absent. Furthermore, the first policy change post-CAP has been reversing a ban on bee-killing neonicotinoids, certainly the wrong direction of travel and not aligned with the 'green Brexit' rhetoric.<sup>56, 57</sup>

The Committee on Climate Change has identified four areas that need further development and clarity with regards to the 25YEP and future ELMs:

1. It must sit within an integrated response to climate change, food provision and the environment.
2. Adaptation underpins every outcome so the ELMs design should recognise that adaptation is a necessary prerequisite to meeting the scheme's other public good outcomes, because they are at risk from climate change.
3. It is critical to encourage private investment alongside ELMs funding in order to deliver the scale of transformation in land use and management that is required.
4. Actions that reduce vulnerability and exposure to climate change should be rewarded under ELMs and this must be clearly set out.<sup>58</sup>

### 3. AGRICULTURAL FINANCING IN THE UK

A cursory glance at the major institutions of the UK's financial system shows that existing banks provide significant capital to the farming sector. Almost all the major high street banks have dedicated agricultural finance departments, and the most recently available data from Defra on agriculture in the UK documents £20.5 billion in liabilities on UK farm balance sheets, most of which is being financed through bank loans and overdrafts. The Agricultural Mortgage Corporation (AMC), a member of the Lloyds Banking Group, and building societies account for another £4 billion of that debt.<sup>59</sup>

The scale of this lending can obscure some important details. Although clearly some farmers can access significant bank finance, the distribution of that finance is not spread across the full range of farmers. The vast majority of the lending goes to a percentage of farmers who own land (or other collateral), have an established relationship with a bank, and a track record of farming under the industrial paradigm.<sup>61</sup> The ability to repay loans through receipt of government subsidies

has become important in the calculations around lending and will certainly change as a result of the introduction of ELMs.

The UK banking system is structured around conventional farming, where banking institutions' knowledge and loan books are largely focused on this approach and not on more ecologically-focused practices, about which much less is understood. Since 2010, banking regulations (based on the third Basel Accord) have broadly required financial institutions to hold more capital in relation to loans, suggesting a possible tightening of loans for businesses. However, there is no significant evidence that this has hampered SME lending, of which agriculture is a small but significant portion.<sup>62</sup> Nonetheless, SME lending fell dramatically in the immediate wake of the finance crisis and has yet to recover to pre-crisis levels.<sup>63</sup>

Financial viability in farming has largely been defined by access to CAP subsidies. Since basic payments under the CAP have been made on the basis of land – with farms under five Ha ineligible – the immutable logic of farm lending has been that loans flow to larger scale farms. Their often CAP-dependent business model is well known to lenders. While practised for generations, agroecology is considered by banks as a new and often unknown agricultural practice, so most banks do not have a working knowledge of the viability of the business model upon which to base their assessment.

**TABLE 1**

Sources of loans for the agricultural industry: Source and scale (£ billions) of loans to the agricultural sector taken from Defra aggregate balance sheet.

Source	Scale (£ billion)
Bank loans	£9.70
Building societies	£1.60
AMC (Agricultural Mortgage Company) SASC (Scottish Agricultural Securities Corporation)	£2.50
Family loans	£0.55
Trade credit	£2.40
Bank overdrafts	£2.20
Hire purchase	£1.50

Source: Adapted from Defra (2020)<sup>60</sup>



Tenant farmers, small enterprises, new entrants and start-ups are the most likely to be using agroecological practices. Without the collateral to secure loans, they are less likely to be able to borrow from conventional lenders.

UK agriculture therefore faces an ecological paradox. Large-scale practitioners who can mobilise the volume of land required to effect UK-wide farming transition and the collateral to secure loans, lack the incentive to do so. Smaller-scale practitioners who are more likely to be agroecological in nature cannot access loans and have less capacity to effect system change.

Since the EU referendum in the UK, agricultural land prices – which had almost trebled in the decade up to 2015 – have levelled off. The Agriculture Act's envisaged shift in subsidies from income support to ecological investment has led some to predict that prices may fall by up to one-fifth, especially where land offers the least ecological value (but may nevertheless be valuable for food production).<sup>64</sup> If the shift in subsidies and – presumably – in post-Brexit food market dynamics do precipitate a fall in the value of some agricultural land, then this presents both a transition risk and an opportunity. Land may be more affordable to new entrants and those interested in an ecological transition. Equally there is a risk of land being left unproductive or being bought by private equity firms and large agritech firms to leverage maximum financial returns.

The combination of the appreciation in land values and the nature of CAP subsidy payments has almost certainly promoted a sector – to which the UK banks are freely lending – that from a pure profit and loss perspective may not be viable. So the potential for land values to fall at the same time as (and because of) the shift in subsidy regime is probably also a significant risk to a proportion of the £20.5 billion currently on loan to farms in the UK.

In this context, if agroecological farming methods can be more profitable and generate better outcomes for society,<sup>65, 66, 67</sup> then there may be a significant, near-term opportunity for transition financing in the next four years, as ELMs practices are trialled and developed, and payments phased in. However, the financial sector is, as yet, under little pressure to adapt its lending, and investment practices to support farmers as they transition

toward agroecology, despite the need and urgency for this transition and the pending, post Brexit uncertainty in farm finances.

### 3.1 RECENT DEVELOPMENTS IN AGRIFINANCE

High street banks and large-scale agricultural firms are not blind to the potential dynamics of the pending transition. Corporate agribusinesses are now advancing their own interpretation of agroecology, to try to establish the terms of future practice through the development of three major global public-private initiatives:

- The Sustainable Agriculture Initiative (SAI)
- The New Vision of Agriculture (NVA)
- The New Food and Land Use Economy Coalition (FOLU).

While distinct, they share a common aim to use their market and lobbying power to preserve the social, political, and economic structures enabling maximising profits from global commodity chains (pushing increased production and efficiency as the solution) and ensuring the costs (and externalities) continue to be borne by others.<sup>68</sup>

As part of their various corporate climate commitments, some high street banks have developed targeted lending focused on sustainable agriculture. For example, Barclays, one of the first major banks to make a net zero commitment by 2050, has announced £250 million is set aside for loans to help farms implement energy efficiency and sustainability projects that sequester carbon, lower their carbon footprint, build soil health, or increase natural capital. It also actively markets to its agriculture clients a Green Loan Fund to help farmers finance on-farm renewable energy projects such as wind and solar, up to £5 million.

Lloyds Bank and its affiliates, including the agricultural specialist lender AMC and the Bank of Scotland, have each published their versions of a paper, *Shaping Agriculture's Transition to a Net Zero Future*, outlining a variety of strategies for farms to shift toward climate-friendly practices. It has forged a relationship with the Woodland Trust to subsidise 75% of the costs involved in tree and hedgerow planting. As part of Lloyds' Clean Growth Finance Initiative, the bank offers discounted lending for a broad range of investments in sustainable

agriculture, from renewable energy generation such as solar and wind, to green agritech solutions.<sup>69</sup> As one of its case studies in sustainable agriculture, AMC highlights a 150-acre Welsh dairy farm at Trefere Fawr that converted to organic in 2001 and subsequently secured a £1 million loan for a new milking parlour.<sup>70</sup> If a farmer has secure collateral in land, a strong existing relationship with a high street lender, and a solid business plan for a project that makes their operations more efficient and improves their bottom line, then bank capital appears to be available.

After the financial crisis, many high street banks slashed their agricultural lending teams. It is precisely into this void that smaller, nimbler private agricultural lenders and regional and specialist banks are beginning to move. Oxbury Bank, for example, is a new agriculturally focused bank – the first specialist bank focused on farming since AMC was created nearly a century ago. It is raising £20 million, with backing from large agribusiness companies including Cargill-affiliated Frontier Agriculture.<sup>71</sup> Oxbury's strategy is to provide flexible loans to finance farm operations and land and equipment purchases as well as a separate 'input finance facility' that aggregates trade credit from a stable of conventional agribusiness suppliers. Charterbank Capital, Clifton Private Finance, Farm and Country Finance, Knight Frank Finance, Peregrine Asset Finance, Savills, and UK Agricultural Finance are among several leading private specialist lenders catering to industrial agriculture across the UK.

Greater investment in agroecology and more flexible financing options need to be made available to farmers of all sizes engaging in agroecology. To repeat the Committee on Climate Change's clear message, substantial private finance is needed alongside the new ELMs regime to ensure a wholesale transition towards agroecological food production.

## 4. BARRIERS TO THE TRANSITION TO AGROECOLOGY

The obstacles to financing the ecological transition in farming are interwoven with the wider barriers to a more diverse and sustainable UK farming sector. Here we explore five key, interrelated barriers.

### 4.1 SIZE OF EXISTING AGROECOLOGICAL FARMS

While some agrifood multinationals have started to signal interest in forms of sustainable agriculture many of the most enthusiastic adopters of agroecology are small-scale, often less than 20 Ha. There are some notable exceptions in the UK, such as New Foundation Farms in Devon. Emerging evidence suggests that better yields and the input savings from mixed and organic farming methods can lead to a more viable and profitable business,<sup>72</sup> as well as more socially and ecologically sustainable farming. But investors currently lack confidence in both the scale and efficacy of much agroecology.<sup>73</sup>

As well as bringing cost savings, mixing a wide range of plants and animals also means more diverse income sources and can be more resilient to environmental and economic shocks. However, farming enterprises at this scale lack access to affordable land and land ownership opportunities, capital to invest in equipment and infrastructure, and suitable technology, skills and education designed for small scale farming.<sup>74</sup> Recent research by the Land Workers Alliance has shown that interest in starter farms outstrips the number of farms that are available, with the number of aspiring new entrants in the UK thought to be in the low thousands.<sup>75</sup> While the agroecological transition needs to be writ large across the landscape, much of the early impetus and further proof of concept is likely to come from smaller, starter farms, which provide crucial support, mentoring and a promising route for new entrants.<sup>76, 77</sup>

In many cases the start-up costs for agroecological farm businesses are likely to be between £50,000 and £250,000 before land and housing are accounted for. Even agroecology cannot defy some vulnerabilities of farming, from bad years to the impacts of climate change or pests, which mean it is – and will always remain to some extent – a risky business, prone to sometimes slim and variable profit margins. These, together with a lack of property assets, make access to loans difficult or impossible, especially where annual loan repayments begin immediately. By avoiding debt and building their business slowly in stages, new entrants often lack the resources to buy anything other than second-hand equipment or implement suboptimal systems. This frequently limits the capacity of these businesses to deliver their full environmental, social, economic, and agricultural potential.<sup>78</sup>

Small farms often lack the land base, ownership structure and experience to be eligible for agricultural loans. In many cases they are too small to merit financial institutions bearing the transaction costs of making loans to them, regardless of their viability.

### 4.2 ACCESS TO LAND

Though difficult to show in hard data, it is our hypothesis that most of the agroecological practitioners in the UK are currently small scale, with the promise of more small scale new entrants to come. For this new and innovative farming cohort, coupled with the current price of agricultural land, access to land is also a major barrier to the necessary transition.

Patterns of UK land ownership are long-established and hard to change. Rough estimates suggest that half of English land is owned by less than 1% of the population – mostly by a combination of aristocratic families – who own around a third of England's land – and plutocrats.<sup>79</sup> This relatively small group of landowners therefore have a very significant role in determining how most urban and rural land is used, for better or worse, and have power over land use decision-making.

England's private country estates can leverage their land to seek rents, increase their wealth, exclude others and exercise influence over tenants (often whole communities). It is hard to reconcile this pattern of land ownership with agroecological practice due to the social dimension of the concept;

fairness as well as reducing ecological harm in the use of the land is at the heart of why most enterprises begin using agroecological practice.

NEF has called for an English Land Commission, working in parallel with the Scottish Land Commission, to investigate English land ownership and make recommendations that frees up land for affordable housing and other key uses, including sustainable food production. As we have discussed, there is potential for more and cheaper land to become available as the subsidy regime changes from income support based on land volume to payments for investment in ecological value. But many small-scale practitioners at the vanguard of agroecology will still require injections of patient loan or equity capital to help them take advantage of this.<sup>80, 81</sup>

As it phases in the new post CAP policy framework, government will not only need to work with existing landowners to trigger and embed transition, but it will also have to address the issue of land availability and price as there is likely to remain a mismatch between the desire to innovate and bring high ecological value into UK food production and access to affordable tracts of suitable land.

A key challenge to address is the risk that big estates and farms will secure the available money via ELMs for their carbon and climate change mitigating schemes while effectively doing less work for more money through approaches like 'rewilding'. There could be scenarios where intensive farm commodity production happens on one field, with attendant wildlife hazards, and trees grown on another field for capturing ELMs funding. There is a careful balancing act to achieve in ensuring sustainable forms of food production are supported alongside measures that might inadvertently benefit a small majority of large landowners.

Farms increasing in size has not been well controlled since conversion and sale is not scrutinized. There is no strategic vision for the number and size of farms we need for a secure food supply and a wider range of social, economic and environmental purposes.<sup>82</sup> Agroecological farmers, producing at smaller scales and using hands-on approaches, frequently need to live on site. This is often not possible in the current system primarily due to prohibitive planning rules.<sup>83</sup> High

land values and rents are a significant barrier to the farming transition, which, in combination with the lack of security of ownership of tenure, needs to be addressed. Land trusts, cooperative citizen investment, land investment funds and intermediaries all provide viable routes to change (see conclusions and recommendations below).<sup>84</sup>

#### 4.3 DWINDLING VOLUME OF PUBLICLY-OWNED FARMING LAND

Despite the concentration of land ownership by aristocratic families and plutocrats – and that the ownership of only 85% of land in England is on the public record<sup>85</sup> – companies and the public sector together own around a third of the land area of England and Wales.<sup>86, 87</sup> This land could be an important bridgehead for embedding agroecological practice, but the volume of land in public ownership – especially the smallholdings known as County Farms, is in decline, largely due to public austerity measures.

County Farms is land owned by Local Authorities in England and leased as an entry point for new farmers, established under the Smallholdings & Allotment Act 1908. It represents a priority opportunity to allow agroecological practitioners access to more land. Its very existence is, in part, to meet the demand of new entrants to farming with funding from the Ministry of Agriculture (as was).<sup>88</sup> They are powerful levers for local authorities to support farming.<sup>89</sup> Historically these played a key role for new entrants but as a result of the sale of this publicly owned land, this opportunity has been significantly reduced.<sup>90</sup>

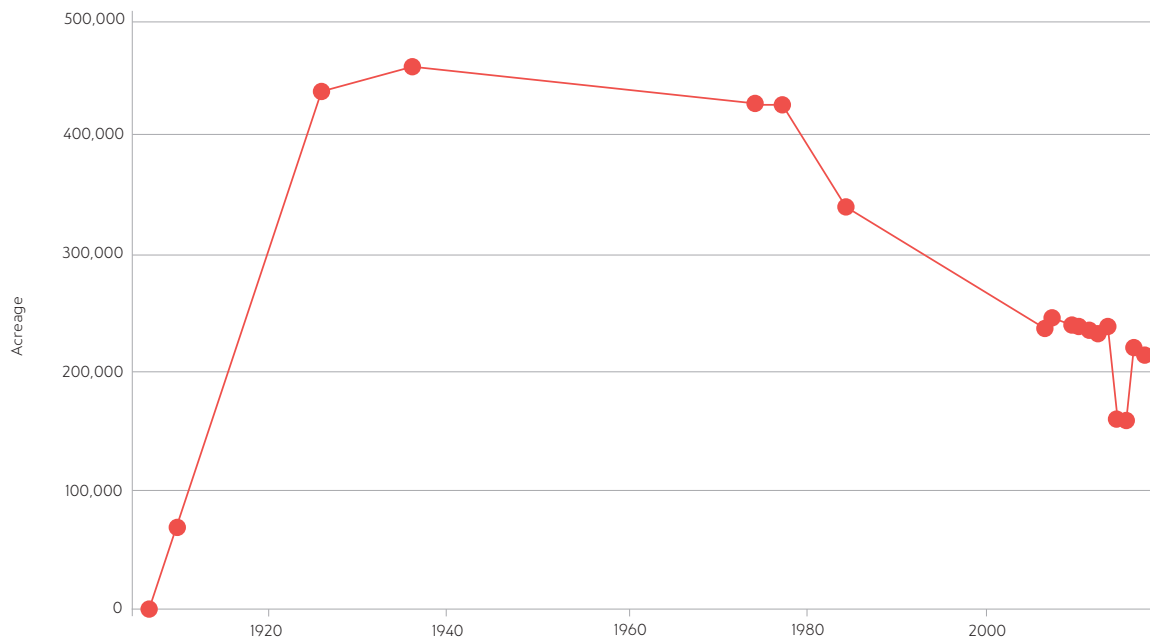
Since 1947 County Farms have become amalgamated, combining over time, as mandated by the Agriculture Act (1970). This was seen by some local authorities as a chance to capitalise on increasing land prices and increase their return, despite their (implied) obligation to the whole community.<sup>91</sup> While accessing data on the sale of public farmland is difficult,<sup>92</sup> it has been possible to document that the extent of the County Farms has halved over the past 40 years (see Figure 1).<sup>93</sup>

The volume of England's County Farms shrank by more than 15,000 acres between 2010 and 2018, with the majority of land sold between 2016 and 2018.<sup>94</sup> The average size of those remaining individual County Farms has increased, but has done so at a lower rate than through general



**FIGURE 1**

The rise and decline (in terms of total acreage) of England's County Farms, from 1892–2018.<sup>97</sup>



Source: Reviving County Farms Report (2019)

processes of structural change within the industry.<sup>95</sup> There is also a documented lack of local authority engagement when it comes to business planning, skills and knowledge, which would benefit tenants and improve the return from the County Farms.<sup>96</sup>

#### 4.4 THE LIMITATIONS OF METRICS

The success of farming cannot be determined by economic outputs alone. We rely on farming to provide a secure supply of food, in addition to clean unpolluted water, a rich natural landscape, habitats for wildlife and healthy soil. The current industry's technological focus is misdirected looking to nitrate granules and heavier, more complex machinery. But the process of evaluating farming – including by those within finance institutions is still largely measured against a set of indicators that do not capture the benefits of agroecology.

Metrics include nutritional quality, efficiency of resources used, biodiversity, food security, resilience, flood prevention, impacts on livelihoods and social equity (such as fair wages for the labour force). These tend to be excluded from current farm viability evaluations, which focus simply on financial metrics and a narrow definition of value. The concentration of market shares and power in industrial agricultural inputs like seeds

and agrochemicals, continues to perpetuate extractive models of conventional farming and inhibits the transition to more ecological practices. As these considerations impact land value, the main contributor to net worth, land tenure of agroecological farms is jeopardised.<sup>98</sup>

A focus on yield and productivity also drives a growth-focused paradigm in farming which has environmental, economic and social consequences.<sup>99</sup> This limited focus comes at the expense of considering wider pathways to profitability – that it can be more profitable to produce a lower yield, if you manage to reduce your input costs by a correspondingly higher amount, thereby offsetting any yield loss. This dominant focus on yield (the output of a single crop per unit area) at the expense of quality and diversity has been widely critiqued.

However, a focus on 'total farm output', compensating for differing yields of different crops and varieties in combination enables a more holistic, farm-level assessment and target that fairly reflects the benefits of polycropping versus monocropping (where the focus is usually on high volume production for international commodity markets). This can be expressed as a 'land equivalent ratio' (LER) that relates the monoculture

land area required to produce the equivalent volume as one Ha of polyculture using the same crops. Agroecological smallholdings can produce more food (which is the key issue) and more nutrients per unit of greenhouse gas emissions and unit of energy.<sup>100</sup>

However, beyond embedding this ‘land equivalent ratio’ approach to evaluating agroecological farms alongside their conventional counterparts, it will be important for the UK government to recognise a single set of indicators to help bring ecological value to the fore; as well as helping to show the value of agroecology, this will also be essential to the success of ELMs .

There is something of an ecological indicators arms race under way, with a range of private enterprises pushing forward competing certification schemes, different environmental farming practices, and various methods for measuring ‘natural capital’, ‘ecosystem services’ and the ecological benefits and outcomes associated with changes in the way land is farmed. To try and reach harmonised metrics, that can be used collaboratively across the diversity of sustainable farming systems, rather than for competition, the Sustainable Food Trust is working to create a common framework of indicators. These can provide data for certification schemes, government agencies, food business supply chains, and the research and investment communities. Ultimately, Defra will need to champion such harmonised indicators.

High levels of consolidation in trade, processing and retail – as well as just-in-time supply chains – demand high volumes, high uniformity and high flexibility, while squeezing the share of value accrued by farmers. These structural barriers require stronger regulation and support for agroecological production<sup>101, 102</sup> to move beyond a vision, which seems to have only one – flawed – objective of producing cheap food.

#### **4.5 ACCESS TO FINANCE**

According to a 2018 report on farmers’ experiences with ‘Transitions to Agroecological Systems’, commissioned by the Land Use Policy Group,<sup>103</sup> access to capital and finance was one of the biggest external factors preventing medium-sized organic farmers from diversifying into more sustainable systems. These involve elements such as agroforestry, orchards, added-value dairy

and pastured livestock, biodiversity-focused conservation practices, and on-farm educational businesses and ecological tourism.

The recent report for the Food, Farming and Countryside Commission<sup>104</sup> identified several circumstances in which banks may find it difficult to lend including:

- Tenant farmers, sole traders, and/or farm contractors, who are unable to offer adequate security for farm loans
- Smaller farms, for which transaction costs of lending are proportionately larger relative to loan size
- New entrants to farming, or succession within an established farm enterprise, where there is insufficient financial track record, typically less than three years
- Application of new farming methods that, although potentially well evidenced in general, lack a track record in a particular setting and so appear riskier.<sup>105</sup>

Furthermore, monthly payments required by most mainstream financiers are not always suitable in an agricultural context where income flows significantly vary month to month in relation to the growing season, harvest schedule, production cycles, and weather events which may be reasons for a reliance on overdrafts for working capital in UK farms (as shown in Table 1).<sup>106</sup>

There are both supply and demand-side problems in financing the agroecological transition. While many practitioners nevertheless thrive on their own terms, it is hard to see how agroecology can scale up and displace industrialised agriculture as the mainstream unless this paradox is overcome.

There are serious concerns that the ‘public money for public goods’ will not include food grown agroecologically, removing support from those practises we need to support in farming. There is a risk that ELMs will reduce farm income, resulting in further concentration of farmland and leading to small farms being bought out and ‘re-wilded’. While this may certainly bring benefits to nature, it poses a threat to farmers and limit opportunities for new entrants to farming.

The next four years will therefore be the period of learning and adaptation in which the ELMs trials must be accompanied by bold and innovative forms of finance and additional public policy to shift private capital, as well as public subsidy towards food production that is healthy and fair and sustainable in the long term. There will be no better opportunity and time is running out. Failure will carry with it very high ecological cost so the stakes are extremely high for Defra to get this right. In the context of climate change and biodiversity loss, we simply have no choice. As one of our stakeholders, Martin Lines of the Nature Friendly Farming Network, told us:

*“We have an agricultural mortgage company, but what we really need is an agroecology mortgage company. We need to be investing in people’s knowledge, to create a business plan and help them manage their cash flow. Farmers need to know how to do this and understand and trust the plan. Farming is a two-to-three-year cycle really – it’s not like a standard business.”*

## 5. TRANSFORMING FARM FINANCE FOR TRANSITIONING TO AGROECOLOGY

There is a strong and growing appetite for sustainable, responsible, impact investment opportunities among institutional and individual investors. With more than £1.6 trillion (2018) in assets under management, the market for sustainable environmental, social, and governance (ESG) investing in the UK is larger than any other country in Europe.<sup>107</sup> According to the Divest Invest network, hundreds of British institutional investors, including local authorities, public pension funds, foundations and charitable trusts, educational institutions, non-governmental organisations, and religious groups have pledged to divest from fossil fuels and invest in solutions to climate change.<sup>108</sup> Climate finance has long focused on clean technology, energy efficiency and renewable energy projects such as solar and wind. But growing numbers of investors are beginning to view regenerative and agroecological food, farming, and forestry systems as critical components of an even broader suite of climate solutions needed to meet net-zero climate commitments.

Foundations in particular are manifesting a strong interest in deploying not only grant funding but also their investment capital into agroecological initiatives. They are associated with philanthropic affinity groups such as the Agroecology Fund, Divest Invest Philanthropy, the Global Alliance for the Future of Food, the Transformational Investing in Food Systems initiative, and the Farming the Future collaborative, which supports this research. In the UK philanthropic foundations and trusts collectively manage more than £65 billion, as of 2018. Consequently, a potential convergence between mission-aligned investors and agroecological projects struggling to access capital appears to be on the cusp of formation, if only more funds could be professionally pooled and managed in investable products.

Such a proliferation of flexible financial products targeted at sustainable, responsible, and impact investors is precisely what has happened elsewhere. In the US, for example, the market for sustainable natural resource investments, including sustainable agriculture and forestry, has increased more than 80% over the preceding two years to more than \$2 trillion in assets under management, cutting across investment asset classes.<sup>109</sup> At the beginning of 2019, the US impact investing market for sustainable food and agricultural investment had grown to more than \$300 billion in assets, and approximately \$50 billion in funds were explicitly targeting some facet of 'regenerative' agriculture.<sup>110</sup> The 'Slow Money' movement in the US has spawned a wide array of local investment clubs, funds, and platforms to provide patient capital for 'Slow Food', and similar kinds of cooperative financing models for regenerative agroecology have emerged in Germany.

Numerous European and US banks and credit unions contribute to much more robust, regionalised, cooperative, and community banking landscapes. These provide formally structured loan products to finance farms undergoing regenerative, organic transition or enterprises within local and regional food systems. Sustainable farmland and forestry funds focused on conservation finance and regenerative organic agriculture proliferate across North America, Australia, Latin America, and eastern Europe. In the UK, by contrast, investors have not come to see regenerative farming and local food systems as worthy investment opportunities.<sup>111</sup>

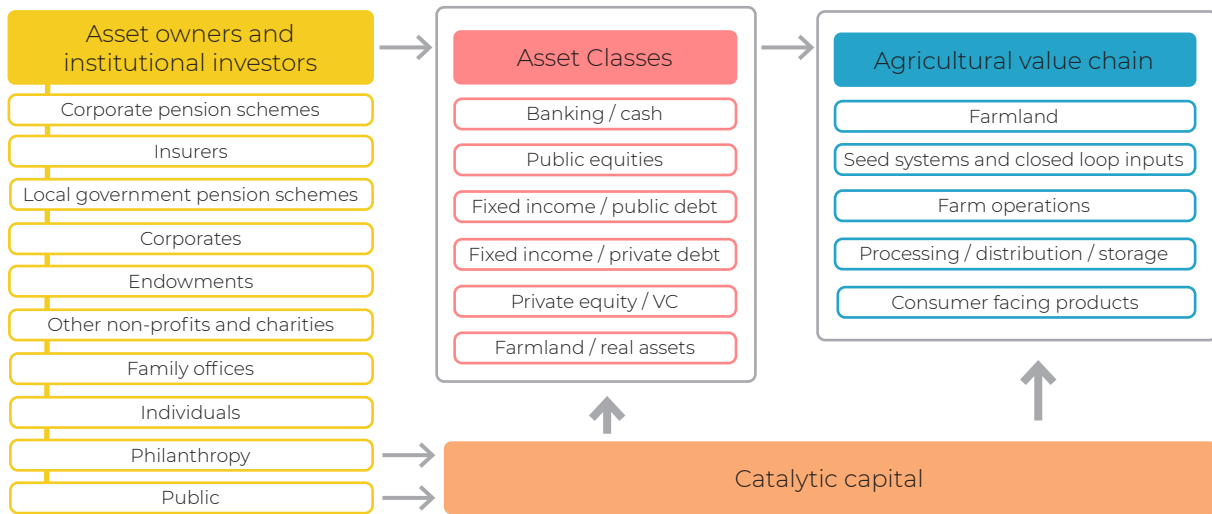
As Figure 2 highlights, however, there are numerous pathways to allocate public and private funds into the agroecological value chain. Philanthropy and public funds have potentially catalytic roles to play in overcoming the obstacles to capital access within the value chain. To support the lubrication of capital flows within specific asset classes, they can provide investment capital without the same expectation for a market rate of return. This could be through foundation mission or programme-related investment or government funding structured as public-private partnerships, such as Local Enterprise Partnerships or CDFIs supported by Community Investment Tax Relief.

Alternatively, philanthropy and government funding can flow straight into the value chain, through grant funding or ELMs subsidies, precisely because private capital on its own is not able to do



FIGURE 2

Pathways available to allocate public and private funds into the agroecological value chain, by asset class: Options for asset owners and institutional investors.



Source: Croatan Institute

so. Blending capital in these creative, catalytic ways can potentially help get individual projects financed more rapidly. Investors seeking opportunities to invest across the emerging agroecological value chain can also use this framework to develop a more comprehensive ‘total portfolio’ approach to investing across asset classes. Meanwhile, farmers and entrepreneurs can use the same framework to identify potential sources of capital that are appropriate to their level of investment readiness.

Throughout this research we have repeatedly encountered among both investors and prospective investment seekers a lack of visibility into the ways and means of channelling capital in these ways. Several efforts are under way to develop alternative financing for agroecology in the UK through farmland investors such as New Foundation Farms, project financiers such as Regenerate Asset Management, and private lending pools such as the Real Farming Trust’s Loans for Enlightened Agriculture Programme (LEAP). But far more investment vehicles with a wider array of responsible financial mechanisms need to be developed in order to connect investor capital to agroecological farms and the food and agricultural businesses that work with them. LEAP is currently halfway through its programme, having lent just under half its capital with £210,000 in the pipeline. LEAP is developing plans to extend and scale up the programme over the next 18 months.

The following section offers a preliminary sketch of existing and emerging opportunities to build a more robust, responsive, and resilient financial landscape in the UK for advancing a just transition of the food and farming system toward regenerative agroecology, organised by portfolio asset classes and the most salient financial products, mechanisms, and instruments within each of them.

## 6. SUITE OF FINANCING OPTIONS FOR AGROECOLOGICAL FARMING

### 6.1 BANK DEBT (CASH AND EQUIVALENTS)

**B**asic tenets of lending tend to work against agroecology, with lenders perceiving agroecological businesses as riskier, thereby worsening the terms of loans for practitioners.

In the UK, there are several sustainably focused banks that seek to invest loan capital into agroecology, although with some limitations. For example, Triodos Bank UK, a Dutch-headquartered bank with full UK banking license has become known in agricultural circles as ‘the organic bank’ because it has a dedicated agricultural lending team with long-standing experience with financing organic, biodynamic, and sustainable farms and food enterprises across the UK and Europe. Triodos’ smallest commercial loans begin at £100,000, an amount that exceeds the capital needs of many small-scale agroecological projects or new entrants. The reason Triodos’ loans start at such a high level is not because farmers have no need for them but because the costs imposed by the UK’s financial system, in terms of regulatory burdens and transaction costs, mean that they are often not economic to make. Large loans within Triodos Bank’s book range from £500,000 to £20 million. Small farmers are often not able to offer adequate security for the loan and even larger farms who may own their land and want to transition away from more conventional models, do not have the track record for an agroecological production model.

Nevertheless, Triodos has made loans at various sizes for numerous organic farms, and it profiles nearly 90 such farm finance cases on its website, including noteworthy borrowers within the UK organic agricultural scene, such as Garden Organic, the Organic Arable Marketing Company, Organic

Research Centre’s Elm Farm, Riverford Organic Farmers and the Soil Association.<sup>112</sup>

In addition to providing loans valued up to 70% of secured collateral, Triodos also helps businesses raise unsecured debt (or equity shares) directly from impact investors through its online crowdfunding platform. For example, it helped organic concern Stroud Brewery rapidly raise £300,000 in a seven-year private bond. Although the constraints associated with post-financial crisis banking regulation have limited Triodos’s previous flexibility, it continues to exert outspoken leadership in food and agriculture, due in large part to the bank’s core social and environmental mission.

Building societies could potentially play a better role and provide dedicated mortgage lending for agricultural enterprises, farmland, and food system value chain businesses. For example, the Ecology Building Society is, like Triodos, a member of the Global Alliance for Banking on Values, and its mission is dedicated to building a greener society by providing mortgages for properties and projects that respect the environment and support sustainable communities, funded through a range of simple, transparent savings accounts. Currently, they provide three separate mortgages where they explicitly target prospective borrowers for organic farms, ecological food businesses, and smallholding woodlands for protection and conservation purposes. Ecology provide a ‘part-residential mortgage’ for organic farms that include a residence on the property and a ‘sustainable business mortgage’ for land loans without a residence. One of their agroecological borrowers Crowkeld Farm used an ‘ecology woodlands mortgage’ to acquire a 15-acre smallholding in north Yorkshire, where they established a profitable, diversified livestock operation focused on threatened British heritage breeds, affiliated with the Rare Breed Survival Trust. In contrast to Triodos, the smaller Ecology Building Society has a minimum loan amount of just £7,000, making their land loans more accessible to small-scale agroecological farmers.<sup>113</sup> With some notable reform, building societies could certainly become more extensive contributors to the financial landscape of agroecological transition.

The banking sector is ripe for investor engagement on agroecological transition lending, but this requires radical reform. At mission-aligned, values-based banks such as Triodos and Ecology Building Society, investors can open accounts and become

depositors, effectively capitalising the basic savings and loan function of a bank or building society of their choice. Mission-aligned financial institutions also appear open to exploratory conversations about more targeted depository investments from foundations and impact investors that could potentially earmark capital for specific kinds of loan products, functioning as the equivalent of a credit enhancement, such as a guarantee, loan-loss reserve, capital cushion, or first-loss security, that could potentially allow banks to be more flexible lenders, though within the regulatory frameworks to which they are subject.

Just as building societies could expand their role within food, farm and forestry finance, a growing movement of new regional, cooperative-style mutual banks, led by the South West and the Avon mutuals, is emerging to provide more place-based lending for small businesses and social, community, and charitable enterprises that are often not a priority for large national banks. Such a regional approach would be well suited to support local farms and agroecological enterprises. As these regional projects move through the regulatory procedures required to obtain banking licenses, investors can support them by becoming equity investors or initial depositors.

Similarly, private banks whose clientele often include numerous farm and landed estate owners could become far more proactive in providing resources related to the increasing role that regenerative, organic agroecology and conservation agriculture inevitably will play as the CAP-based BPS is phased out and ELMs become a major component of agricultural subsidy. Transitioning to organic, implementing regenerative practices, 're-wilding' with rare breeds, and conservation agriculture have proven to be major strategies for the survival of numerous large estates, including Cholderton in south west England, Glenrinnies in Scotland, Knepp in West Sussex, and Rhug in north Wales, among others. Philanthropically minded private banks such as C. Hoare & Co. and Coutts, both with a concentrated focus on landowners and extensive philanthropic and environmental impact investing offerings within wealth management, are well placed to be thoughtful advisers on the imperatives of environmental land transition that Brexit accelerates.

Since AMC is a member of the Lloyds Banking Group, which has associated its agricultural lending with broader 'clean finance' and 'green lending' initiatives, pressure could certainly be brought to bear to redirect additional lending to support regenerative, organic agroecology in targeted ways. In the US, the closest equivalent to AMC is the Farm Credit System, which recently saw the development by its upper Midwest regional bank, Compeer Financial, of a new Organic Bridge Loan specifically to help conventional Midwestern grain producers convert their operations to organic certification.<sup>114</sup> The loan provides flexible, interest-only payments for the first two to three years during the transition and then converts to a standard five-year intermediate term loan with a fully amortised payment schedule. The Compeer Organic Bridge Loan had followed closely on the heels of the announcement of an Organic Transition Loan in the US developed by Rabo AgriFinance LLC, the US subsidiary of Rabobank Group, the Dutch cooperative bank.<sup>115</sup> Rather than making vague commitments about greening agriculture with on-farm renewable energy projects or publishing isolated case studies, British banks could step up to develop dedicated debt products to finance post-Brexit agroecological transition – whether that be focused on organic certification or bridge loans for farmers to transition from CAP to ELMs.

TABLE 2

Bank debt / cash equivalents asset class, mechanisms and examples

Asset Class	Bank Debt / Cash and Equivalents									
<b>Mechanism or instrument</b>	Farm Mortgage	Woodland Mortgage	Business Mortgage	Long-Term Farm Loan	Equipment Loan	Operating Loan / Working Capital	Personal Loan	Organic Food and Agriculture Business Loans	Targeted Lending Program	Regional Mutual Bank Lending
<b>Example</b>	Ecology Building Society Part-residential Mortgage	Ecology Building Society Woodland Mortgage	Ecology Building Society Sustainable Business Mortgage	AMC Long-Term Standard Loan	Hire Purchase	Organic Transition Loan	Triodos Bank UK	Triodos Bank UK Small and Large Business Loans	Lloyds Clean Growth Financing Initiative / Green Lending Fund	South West Mutual
<b>Objectives</b>	"Loans of 10-25 years to purchase or expand an organic farm or smallholding where a residential dwelling is present. ""C-change discounts"" of 0.75-1.25% on variable mortgage interest rates are available for sustainable buildings and energy efficient retrofits."	Up to 25-year mortgage for up to 70% of the value of a small woodland. Mortgages for small woodlands owned for protection and conservation purposes	Property loan for established organic farms, food businesses, restaurants, and projects that practice low-impact management of land. Businesses need at least three years of operating history. Loan can be up to 70% of land value, and owner need not reside on the property.	5-30 year loan secured on up to 60% of land value, for any business purchase (£25k min.). This could be developed specifically for agroecological producers.	Specialty short-term loan to finance purchase of equipment, tools, and supplies for agroecological practice (e.g., precision cultivators, walk-behind tractors, no-till drills, on-farm processing equipment, biochar reactors, etc).	Operating loan for financing the three-year transition to certified organic operations (or similar certifications related to grassfed or animal welfare), with flexible initial payment terms based on sales, followed by larger balloon payments upon certification.	Personal farm loans for sole traders and tenant farmers that have not organized their operations as a business entity or partnership.	£100K-20m loans up to 70% of the value of the land or business securing the loan, with a particular focus on organic farms and food businesses.	Lloyds Banking Group, including AMC, Bank of Scotland, and Lloyds, has proposed to support its climate commitments with targeted lending for on-farm renewable energy projects.	South West Mutual (SWM) is a cooperative society applying for a banking license in the UK that exists to help the people of the South West live fulfilling and meaningful lives and support the local economy. SWM customers will also be cooperative members – meaning local people get a vote and a voice in everything that SWM do. SWM aim to 'Rediscover Real Banking For All'.

Source: NEF / Croatan



**6.2 PRIVATE DEBT**

Ultimately, the strict prudential regulations (both those internal ones governing collateral and external ones governing capital ratio requirements) associated with bank debt limit the flexibility of the banking sector to be a responsive contributor to the agroecological transition. Private debt capital from patient or slower and lower cost sources – rather than relatively costly, risk-priced bank loans – are badly needed to accelerate the transition toward regenerative agroecology. Currently, the pool of philanthropic foundations, impact investors, and specialist sources such as crowd-sourced community capital remains relatively small. Generally, such private debt investments are made due to the strategic focus of the capital owner. Typically these sorts of finance are more widespread in the US than in the UK.

The Loans for Enlightened Agriculture Programme (LEAP), run via the ‘Funding Enlightened Agriculture’ (FEA) project through the Real Farming Trust,<sup>116</sup> offers a blended finance approach, providing a combination of loans and grants, together with comprehensive mentoring for agroecological farmers. LEAP provides a critical next step for community-based agroecological enterprises that have traditionally relied on limited grant funding and lacked access to other forms of capital.<sup>117</sup> LEAP offers unsecured loans for a five-year term, for amounts of between £20,000 and £100,000 which can be used for capital or production costs. This is one of the lowest interest rates in the social investment marketplace

(currently set at 5%) and is calculated on a declining balance, equal instalments basis. To help cover the costs of running the programme, a one-off fee (currently set at 2% of the loan amount) is also charged.<sup>118</sup> However, LEAP cannot provide finance to sole traders as it is not FCA-regulated and so therefore can only invest in not-for-profit and community interest enterprises.

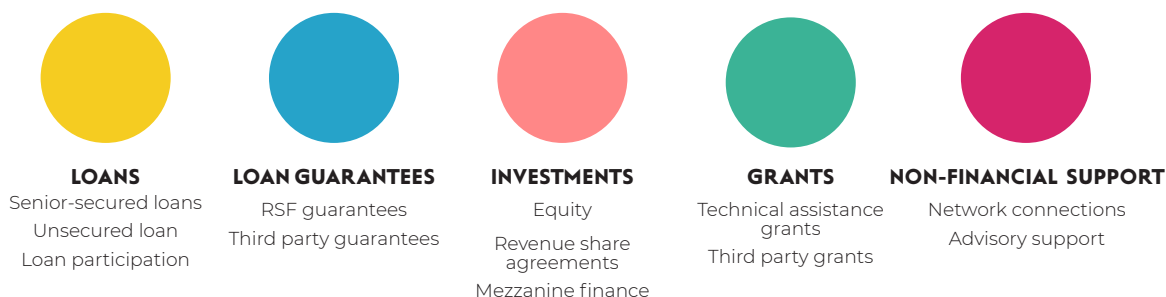
In addition to debt financing, LEAP also offer grants (18% of the loan amount) which support the Real Farming Trust’s three pillars of enlightened agriculture: economic democracy (cooperatives, social enterprises, and community businesses), food sovereignty (from ‘farm to fork’), and agroecology. By providing grants alongside the loan, LEAP hopes to reduce the administrative burden and enable farmers to focus on impact delivery and long-term sustainability, rather than financial paperwork. Lastly, technical assistance is included in the structured mentoring package, which aims to support investment readiness through business planning, financial modelling, governance, social impact delivery, community finance and marketing. LEAP brings an ‘integrated capital’ approach into the UK food and farming arena. This is often associated with the pioneering work of RSF Social Finance, the private, non-profit social investment fund of the former Rudolf Steiner Foundation (named after the founder of the biodynamic farming movement).<sup>119</sup> As Figure 3 below highlights, integrated capital coordinates various forms of financial capital and non-financial resources to support an enterprise working on

**FIGURE 3**

RSF Social Finance’s Integrated Capital Toolkit

**Integrated capital is the coordinated use of different forms of financial capital and non-financial resources to support enterprise that’s working to solve complex social and environmental problems.**

**OUR TOOLS**



Source: RSF Social Finance

complex social and environmental problems that a market-based capital stack would not likely support with sustainable outcomes.

A combination of private and philanthropic capital, mixing grants and low-interest loans, could help expand the reach of programmes like LEAP that provide patient, flexible financing for new and small agroecology businesses.

During LEAP’s pilot phase, the Real Farming Trust collaborated with a distinctive private lender, Co-operative and Community Finance, a leading UK community development financial institution (CDFI) based in Bristol. It provides ‘supportive loan finance’ to community-led social enterprises and cooperatives. This pilot project, known as the Just Growth programme, supported eight enterprises with loans provided by community finance and grant support from the Esmee Fairbairn Foundation. Beneficiaries needed to provide matching funds, many doing so using community shares (allowing people to invest in an enterprise that aims to benefit their community), and Just Growth provided

specialist mentoring to the agroecology enterprises. Community shares go beyond profit enabling involvement and support a cause or a project local people care about, due to its’ positive social impact.<sup>120</sup> Co-operative and Community Finance provides professional loan fund management and servicing, and investors can receive tax relief up to 25% of their invested capital by investing through the intermediary of an accredited CDFI that complies with rules of Community Investment Tax Relief (CITR) policy. Building on the learnings of LEAP, expanding its lending capacity, and setting up new targeted loan funds with professional management by CDFIs such as Co-operative and Community Finance with underwriting and investment from philanthropy, could provide natural pathways to developing larger pools of private capital to support agroecology.

**6.3 PRIVATE EQUITY AND REAL ASSETS**

Private equity investing – that is, in ownership stakes in private companies not listed on publicly traded stock markets – has become a growing way

**TABLE 3**

Private debt asset class, mechanisms, examples and objectives

Asset Class		Private debt				
<b>Mechanism or instrument</b>	Nonprofit Loan Fund	Community Development Financial Institutions (CDFIs)	Crowdfunded, Unsecured Private Bond	Specialist Agriculture Private Business Lender	Hire Purchase	Trade Credit / Input Finance Facility
<b>Example</b>	Loans for Enlightened Agriculture Programme (LEAP)	Co-operative and Community Finance	Triodos Bank UK Organics Bond	UK Agricultural Finance	John Deere Tractor purchase	Oxbury
<b>Objectives</b>	A programme of the Real Farming Trust providing patient, low-interest loans to finance agroecological farms and community interest companies.	Social enterprise and microfinance loans for farms, businesses, and sole traders unable to obtain bank loans, subsidized with public funding from the Community Investment Tax Relief (CITR), which provides investors up to 25% in tax relief of their capital invested.	An unsecured bond for organic food businesses financed through Triodos Bank’s investment crowdfunding platform.	Bridge loans and medium-term loans up to seven years for operational diversification, livestock purchase, property purchase or repair, tenancy right to buy, renewable energy projects, or generational succession transfer. A similar strategy could be targeted exclusively to agroecology.	Seasonal equipment loan provided directly by supplier.	Flexible line of credit to purchase seed, inputs, or supplies for agroecology, provided directly by the supplier or a consortium of suppliers.

Source: NEF / Croatan

for investors to finance agribusiness around the world over the last decade. While investors can make private equity investments directly, most commit their capital to private equity funds, only available to high-net-worth individuals and families and institutional investors. These funds are often organised as limited partnerships, professionally managed by specialists with a 10–15-year investment time horizon. Typically, three broad approaches to private equity in food and agriculture predominate: venture capital (VC) investments in start-ups and early-stage companies, particularly in agricultural technology (or AgTech), buy-out strategies of more established companies, and equity investments in real assets such as farmland. Since private equity involves taking ownership of farms or firms, with an eye toward ‘exiting’ the company by later selling their share within the fund’s limited time horizon, justifiable concerns about the asset class’s alignment with agroecology arise. Unfortunately, the historical experiences of the private equity ‘treadmill’ within the food and agriculture sector do not provide much reassurance about its suitability.<sup>121</sup>

Nevertheless, there is a growing segment of impact investors that may provide equity capital far more aligned with sustainable food and agriculture businesses. In addition to its bank, Triodos, for example, has an investment management arm that includes a private equity fund, the Triodos Food Transition Europe Fund (previously known as the Triodos Organic Growth Fund), which uses an evergreen structure rather than the more typical short-term, profit-maximisation approach of most private equity.<sup>122</sup> It focuses on investing in later-stage companies poised for growth or ready for a buy-out with patient, long-term capital. Thematically, the fund focuses on organic and sustainable food companies, sustainable diets, fair supply chain solutions, food waste and circular business models. Although it primarily invests in the EU, it has made an investment in Ecoffee Cup, a London-based company that has developed reusable coffee cups using bamboo waste.<sup>123</sup> Regenerate Asset Management is a newer firm developing a European private equity strategy focused on investing in conventional farm operations and converting them into regenerative businesses, and the UK is within the pipeline of their potential investments.

In North America, numerous mission-driven ‘impact capital’ funds have made private equity investments in sustainable food and agriculture businesses with strategies that could be readily

adapted to the UK context. Investment in farmland would also be viable for investors (previous demand was low in the UK as the CAP subsidy filled that gap, but this is changing rapidly). US Funds such as InvestEco Sustainable Food Fund and Renewal Funds in Canada and Arborview Capital, Closed Loop Capital, S2G Ventures, SJF Ventures, and SustainVC in the US are among a growing group of firms that have provided equity capital to help a wide range of businesses scale their operations, including aggregators such as Horizon Distributors, Mama Earth Organics and SPUD, data and analytics companies FoodLogiQ and Mercaris, grass-fed, pastured egg and dairy companies such as Maple Hill Creamery and Vital Farms, and other mission-driven food companies such as Alter Eco, Farmhouse Culture, Kuli Kuli, and Uncle Matt’s Organic.<sup>124</sup>

At the same time, the movement for alternative equity financing and alternative ownership structures are opening opportunities for experimentation in food and agriculture.<sup>125</sup> Many food businesses that have received ‘impact capital’ have opted to structure themselves as ‘Benefit Corporations’ (B Corps) in order to embed social and environmental purpose into their mission. This signals publicly to potential investors that profit is not their sole purpose.

Many impact capital managers are in turn themselves certified B Corps, which can help investors and investees understand the ways in which they may be more mission-aligned than in the traditional profit-maximising, business-as-usual private equity relationships. The recent decision to transition Organically Grown Company, a long-standing certified organic produce distributor in the US Pacific Northwest, to a ‘steward ownership’ structure known as a Perpetual Purpose Trust has opened fresh transatlantic dialogue about alternative financing for companies seeking stakeholder rather than shareholder governance. Steward ownership models build upon legal forms using foundation and non-charitable trust ownership, widely found in Germany and northern Europe, but also in the trust-partnership model used by the UK’s John Lewis Partnership, the parent company of both John Lewis & Partners and Waitrose & Partners, and its affiliated farm on the Leckford Estate in Stockbridge, Hampshire. In John Lewis’s case, the stewards include 80,000 employee-owning partners, making the firm the UK’s largest employee-owned business.

Steward-ownership models can take equity (or debt) financing, but equity investors can never take a control position in the governance of the firm or force its sale. When properly structured, their capital is intrinsically subordinated to the broader purpose of the company. As Aner Ben-Ami of the Candide Group, an impact investment firm that is experimenting with investing in businesses embracing steward-ownership models, describes it:

*“A growing group of investors and entrepreneurs is working to develop and apply deal structures that support the growth trajectory of sustainable businesses, provide realistic returns for investors, and enable businesses to keep their missions front and centre. We say that these alternatives have ‘structured exits.’ In these deals, the path to liquidity is explicitly structured into the deal terms, as opposed to being reliant on an as-yet unidentified acquisition or an Initial Public Offering (IPO). If an investment can realistically support a business to a point where it is profitable enough to pay investors back, and it is agreed that a traditional exit is unlikely or undesirable, we should be able to come up with a structure that offers liquidity to investors and sustainability for the business itself.”<sup>126</sup>*

Although it is right to exercise caution with using traditional private equity and venture capital models to foster transition financing, clearly there is room for experimentation for non-controlling private equity strategies between entrepreneurs and mission-aligned investors.

One of the most challenging private equity strategies for the UK is in real assets such as farmland. In other markets with comparatively lower land prices, such as Australia, eastern Europe, and the US, as well as more frontier markets such as Brazil, real asset funds investing directly in farmland and forests have become a growing component of the investment landscape. Typically, the conventional farmland strategy involves direct acquisition of farmland, extracting rents from tenant farmers during the period of ownership, and ultimately exiting through an eventual sale to a subsequent buyer within the term limit of the fund. In the US, farmland value per acre averages less than £2,300, according to the US Department of Agriculture, while in the UK the average price per acre is nearly three times higher at £6,740 per acre, according to estate agent Savills.<sup>127</sup>

High land prices create barriers to access for agroecological farms, as we have seen, but such a

wide gap in acquisition pricing also makes the UK a far more challenging market for executing such an investment strategy. It is therefore unsurprising to find that even among real asset managers domiciled in the UK, such as Agri Partnership, Belltown Farms, NewAg Partners, and SLM Partners, it is far more likely that farmland funds target the US market than the UK. New Foundation Farms, however, is trying to buck this trend by acquiring large-scale farms in the UK and transforming them into a network of regenerative farms that capture carbon, build soil vitality, create healthy food, and provide a vibrant economic engine for the renewal of the countryside. New Foundation Farms Founder and Executive Chairman, Mark Drewell, argues:

*“From an investment perspective, conventional industrial agriculture has the characteristics of a stranded asset (assets that turn out to be worth less than expected as a result of changes associated with external changes e.g. the net zero transition).”*

His conviction is that *‘[r]egenerative agriculture can be significantly more profitable than industrial approaches.’<sup>128</sup>*

If land prices fall as some have anticipated with the end of the Basic Payment Scheme, perhaps more room will open for experimentation for farmland investment strategies along these lines. However, Covid-19 has greatly increased the ‘amenity attraction’ for ‘lifestyle’ purchasers of rural land – a long-standing segment of the UK farmland market – so even Savills has recently tempered its earlier expectations of a major drop in farmland value because of Brexit.<sup>129</sup>

Cooperative models for land acquisition could address barriers to land access for agroecological farmers. For new entrants, the Ecological Land Cooperative (ELC) provides one pathway for land access. It buys sites of approximately 20 acres (around 8 Ha), obtains planning permission for 2–3 residential smallholdings, and installs basic infrastructure. These sites are then leased out for 150 years to new entrants with conditions on the management of the land. The average cost of the lease of a smallholding is £110,000 over the 150 years (low interest loans and start up grants can help reduce this cost). A trial loan of £20 million, at a low interest rate of 2% and on a 15-year repayment, would catalyse the creation of 160 new agroecological holdings for new entrants, according to a recent study.<sup>130</sup>



The ELC is a form of cooperative known as multi-stakeholder, which blends different types of owner in one pool of capital. In this case, owners in the cooperative are made up of investors who contribute to the pool of capital and earn a defined return but are not active in the business. The ELC's workers themselves, who also have ownership

and voting rights and a group of stewards, who are mostly tenant farmers themselves. Much like the owner steward-ownership structures described above, this sort of model could clearly provide ethical and purpose-driven investors with an opportunity to contribute patient equity capital towards the growth of agroecology.

**TABLE 4**

Private equity / venture capital asset class, mechanisms and examples

Asset Class	Private Equity / Venture Capital		
<b>Mechanism or instrument</b>	Direct Equity Investment	Evergreen Private Equity Fund	PE/VC Fund
<b>Example</b>	–	Triodos Food Transition Europe Fund	Regenerate Asset Management
<b>Objectives</b>	Direct equity investing means that through buying stocks one becomes a part-owner in that company. This means eligibility to share both profit & losses made. Investors tend to prefer equity because of the promise of favourable long term growth.	Provides long-term equity capital, generally in the range of €3-10m, to a diversified portfolio of leading organic and sustainable food companies across Europe with a minimum of €5m annual turnover. The evergreen fund model removes the typical pressure of an exit within 10 years. The fund has made at least one investment in the UK to Ecoffee Cup, but most investments are in Europe.	On the critical path to net zero, RAM believe that investment into natural capital, energy and venture capital if allocated effectively, will provide significant impact on society and the environment to resolve the current biodiversity and climate crisis.

Source: NEF / Croatan

**TABLE 5**

Real assets asset class, mechanisms, examples and objectives

Asset Class	Real assets			
<b>Mechanism or instrument</b>	Private Farmland funds	Syndicated Farmland Acquisitions	Listed Property Trusts	Cooperative Land Stewardship
<b>Example</b>	New Foundation Farms	The Agri Partnership Ltd.	Global Sustainable Farmland Income Trust	ELCoop
<b>Objectives</b>	New Foundation Farms are building regenerative agrifood enterprises that farm in a way that supports soil, communities and health. A focus on building soil vitality, working with nature and producing nutrient dense food while supporting neighbouring rural communities will be achieved through a network of expert international advisors and collaborators.	Reportedly syndicated a series of UK farmland acquisitions, focused on oilseed rape, potatoes, and wheat, for individual investors in coordination with a Swiss Asset Manager.	Listed on the LSE in 2020, aiming to raise £300m, the fund's strategy is to acquire "sustainable" farmland globally, primarily in North America, but with up to 20% of the portfolio in the UK. The fund is targeting larger acquisitions in the £10-50m range. Land rents provide the primary basis for dividends to investors.	The ELC mission is to provide affordable opportunities for ecological land-based businesses in England and Wales to support rural regeneration by developing sites for farming, forestry and other rural enterprises which are viable and of benefit to the environment.

Source: NEF / Croatan

**6.4 PUBLIC EQUITY AND GREEN BOND MARKETS**

For diversified investors with assets allocated to public equities and fixed-income opportunities, investing in publicly traded stock and bond markets could be understood as part of a more comprehensive, ‘total portfolio’ approach to investing in agroecology although opportunities may remain indirect and limited. Firms such as Triodos Investment Management, Impax Asset Management, and Sarasin have dedicated public equity strategies focused on sustainable and organic food that provide investors with limited exposure to publicly traded companies that are part of the extended value chain that could be supportive of agroecology. However, their portfolio holdings stretch across the EU, giving only limited exposure to the UK market.

Activist shareholders can also put pressure on

ii Bonds are IOUs issued by corporations or governments to raise capital from bond markets. In the UK, government bonds are also known as gilts. Such bonds can be bought by private investors, foreign governments and central banks, such as the Bank of England.

publicly traded food companies as well as investor-owned banks to prioritise agroecology as a more targeted arena for sourcing and lending, using long-standing shareholder engagement strategies associated with groups such as Share Action and the FAIRR initiative.

As climate-related green bonds expand, opportunities to invest in regenerative agroecology may also emerge in public debt capital markets as well.<sup>ii</sup> The Climate Bonds Initiative has recently updated its climate bonds standards to include a wider array of sustainable agriculture criteria, and pressure could be brought to bear on dialogues around the development of ‘green gilts’ in order to incorporate agroecology within what will become an important climate-related strategy for the issuance of sovereign bonds. A similar approach could be embraced at the municipal bond level in areas to support regional clusters.

**TABLE 6**

Public equity and green bond markets assets class, mechanisms, examples and objectives

Asset Class	Publicly Traded Securities / Funds				
<b>Mechanism or instrument</b>	Green Bonds	Sterling Impact Bond Funds	Equity Investment Trusts	Public equity	Environmental Impact Bond
<b>Example</b>	Green Gilts	Triodos Sterling Bond Impact Fund	Triodos	Publicly traded stocks	Hadrian Bond
<b>Objectives</b>	The UK government announced the issue of a ‘green gilt’, also known as a green UK government bond, in 2021. Green bonds are debt instruments issued to achieve a positive environmental objective, e.g. targetting renewable energy, green buildings, clean transportation, water management, biodiversity conservation, sustainable land use and climate change.	The Triodos Sterling Bond Impact Fund helps to deliver positive change through environmental and social impact in companies and projects, both in the UK and abroad.	The Triodos Global Equities Impact Fund invests in a range of large listed companies working towards a more sustainable future.	Through listed companies on the London Stock Exchange.	Project finance facility where investment returns depend on environmental impact and outcomes, piloted in Cumbria with ELMs trials.

Source: NEF / Croatan

Regenerate Asset Management is currently piloting a specific kind of green bond – an Environmental Impact Bond – as part of one of the regional ELMs trials, exploring natural capital strategies among regenerative farms in Cumbria. Dubbed the Hadrian Bond, the instrument rewards investors with a portion of the monetised environmental outcomes that transitioning to regenerative agriculture should produce related to carbon sequestration, soil health, biodiversity, reduced emissions and cleaner water.<sup>131</sup>

### 6.5 PUBLIC FINANCING

The Agriculture Act<sup>132</sup> seeks to provide public money for ‘public goods’, without clearly defining what quantifiable public goods are included. As described in the sections above, the ELM scheme, which will be defined through trials over the next four years, will replace the current subsidy regime, though it is not currently envisaged that ELMs will explicitly support food production.

The Food, Farming, and Countryside Commission, established initially under the RSA and now an independent charity, has called for an ambitious 10-year transition plan including the establishment of a publicly funded National Agroecology Development Bank (ADB), as well as other public funding to support producer groups and sustainable land use.<sup>133</sup>

State development banking, commonplace in many other European nations such as Germany’s agriculture bank, has been markedly absent from the UK investment scene, with many, including NEF, arguing that a national investment bank is needed to play a cornerstone role in delivering mission orientated industrial strategy. The government has committed to a new National Infrastructure Bank (NIB), which will be brought forward with an environmental mission at its heart.<sup>134</sup> But its focus seems likely to be marshalling finance for large, national infrastructure projects such as large-scale energy developments, railways and other strategic investments. There is a risk that aspects of the developing NIB could work against the agricultural transition, through failing to recognise this transition as urgent and necessary. There is the need for the development of infrastructure, such as rural transport and warehouses, which are fundamental to the transition and the NIB will play a key role in enabling this necessary infrastructure development.

However, a national development bank of this sort could support agroecology in the UK, by purchasing and transitioning large tracts of land, investing in ‘public goods’ such as the bulk purchase of machinery for new, agroecological ventures or to provide market or educational information and extension services for agroecology.<sup>135</sup>

The proposed ADB – or a specific department of the envisaged British Business Bank (or of the NIB) – could have a powerful role in incentivising farmers to form much more ambitious management plans by providing advisory and consultancy services that enable them to assess and successfully access appropriate finance. With the ability to draw down government-guaranteed finance, it could also offer loans at huge concessions and help de-risk agroecology by scaling up the sector at much lower costs than could be provided by private banks or even by impact investors or philanthropic finance.

### 6.6 LOCAL ENTERPRISE PARTNERSHIPS (LEPS)

Local Enterprise Partnerships (LEPs) are locally-owned partnerships established between local authorities and businesses, which have replaced the previous regional development agencies in England. They manage loan and grant facilities including the £1.4bn Regional Growth Fund and the Local Growth Funds that focus on productivity and growth for the rural economy through housing, skills, transport, and infrastructure.<sup>136</sup>

LEPs participate in Defra round tables with a rural focus on connectivity, rural economies and enterprise, well-being and vulnerability, all of which could also be extended to food and farming.<sup>137</sup> For example, the South East LEP (SELEP) rural strategy includes proposals for the development of Food Enterprise Zones to support local food and farming businesses, as well as enhancing local economies and attracting more investment in the sector. The SELEP has provided both grant and bridge loan support to a Community Interest Company in Eastbourne to support them to access EU structural funds to develop a community fishing quay.<sup>138</sup> The use of low carbon and resilient farming systems (i.e., the improved use of nutrients, matching the needs of the crop and low input production methods) is also a strategic priority for the SELEP.<sup>139</sup>

Under the European Structural and Investment Fund growth programme, LEPs must develop

strategies regarding the allocation of funds. The criteria are set out under the European Agricultural Fund for Rural Development (EAFRD), European Regional and Development Fund (ERDF) and the European Social Fund (ESF) at present, but this is due to change from 2021. Rural businesses will still be reliant on being able to access these funds.<sup>140</sup>

Despite the upcoming changes (which also relate to state aid rules after leaving CAP), food and farming could have greater recognition within LEPs' priorities. This increased profile could also be an opportunity to meet other objectives for the sector, through financial support to overcome the barriers we have identified. In most cases the necessary farming initiatives have been developed without specific LEP involvement or funding, despite the clear opportunity and need.<sup>141</sup> Rural businesses are usually small or micro scale, usually unincorporated and family-run with long term multigenerational business strategies. The physical nature of many rural businesses limits flexibility in terms of location but often also means they are asset rich but cash poor. Therefore, the economic and fiscal conditions exist to create the conditions needed for rural businesses to prosper and the role of LEPs to support skills and advice for rural businesses as well as adopting a mix of grant funding, loans as well as equity finance to support rural businesses.

The Cumbria Local Enterprise Partnership (CLEP), for instance, will receive £5.5 million to fund a Vertical Farming Centre of Excellence at Lillyhall, Allerdale, that will create one of the largest integrated vertical farming – the practice of growing crops in stacked layers – operations in the UK. The Centre of Excellence will be carbon neutral and a net generator of renewable energy, while providing international research and educational facilities covering nutrition and health. The ambition is to create 360 new jobs, unlock private sector investment as well as funding a five-year programme to make Cumbria a carbon-neutral county.<sup>142</sup> While this may be a good example of LEPs financing innovation and tech in food production, this is not an example of LEPs funding agroecology or agroecological transition. While the focus on climate change adaptation, mitigation and job creation are similar, an explicit focus on agroecological transition would help redirect LEP finance.

## 6.7 NATURAL CAPITAL FINANCING

As the recently published Dasgupta Review, *The Economics of Biodiversity*, suggests, natural capital can be priced and included in economic transactions.<sup>143</sup> This follows the work of the Natural Capital Committee, set up in the UK's HM Treasury under the chancellorship of George Osborne.

The world view and process of valuing nature is controversial and accompanied by technical issues. Many, including NEF, have deep reservations about applying conventional economics to the natural world rather than operating within the constraints that the natural world sets. The limited world-view, tools and lack of alternative options, alongside our inability to genuinely account for the interconnected and uncertain nature of ecosystems and our knowledge of them means there are fundamental issues to address and before driving forward this nascent approach.<sup>144, 145, 146, 147</sup> In the context of the agroecological transition, while payments to farmers for ecosystem services – adding value to nature – is an integral part of the Agriculture Bill and likely to grow as a concept through ELMs trials. There is a world of difference between public payments for ecological improvements and better agriculture and the establishment of markets to price those improvements and trade their benefits.

At one level, a market is merely a process that links a buyer and seller, and efforts by some water companies to reduce nitrate pollution by making payments to farmers to shift methods or by those involved with flood defences to pay landowners to reduce runoff high in water catchments makes perfect sense.<sup>148</sup> Similarly as firms – including financial institutions – develop Paris Agreement-compatible climate plans, the demand for schemes in the UK that can reduce emissions – including nature-based schemes that can sequester carbon – will grow. Partnerships – especially across water catchments or other area-based ecosystems – that help develop these kinds of transactions will grow in importance and should form the basis of some ELMs trials. These approaches certainly promise potential new income streams for farmers and landowners. A community project in Cumbria has resulted in marked improvements in reducing flood risk and enhancing habitats, through a catchment-based approach to farming – which shows a focus on public goods through farming is possible and not reliant on creating market mechanisms to do so.<sup>149</sup>



TABLE 7

Public finance assets class, mechanisms, examples and objectives

Asset Class	Public finance		
<b>Mechanism or instrument</b>	Agricultural Subsidies	Development Finance	Public-Private Partnerships
<b>Example</b>	Environmental Land Management Schemes (ELMs)	AEDB	Local Enterprise Partnerships (LEPs)
<b>Objectives</b>	'Public funds for public goods': new agricultural subsidies for environmental farm practices.	A newly proposed public banking facility for financing agroecology underserved by conventional finance.	LEPs are voluntary partnerships between local authorities and businesses, set up by the Department for Business, Innovation and Skills to replace regional development agencies and help determine local economic priorities and lead economic growth and job creation within the local area. In certain areas, funding is received from the UK government via growth deals and can be lent (at 0% over 3 years) or granted for capital projects.

Source: NEF / Croatan

But the development of outcomes-based markets that seek to establish prices for ecosystem services and ultimately to trade credits risks establishing a means of extracting value from nature and from farms and misses the potential value of ELMs as a catalyst for transition. The promise is not only of a revolution in farming that brings ecosystems to the fore, but also in the place of farming within a renewed interest in what economist Karel Williams calls the Foundational Economy.<sup>150</sup> In this context, variables such as the strength of relationships and the growth and propagation of knowledge – both of which are harder to value – will be as important as the price of soil health improvements or carbon, if not more so.

While it is clear there is an important role for public finance, this research has exposed the need for blending finance from various sources and must be accompanied by successful policy development to support the agricultural transitions.

Our conclusions and recommendations have been developed as a suite of five headlines and then have been broken down as specific proposals for government, finance and philanthropic stakeholders.

## 7. CONCLUSION

We are living through a time of unprecedented crisis. From the Covid-19 pandemic to the climate and biodiversity emergency and the growing, rampant inequality through society, we cannot afford business as usual. This is also true when it comes to farming and how we use land. Now is the time to act and develop policies, which ensure a just transition, rather than tinkering around the edges of a broken system. A fundamental change needs to be made and there simply isn't enough time to delay any longer.

The exit of the UK from the European Union, the passage of the Agriculture Act and the introduction in the next four years of ELMs – as well as the phasing out over the next seven of a largely income-based subsidy regime – ushers in a period of great risk and opportunity that needs to be grasped. In the Anthropocene, all human activity determines ecological outcomes, but land use is one of the most vital areas for change. 72% of the UK's land is farmed and so what happens to farming in post-Brexit Britain matters.

ELMs were conceived as a radical break with EU subsidies. They currently are not focused on increasing the ecological value of food production, but increasing the ecological value of land. Whilst that is a laudable aim, the current food value chain, with 'just-in-time' fulfilment of many staples is fragile and this fragility will be writ large as climate volatility increases. Propagating new, agroecological farming practices and linking these more firmly into nearby centres of population should be a core aim of ELMs. The prevailing risk of the proposed ELMs to farmers (i.e. by replacing the food production focus with one of delivering environmental outcomes, such as carbon sequestration) could see farmers exit food production in favour of producing ecosystem services only. This potential shift away from farming towards public goods could dramatically impact food production in the UK.

If that is the risk, then the concurrent opportunity is that, through ELMs trials over the next four years, agroecology can be proven and scaled up. The UK government has used innovation, state financing

and forward purchasing to create markets for vaccines. So it can use revised, land management-based subsidies to provide incentives for a thriving, foundational economy of healthy food at a scale that can prove resilient and fulfil multiple objectives. This will clearly not supplant or be instead of global food markets. Growing food using agroecological practice in the UK and supplying UK markets can not only help revive rural economies, but also provide a nutritional safety net for the UK.

However, as the Committee on Climate Change has indicated, this will not happen through ELMs alone; private finance will be needed alongside to support trials and scale up nature-friendly farming. Ultimately, the substantial agricultural loan-book of the UK banking and finance sector must shift to favour agroecological practices. But even if ELMs are successful in demonstrating agroecology's efficacy at a larger scale, inertia in mainstream finance that is centred around existing, harmful agritech is likely to predominate. Already, large firms with interest in the prevailing high-inputs-based system are moving to shape the new markets in their image.

## 8. RECOMMENDATIONS

**G**iven the context outlined in previous sections of this report, we make the following five primary recommendations, which are tailored to three key audiences for this work: policymakers, financial institutions and impact/philanthropic investors.

### 8.1 RECOMMENDATIONS FOR UK POLICYMAKERS

**Finance system wide climate plans:** The UK should commit to creating the world's first net-zero finance system, as recommended by the Committee on Climate Change's Advisory Group on Finance, and building on the commitments made by the chancellor in the 2021 spring budget. These include legislating a clear net-zero mandate for the Bank of England.<sup>151</sup> This would mean all public regulators and financial institutions developing and implementing climate plans, as a part of which, all banks would be required to examine agricultural lending and bring this into line with net-zero commitments.

**Focus ELMs on ecological food production:** With the explicit focus on 'public money for public goods' ELMs have a strong focus on climate mitigation, environmental and biodiversity enhancement and flood mitigation, but risks missing out on the provision of support for sustainable food production. As food is produced for sale, and therefore for private benefit, ELMs may provide a barrier to the transition to agroecological farming as it focuses on 'public goods'. Defra must include agroecological farming and a whole farm systems approach in ELMs to deliver a just transition for farmers. Defra's agricultural transition plan makes reference to a 'whole farm plan': an opportunity to help shift farmers into agroecological whole farm systems like organic, agroforestry and rotational-grazing. There is however very little detail on this 'whole farm plan' to date.<sup>152</sup> Farmers will initially require support to reduce negative externalities (e.g., emissions, chemical inputs or pollution) but should be supported to do so alongside transitioning into delivering *positive* outcomes (e.g., building soil carbon). Incentivising farmers to improve continually, through the various tiers that are currently being outlined is essential.<sup>153</sup>

A systems approach for the entire farm is best suited to the delivery of public goods, to maximise synergies and environmental improvement.<sup>154</sup>

### Establish an Agroecological Development

**Bank (ADB):** We agree with the Food, Farming and Countryside Commission's finding that farming ideally needs a bespoke, state-backed investment bank to finance the transition at scale.<sup>155</sup> An ADB would ensure that a sufficient supply of appropriate finance was available to farmers wanting to transition to agroecological methods, as well as perform research and play a leadership role in developing the wider agroecology sector and stimulating demand for finance.

An ADB would be best able to meet the objective of transforming the UK agriculture sector to agroecology by being its own institution. It would be complementary to the British Business Bank, the newly established UK Infrastructure Bank, the Scottish Investment Bank and Development Bank of Wales, and serve a distinct and specialised role in agricultural and rural transformation. However, the overall aim of the ADB could also be achieved in a more limited fashion if the mandates of any of these institutions were adapted to include the transition to agroecology as a mission.

**Direct the British Business Bank to lend to small-scale agroecological enterprises:** Financing agroecological farms strongly correlates with many of the challenges of financing small and medium-sized enterprises in general, a problem which the British Business Bank (BBB) was established to help solve. Until now though, concerns about CAP and EU restrictions to state aid have prevented the BBB from lending to small agricultural enterprises. Post-Brexit that could change, though even then the BBB would need to overcome the relatively poor levels of information about agroecology. The BBB should start to extend its products to finance agroecological farms.

### Shape ELMs trials around greening food production with greater democratic insight:

A drive towards building effective partnerships to support the transition is needed to ensure that stakeholders work together and build democratic structures at a geographic or landscape level to deliver environmental improvements. These organisational structures would be democratic and include multiple partners. They could range from farmers and landowners to water companies and

NGOs that could be funded by LEPs and also an expanded LEAP programme (as a collective or partnership that included sole traders would not be the same as funding sole traders directly). Projects of this type could be replicable and aggregate farms and farmers while leveraging public land and finance for agroecology, based on a successful model of catchment partnerships.<sup>156</sup>

### **Establish an Agroecological Development**

**Centre:** As we've highlighted above, an integrated approach to finance should also include non-financial support in the form of knowledge exchange and technical support. An agroecological development centre can achieve that objective. Such an agency could be housed within the ADB to help guide finance, but otherwise be self-standing – aimed at gathering data on UK agroecology, promoting its benefits and linking different area-based initiatives with finance. This could also provide a basis for developing some standardised and holistic metrics in a collaborative manner.

**LEP financing:** LEPs are in a unique position to develop their understanding of the food and farming sector and use their loan and grant capacity to help drive a transition in local and regional food systems. Experience in Eastbourne where the South East Local Enterprise Partnership (SELEP) funded a bridge loan at 0% for three years to enable the fishing fleet Community Interest Company to access EU structural funds is an example of a viable project-focused loan facility for community food projects.<sup>157</sup> LEPs should build their capacity and knowledge of the farming sector, learning from rural LEPs to ensure they are ready to help finance farms in transition in their areas.

**Set up an English Land Commission,** working in parallel with the Scottish Land Commission, to investigate English land ownership and make recommendations that free up land for affordable housing and other key uses, including sustainable food production. As we have discussed, there is potential for more and cheaper land to become available as the subsidy regime changes from income support based on land volume to payments for investment in ecological value.

## **8.2 RECOMMENDATIONS FOR FINANCIAL INSTITUTIONS**

### **Increase bank lending to regenerative**

**agriculture ventures:** Generally, high street banks must now meet the regulated climate targets, so increasing bank lending to climate-friendly, regenerative agriculture could play a major role in meeting the banks' own objectives.

### **Repurpose Covid-19 corporate funds for**

**net-zero transition:** In order to mobilise the maximum amount of funding for the transition to net zero, and in line with the Paris Agreement, the funds already allocated to the Covid Corporate Funding Facility (CCFF) (£7.96bn in outstanding as of 7 April 2021) should, upon being repaid by the borrowers, instead be re-purposed to support the net-zero transition, thereby helping the UK transition to agroecological methods. The Bank of England could re-deploy the CCFF funds either by transferring them to a newly created ADB to build its capital, or with the Treasury's agreement, the CCFF itself could be redesigned to redeploy the money directly.

### **Align the Bank of England's targeted lending**

**schemes with climate goals:** The Bank of England's existing targeted lending schemes – Funding for Lending, Term Funding Scheme (TFS) and Term Funding Scheme with additional incentives for SMEs (TFSME) and potential iterations – could be aligned with the government's climate goals. These programmes were designed to provide low-cost funding to banks at a rate close to the Bank of England's policy rate to ensure interest rate cuts were passed onto businesses and households. They could be repurposed so that funding is offered well below the Bank of England rate, in which case the Bank effectively subsidises banks by bringing the cost of funding to a negative level. Such cheap funding would only be available to banks able to demonstrate an expansion in lending to desired sectors and activities, such as households investing in green retrofits or farmers investing in zero-carbon technologies. While not climate aligned, such subsidised and targeted lending schemes are already in place – with much success – in the Eurozone and more recently in Israel.

### **Require high street banks to invest in local**

**communities:** Unlike in the US or Germany, there is no requirement for UK high street or shareholder banks to invest in the communities



where they are physically based. Requirements for a stipulated percentage of lending to be to people and businesses within a specified local geographical area are necessary. A diverse, locally-focused and rooted banking system that meets the needs of small businesses and individuals locally can also better meet the needs of agroecological transition at a regional scale.

**Classify agroecology or regenerative farming in green taxonomy for the UK:** HM Treasury is currently developing a green taxonomy to channel private capital into green and sustainable projects. It follows a similar process in the EU that began in 2016 and will shortly conclude. It is unclear if and how agriculture will be classified in the taxonomy, considering the ongoing discussions and debates on natural capital and particularly on the metrics around climate mitigation and adaptation through farming. However, based on the evidence we have gathered, agroecology should be considered as a key aspect of the upcoming taxonomy.

### **8.3 RECOMMENDATIONS FOR PHILANTHROPIC FUNDERS AND IMPACT INVESTORS**

Philanthropic funders and impact investors could play a key role in helping the small, but burgeoning agroecological sector to thrive, and bypass the structural barriers (subsidy dependence and the requirements of lenders) and physical barriers (access to land).

**Pool finance to provide loans to small-scale agroecological enterprises.** This approach could encompass several specific interventions alone or in parallel:

- i.** A simple expansion of the Real Farming Trust's LEAP programme of unsecured low-interest loans (with a grant component of between £20,000 and £100,000, which can be used for capital investments or to support production costs).
- ii.** Expand support to the Ecological Land Cooperative, so that they can grow existing clusters of farms or develop new ones and continue to attract agroecological farmers<sup>158</sup> and innovators. For example, a £20 million fund for 40 new plots including the development costs to the Ecological Land Coop, would encourage and subsidise uptake.

- iii.** Pool funds to provide guarantees for loans from banks that will lend to agroecology – such as Triodos, for start-up ventures – expansions or farms in transition, to help enterprises access capital and lower the collateral bar.
- iv.** Help capitalise new mutual banking ventures, such as the proposed South West Mutual, to help them provide low-cost loans to local agroecological enterprises.
- v.** Provide loan capital and other creative catalytic financing alongside Defra ELMs trials as they emerge, to support agroecological enterprises that take part.
- vi.** Adopt the integrated capital model blending grants, concessionary loans, patient equity investment, and technical assistance to support training and upskilling of new entrants to adopt and propagate agroecological practices.

**Establish a patient 'private equity fund for sustainable food systems'** to acquire land and tenancies and invest in agroecological enterprises. Such an approach could work alongside pooled loan capital and could aim to:

- i.** Acquire tenancies that become available due to lack of succession or business failure and establish new, agroecological transition businesses working with the landowner, using ELM pilots as additional incentives.
- ii.** Purchase agricultural land – which may become available as the subsidy regime changes – to transition to agroecological practice, again using ELMs pilots as additional incentive. Provide arms-length equity capital for others already involved in acquisition and transition, such as the New Foundation Farms.<sup>159</sup>
- iii.** Take equity stakes without demanding direct control along the agroecological value chain to help link up enterprises with markets and add more value.
- iv.** Take equity stakes alongside existing landowners or with publicly owned County Farms to help provide slow finance investment in transition. Improving the stock of County Farms, enabling the diversification of farming types and approaches as a beacon of the ability

of farming to contribute to public goods requires the cooperation of funders, local authorities and tenant farmers.

**Use collective grant-making and influence to support campaigns for more financing of and focus on agroecological farm transition.** This could include existing or new grant-making and/or financiers' forums to support financing the transition. It could:

- i. Make grants or take equity stakes in area based, multi-stakeholder partnerships to develop agroecology alongside ELMs trials.
- ii. Provide support for campaigning and further development of proposals for the Food, Farming and Countryside Commission's proposal for a state backed Agroecological Development Bank or for an agroecological function within the proposed National Infrastructure Bank.
- iii. Fund place-based campaigns to lobby for and develop collective practitioner proposals for ELMs and other funding streams and strategies, such as from Local Enterprise Partnerships (LEPs) and Defra.

- iv. Engage with banks as clients and investors to influence their lending and approaches to agroecological transition and encourage the development of investment funds to be channelled to transition.
- v. Support national and local level advocacy efforts for better policy and legislation to enhance support for agroecology from government, landowners and financiers.
- vi. Facilitate global network of cross-border learning. There is a growing global movement in agroecology and UK could benefit from cross-border learning and practice. Focused comparative studies on US, EU, and Global South experiences would be particularly relevant. Philanthropy can easily help facilitate this global network through their power as conveners and grant makers.
- vii. Divest existing endowments that continue to support, directly or indirectly, the supremacy of big agriculture and industrial approaches to farming in the UK and overseas. A movement like we have seen in the coal, oil and gas sector is much needed in the agriculture sector.

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