Annex 1 – Further Details of Living and Natural Resources Investment Opportunities (Chapter 5)

Background Information - Cumbria Coastal Community Forest

Baseline & Aims

We assume that the new woodlands would be created mainly on existing lowland/grassland areas of West Cumbria. The majority of this new woodland creation would be in urban or peri-urban locations, to maximise community benefits. Only habitats and land use on which woodland creation is feasible are considered, so existing woodland, wetlands, intertidal, built up and designated habitats are excluded. The baseline reflects the current value of benefits from the feasible areas, assuming the woodland creation takes place on a range of land uses in proportion to their extent in West Cumbria.

The benefits of a Cumbria Coastal Community Forest are assessed relative to this baseline. The Community Forest aims to deliver many of the objectives in the Government's 25 Year Environment Plan, creating resilient places for communities and nature to thrive through:

- Connection of urban populations with nature and forests, for leisure and recreation.
- Helping communities to adapt to climate change via the forest's potential for flood resilience and management.
- Biodiversity enhancement and community participation in nature-based place-shaping.

Community Forest Scenario

In order to assess the additional benefits of the Community Forest, it is assumed that:

- 7,000 ha of woodland are created over the next 25 years: 500 -1000 ha in the first 5 years, and approx. 1,300 ha every 5 years thereafter.
- The majority of the woodland is created in areas relatively close to existing communities, in order to provide health and wellbeing benefits.

An important assumption relates to recreational activity, which increases due to both:

- The new woodlands have more accessibility, and therefore double the level of recreational use, than the farmland they are created on; and
- Woodlands are more attractive than farmland for recreation, resulting in additional visits.

One of the aims of the proposed Coastal Community Forest Fund should be to secure a community 'dividend' that could be spent in large part on promoting recreational and educational use of the Forest, for example by enabling the hiring of rangers and schools outreach staff. Other functions that the community dividend could secure might include organising sustainable transport access, interpretation of natural features and so on.

The estimated additional natural capital values of the community forest are summarised in Table 1.

The monetary values are present values calculated over the Government's recommended 60-year timescale. A present value (PV) is the sum of the expected future annual values over that timescale. The future annual values are based on the current annual value, incorporating future trends where possible, and applying a discount. Discounting reduces the relative value of future benefits, using UK Government recommended discount rates (3.5% declining).[1]

The results in Table 1 show that the community forest could create significant value for West Cumbria, of approximately £157m over 60 years. Within this impact:

- There is a loss of commercial value of food production (£30m) from the agricultural land converted to woodland.
- A minority (1/3rd) of the woodland is assumed to be used for productive forestry, half of which is conifers, whose output has been valued.
- There is a significant impact on climate change. The new woodland would sequester approximately 1.7 m tonnes of CO2e over 60 years, valued at £136m (PV60). The foregone agricultural production would result in 330,000 tonnes of CO2e less emissions (PV60 £25m). However, these avoided agricultural emissions might be displaced to other production systems, so will not necessarily have an impact on the community forest.
- There are substantial recreation and health values estimated. These result from the increased accessibility of land within the community forest, and the location of woodland sites close to communities.
- The value of air quality regulation is relatively low. This is due to the relatively good air quality in West Cumbria, and to the service being proportionate to the age of the woodland, with newly created woodlands only providing the maximum level of service after 40 years.

[1] UK Government recommended approaches are drawn from the HM Treasury Green Book: assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/938046/The_Green_Book_2020.pdf

Table 1: Estimated Asset Values Generated by Cumbria's Coastal Community Forest

2020 prices		£m, PV60		
Asset values (monetised)	**Valuation metric**	**Value to**		**Total**
		Businesses	**Society**	
Food provision	Arable income	(7)		**(7)**
	Livestock income	(26)		**(26)**
Timber	Value of softwood removals	3		**3**
Air quality regulation	Value of PM2.5 removal by woodland		1	**1**
Carbon sequestration	Value of CO2e sequestered in woodland		136	**136**
	Value of CO2e emitted by livestock		25	**25**
Recreation	Adult recreation welfare value (under 3 hrs)		179	**179**
Physical health	Avoided medical treatment costs		59	**59**
Total gross asset value	**Mix of values**	**(30)**	**400**	**369**

Investment Returns

The community forest scenario suggests a range of possible income streams, which could provide returns to different investors and funders:

1. An Expression of Interest has been through the first stage of assessment with the Community Forest Trust, and there will be a further assessment for funding through the Defra Nature for Climate Fund.
2. Value of carbon: The value of carbon in Table 1 is based on the UK Government guidance on valuing non-traded carbon from August 2021. It does not reflect new guidance released 2nd Sept 2021. The new woodland in Cumbria's Coastal Community Forest is estimated to sequester 1.7m tonnes of carbon over 60 years. Using a market price of future carbon credits at approx. £19/tonne of CO2e (average over last 6 months[2]), could be worth £10m (PV60). A full assessment of planting cycles and woodland carbon code eligibility is needed to accurately estimate potential revenues.
3. Health and wellbeing benefit in terms of recreational welfare and avoided medical costs as a result of enabling physical activity, totalling £238m. These benefits can potentially motivate investment from public health bodies (NHS Trust/ Local Authorities) and others with funds to support community wellbeing.
4. Value of other public benefits – e.g. landscape, biodiversity, water quality, flood management, etc. Several of these benefits can be quantified:
    - The woodlands would be estimated to store 1.16m m3 of water each year, contributing to flood risk management.
    - Creating native woodland on low-distinctive agricultural habitats would likely generate biodiversity units under Defra's Biodiversity Metric. These units have potential value to developers to fulfil planned biodiversity net gain requirements (as proposed under the Environment Bill).

These benefits may be used to secure public funding or may generate revenue through future markets, but do not yet have an established market price.

Low Carbon Livestock Farming Background Information

Agriculture is key to future economic, social and environmental targets in Cumbria

- Grassland is the dominant land use in Cumbria, covering 59% of the land, and the livestock sector generates an estimated income of £131m[3] per year for the county.
- These systems have high carbon emissions, including from the livestock which may omit ½ a million tonnes of CO2e per year, and where the intensity of management is high, can have negative impacts on biodiversity and water quality.

[2] Carbon Price Viewer - Ember (ember-climate.org)
[3] Based on expected gross margins

- More details on the extent, condition and benefits from woodland and other natural capital in Cumbria can be found in the draft Baseline Natural Capital Account, produced as part of the Green Investment Plan Cumbria.

Livestock Farming Scenarios

We would expect a conventional beef and sheep system to have the following annual impacts:

Table 2: Impacts for beef

Valuation metric		Value to Businesses	Value to the rest of society
Annual values			
Food provision	Livestock income	£7.63m	
Air quality regulation	Value of PM2.5 removal by woodland		£600k
Carbon sequestration	Tonnes of CO2e sequestered in woodland		7,100
	Tonnes of CO2e emitted by livestock		(28,800)

The same data for low carbon livestock systems comparable data are as follows:

Table 3: Impacts for sheep

Valuation metric		Value to Businesses	Value to the rest of society
Annual values			
Food provision	Livestock income	£1.93m	
Air quality regulation	Value of PM2.5 removal by woodland		£600k
Carbon sequestration	Tonnes of CO2e sequestered in woodland		7,100
	Tonnes of CO2e emitted by livestock		(8,800)

Low carbon vs Conventional Comparison

Compared to the conventional scenario, the low carbon scenario emits **20,000 (over 80%) less tonnes of CO2e per year** but **provides only 25% of the income**. In comparing the production and carbon emissions from these systems. Two further factors are:

1. Potential to have woodland in the landscape as part of the low carbon system. Increasing woodland cover from 2% to 10% of the landscape in these farming systems would reduce production output (by a further £0.15m per year), and could eventually (once the woodland has matured) sequester an **additional 21,000 tonnes of CO2e per year.**
2. Displacement of emissions from reduced livestock system production. If demand for meat is unchanged, production elsewhere may increase and overall UK emissions are unaffected. This affects how the 'carbon saving' from the low carbon livestock system is measured. A more conservative estimate of the carbon savings is therefore to assess the expected emissions if the volume of production in the low carbon system was produced. This would give total annual emissions of 15,600 tonnes of CO2e. Compared to this, the **low carbon scenario reduces emissions by 8,500 tonnes of CO2e per year.**

Farmer Income

Under the low carbon scenario the farmers potentially have a variety of income streams:

1. Meat from livestock: **£1.93m** but could be higher depending on the quality/price premium for the meat.
2. Value of carbon: Using a market price of future carbon credits at approx. £45/tonne of CO2e (average over last 6 months[4]):
    - For additional woodland creation, sequestering 21,000 tonnes of CO2e per year could be **worth £945k per year**. However, these can't be realised immediately.
    - For the 8,500 tonnes of CO2e emissions saved under 1.4 ii) above are **worth £382k per year**.
3. Value of public benefits – e.g. landscape, biodiversity[5] air quality regulation, water quality, flood management, health benefits from recreation, etc. Although several of these benefits can be valued, none have an established market price. They can potentially be funded through ELMS or other private markets.

Compared to the £7.63m/yr of revenue under conventional systems, income sources 1 & 2 above give £3.26m of income per year, a shortfall of £4.37m.

[4] Carbon Price Viewer - Ember (ember-climate.org)

[5] Approx. biodiversity unit increase (estimated using Defra Metric, note these scores are subject to time-delay and other multipliers if used in BU trading): Distinctiveness of habitat: changing from moderate condition modified grassland to moderate condition neutral grassland increases score by 4.4 BU (4.4 – 8.8). Condition of habitat, improving a modified grassland from fairly poor condition to fairly good increases score by 2.1 BU (3.3-5.5)

Annex 2 - Public Finance and a List of Government Grants

The Role of Public Finance in Achieving Net Zero

The UK Government's Net Zero Strategy (Oct 2021) sets out how the UK will deliver on its commitment to reach net zero emissions by 2050, the are expected to unlock up to £90 billion of private investment by 2030, and support 440,000 well-paid jobs in green industries in 2030. This will provide certainty to businesses and investors to support the UK in gaining a competitive edge..

Public funding will play an important strategic role in supporting the development of new technologies and emerging sectors, as they move from the innovation stage through to commercialisation and deployment. In the next spending review period – from 2021 to 2025 – the public sector will provide about £26 billion for green projects (with a further £60 billion expected from the private sector).[1]

Public funding will include Government grants to support early-stage R&D and investment from the Clean Growth Venture Capital (VC) Fund or the British Business Bank (BBB) being available to later-stage organisations.

Public investment can be used strategically to catalyse private investment in untested markets or in unproven technologies. This approach is referred to as blended finance, which can be broadly defined as "the use of catalytic capital from public or philanthropic sources to increase private sector investment in sustainable development". Blended finance structures allow organisations with different objectives to invest alongside each other to achieve their own independent objectives (which may include financial return, social impact, or a combination of both. Blended finance helps to address barriers for private investors, such as high perceived or real risk; and poor returns for the risk relative to comparable investments.[2] The amount of private investment crowded in for every £1 of concessional capital invested varies according to the nature of the investment and level of risk mitigated.

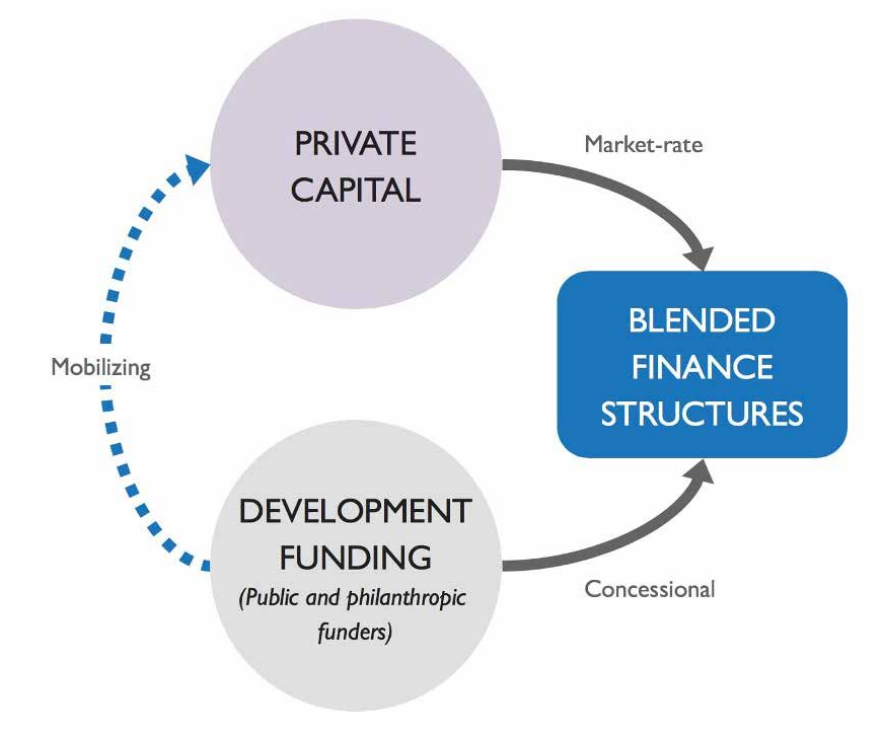

Figure 1. Diagram of a blended finance structure. Diagram credit: Convergence Finance

[1] Source: www.theguardian.com/environment/2021/oct/19/uk-government-reveals-net-zero-plan-create-jobs
[2] Source: www.convergence.finance/blended-finance

A Summary of Government Net Zero Financial Support

The following is a summary of recently announced Government support for net zero initiatives, with the table below providing a more comprehensive picture of public funding options. These have been grouped (as far as possible) so that they link to the four sections of this report.

Living and Natural Resources: The Net Zero Strategy (2021) commits the UK Government to provide an additional £124 million to the existing £640 million Nature for Climate Fund. This will ensure that at least £750 million will be spent on peat restoration, woodland creation and management by 2025.

Renewable Energy: Renewable energy is a key element of the Net Zero Strategy (2021). Recently announced funding includes:

- £380 million investment to back floating offshore wind technology.
- The £120 million Future Nuclear Enabling Fund, which will support technologies including Small Modular Reactors.
- £140 million to fund new hydrogen and carbon capture clusters.

Transport: The Net Zero Strategy (2021) estimates that investments surpassing £220 billion will be required to transform the transport sector. Recently announced funding includes:

- An additional £620m will be made available for zero-emission vehicles and EV infrastructure (although the Government has not disclosed how this will be split).
- In addition to the £1billion Automotive Transformation Fund a further £350m will be provided to support the electrification of UK vehicles and their supply chains.
- £3 billion has been pledged to create new bus networks.

Energy Efficiency & Retrofit: In the Heat and Buildings Strategy (2021), total investments are estimated to reach around £200 billion. The Government has set the target of ensuring that, by 2035, all new heating appliances in homes are low carbon. A £450 million boiler upgrade scheme for homes was announced (which will be launched in 2022), as part of a broader £3.9 billion funding package. The Strategy also includes previously confirmed funding for the Social Housing Decarbonisation Scheme and Home Upgrade Grants (reaching £1.75bn) and £1.425bn for Public Sector Decarbonisation, with the aim of reducing emissions from public sector buildings by 75% by 2037.

Cross-Cutting	
Net Zero Strategy (2021)	The UK Government's new Net Zero Strategy (2021) sets how the Government intends to halve UK emissions in little over a decade, and to eliminate them by 2050.
UK Government Green Finance Framework - Including the first Sovereign Green Bond and NS&I's Green Savings Bond	Since launching in September 2021, the Government's green financing programme has raised more than £16 billion from the sale of Green Gilts and NS&I's Green Savings Bonds. These funds support projects with clearly defined environmental benefits. The 2021 budget confirmed the following ambitious commitments: • The UK will conduct at least two Green Gilt issuances in 2021. • Green Gilt issuance in the 2021-22 financial year will total a minimum of £15 billion. • The UK will also issue retail Green Savings Bonds via NS&I, the first standalone retail product tied to a Sovereign Green Bond. • In another first for comparable sovereign issuers, the UK will report on social co-benefits of the green financing programme, such as job creation, access to affordable infrastructure and socioeconomic advancement.

	The UK Government's Green Financing Framework lists six types of green expenditures that will be financed by the Green Gilt and retail Green Savings Bonds: • Clean Transportation • Renewable Energy • Energy Efficiency • Pollution Prevention and Control • Living and Natural Resources • Climate Change Adaptation.[3]
Clean Growth Fund	The Clean Growth Fund (CGF) was launched in May 2020 to invest in companies with products and services focused on driving clean growth in the low carbon economy. CGF was created as a partnership that combines public and private investment and forms part of the UK Government's Clean Growth Strategy. With a £20m cornerstone investment through the Department for Business, Energy and Industrial Strategy's Energy Innovation Programme, and a £20m investment from CCLA, the Fund strengthens the UK's green finance capabilities by pooling public and private capital to invest in new, early-stage clean technology ventures. [4]
Global Britain Investment Fund	The 2021 Autumn Budget included an announcement of the £1.4 billion Global Britain Investment Fund. This will aim to attract further overseas investment into the UK economy, particularly in sectors such as electric vehicle production and offshore wind. Areas that funding has been allocated, include: • More than £800 million of this funding has been earmarked to support investment in the manufacture and supply chain of electric vehicles.[5] • In the Autumn Budget, £380 million was made available for offshore wind, with £230 million of this coming from the Global Britain Investment Fund.[6]
Living and Natural Resources	
Environmental Land Management Scheme - Sustainable Farming Incentive	The Sustainable Farming Incentive scheme is one of 3 schemes being developed to encourage environmental land management. The other schemes are Local Nature Recovery and Landscape Recovery. The Sustainable Farming Incentive scheme will reward farmers for managing their land in an environmentally sustainable way. The scheme is made up of a set of standards. Each standard is based on a feature like hedgerows or grassland and contains a group of actions you need to do. Farmers can choose which standards they want and where on their land to apply them. They will be paid for doing the actions within the standards they choose. Whilst the payment rate is yet to be confirmed, the estimated rate is between £26 and £70 per hectare. The full scheme will launch in 2022, initially for farmers in England who currently get payments under the Basic Payment Scheme (BPS).[7]
Environmental Land Management Scheme - Local Nature Recovery	The Local Nature Recovery scheme will pay for actions that support local nature recovery and meet local environmental priorities. The scheme will encourage collaboration between farmers, helping them to work together to improve their local environment. The scheme will begin piloting in 2022, and launch in 2024.[8]

[3] Source: www.gov.uk/government/publications/uk-government-green-financing
[4] Source: www.cleangrowthfund.com
[5] Source: www.theguardian.com/uk-news/2021/oct/24/rishi-sunak-to-launch-fund-to-attract-more-overseas-investment
[6] Source: www.offshorewind.biz/2021/10/28/uk-earmarks-eur-450-million-for-offshore-wind-in-autumn-budget/
[7] Source: www.gov.uk/guidance/sustainable-farming-incentive-pilot
[8] Source: www.gov.uk/government/publications/environmental-land-management-schemes-overview/environmental-land-management-scheme-overview

Environmental Land Management Scheme - Landscape Recovery	The Landscape Recovery scheme will support landscape and ecosystem recovery through long-term projects, such as: • Restoring wilder landscapes in places where it's appropriate • Large-scale tree planting • Peatland and salt marsh restoration The scheme will begin piloting around 10 projects in 2022 and launch in 2024.[9]
Future Farming Resilience Fund	Following the UK's exit from the EU, the Government has set out plans for a seven-year agricultural transition to the new system which will reward farmers for environmental improvements, alongside food production on their land. The Future Farming Resilience Fund has been developed to provide business support to farmers and land managers to help them navigate the changes over this period. Following a competition launched in March, £10.7 million of funding has been awarded to nineteen organisations to support farmers and land managers who are in receipt of Basic Payment Scheme (BPS) payments. The support will be available, free of charge, from August 2021 through to March 2022 and any farmer or land manager currently in receipt of BPS is eligible to apply.[10]
Nature for Climate Fund	The Nature for Climate Fund is a £640 million fund that aims to support a step-change in woodland creation and peatland restoration in England with the UK targeting 30,000 hectares of new tree cover a year by 2025 UK-wide. The recent Net Zero Strategy (2021) commits the UK Government to boost the existing £640m Nature for Climate Fund by an additional £124m, ensuring that at least £750m will be spent by 2025 on peat restoration, woodland creation and management.In recent months, the Government has announced £12.1 million of investment for tree planting in Community Forests across the country, as well as a new £3.9 million pot to support innovative planting schemes in towns and cities and near rivers to reduce flood risk.[11]
Nature for Climate Fund - Peatland Grant Scheme	The Nature for Climate Peatland Grant Scheme (NCPGS) provides funding to restore peatlands in the uplands and lowlands of England. It is a competitive grant scheme that will run until 2025.[12]
The Woods into Management Forestry Innovation Fund	The Woods into Management Forestry Innovation Funds (May 2021) is aimed at forestry businesses and conservation organisations This is a new funding stream and is part of the Nature for Climate Fund to improve woodland habitat and increase their resilience to pests, diseases and climate change.[13]
Green Recovery Challenge Fund	The £40million fund has been developed by Defra and its arms-length bodies, including Natural England, Forestry Commission, Environment Agency and others. The National Lottery Heritage Fund is distributing and monitoring this Government money. The aim of the fund is to support projects that are ready to deliver and focus on nature restoration, nature-based solutions and connecting people with nature, delivering against the goals of the Government's 25 Year Environment Plan, whilst helping to sustain and build capacity in the sector. So far there have been two rounds. These are short-term competitive funds to kick-start environmental renewal whilst creating and retaining a range of jobs. It is open to environmental charities and their partners to deliver projects in England. In 2020 Cumbria Wildlife Trust was awarded £249,500 for a project to restore 302 hectares of peatland within the Lake District National Park. [14]

[9] Ibid
[10] Source: www.defrafarming.blog.gov.uk/2021/07/13/the-future-farming-resilience-fund-providers-named/
[11] Source: UK Government Green Financing Framework (June 2021)
[12] Source: www.naturalengland.blog.gov.uk/tag/nature-for-for-climate-fund/
[13] Source: www.gov.uk/government/collections/woods-into-management-forestry-innovation-funds
[14] Source: www.heritagefund.org.uk/funding/closed-programmes/application-guidance-green-recovery-challenge-fund-round-2

Natural Environment Investment Readiness Fund	The Natural Environment Investment Readiness fund will provide grants of up to £100,000 to environmental groups, local authorities, businesses and other organisations to help them develop nature projects in England that both provide environmental benefits and attract private investment. One example would be new woodland creation which provides habitats for wildlife, green spaces for the public and carbon sequestration, but could also benefit investors through timber revenue and carbon credits. Another example is the restoration of river catchments. As well as improving water quality and reducing flood risk, it would deliver financial incentives to water companies through reduced costs for water treatment. This will create a pipeline of projects for the private sector to invest in, and develop new funding models that can be replicated elsewhere, demonstrating the UK's leadership in nature finance.[15]
Flood and Coastal Resilience Innovation Programme	In the 2020 Budget, the Government announced a £200 million fund for this programme. The flood and coastal resilience innovation programme will help meet the aims set out in the: • Government's policy statement on flooding and coastal erosion • Environment Agency's National Flood and Coastal Erosion Risk Management Strategy for England The programme will allocate £150 million of the £200 million to 25 local areas. For some, a local area might be a county, city, town or village. For others, a place could mean a river catchment, a tidal estuary or part of the coast. On average each area will receive £6 million between 1 April 2021 and 31 March 2027. With this funding, projects will demonstrate how practical innovative actions can work to improve resilience to flooding and coastal erosion. These 'resilience actions' can be individual or a combination of actions. Resilience actions might include: • Nature based solutions • Sustainable drainage systems • Approaches for making existing properties more flood resilient • Encouraging local businesses to improve their flood resilience • Building community and voluntary sector capacity to respond and recover The remaining funding will be used for other flooding and coastal resilience activities. This will include work on long term planning for climate adaptation in the Thames and Humber estuaries, the Severn Valley and Yorkshire. In these areas, they will develop new ways to better plan for future flooding and coastal change and adapt to a changing climate.[16]
England Woodland Creation Offer	Landowners, land managers and public bodies can apply to the England Woodland Creation Offer (EWCO) for support to create new woodland, including through natural colonisation, on areas as small as one hectare. You could receive over £10,000 per hectare to support your woodland creation scheme. EWCO is one of a suite of Forestry Commission initiatives to support woodland creation and tree planting across England.[17]

As stated in the Net Zero Strategy (2021), the UK will regularly assess the alignment of the UK's financial flows with net zero. As such the schemes listed below may be subject to change.

[15] Source: www.gov.uk/government/publications/apply-for-a-grant-from-the-natural-environment-investment-readiness-fund/how-to-apply-for-a-natural-environment-investment-readiness-fund-grant
[16] Source: www.gov.uk/guidance/flood-and-coastal-resilience-innovation-programme
[17] Source: www.gov.uk/guidance/england-woodland-creation-offer

Renewable Energy	
Over £90 million Government funding to power technologies	In March 2021 - as part of the Net Zero Innovation Portfolio - the Government launched three innovation challenges across key areas of the green energy sector, including energy storage technology, floating offshore wind, and biomass production. £92 million investment will be provided, which includes £68 million for the development of energy storage technologies to support a future renewable energy system. £20 million funding will power innovation that unlocks the full potential of floating offshore wind technology around the UK coastline, allowing turbines to be situated in areas where it is too deep for them to be embedded on the seafloor. [These tend to be locations where wind strengths are stronger and more consistent as they are further out to sea and further support the Government's commitment to power every home in the country with wind by 2030.] Innovative technologies could include advancing vital components such as dynamic high voltage cable systems, moorings for challenging seabed conditions and foundations. Biomass projects will benefit from £4 million Government investment aimed at increasing the production of sustainably sourced biomass in the UK – supporting local economies and regional growth, as well as creating jobs in rural areas.[18]
Hydrogen Strategy (2021) and Net Zero Hydrogen Fund	In August 2021 the UK Government launched the first-ever Hydrogen Strategy. The plan sets out how the UK Government will work with industry to meet its ambition for 5GW of low carbon hydrogen production capacity by 2030. The Government has said around £900 million of funding will be available to support hydrogen projects in Britain – which it has said could create more than 9,000 jobs by 2030 – however it is unclear where exactly this money will be spent. The Government has launched a consultation to further clarify aspects of the Hydrogen Strategy, including the design of a £240 million net zero hydrogen fund to support the commercial development of low carbon hydrogen plants.[19]
Carbon Capture Usage and Storage	The Government is providing funding towards the construction of four new CCUS networks by 2030.
Industrial Energy Transformation Fund	The Industrial Energy Transformation Fund (IETF) is designed to help businesses with high energy use to cut their energy bills and carbon emissions through investing in energy efficiency and low carbon technologies. The UK Government announced £315 million of funding in the 2018 Budget, available up until 2025. BEIS manages the IETF for England, Wales and Northern Ireland, with £289 million to invest over consecutive application windows split into 2 phases. Applications for Phase 2 of the IEFT open from Autumn 2021. Phase 2 will provide grant funding for feasibility and engineering studies and for the deployment of industrial energy efficiency and deep decarbonisation projects.[20]
Rural Community Energy Fund	The Rural Community Energy Fund (RCEF) is a £10 million programme that supports rural communities in England to develop renewable energy projects, which provide economic and social benefits to the community. RCEF provides support to rural communities in 2 stages: • Stage 1: grants of up to £40,000 for a feasibility study for a renewable energy project. • Stage 2: grants of up to £100,000 for business development and planning of feasible schemes.[21]
Heat Network Investment Project (HNIP)	A £320 million fund to increase the number of heat networks being built to reduce carbon emissions and deliver carbon savings.

[18] Source: www.gov.uk/government/news/over-90-million-government-funding-to-power-green-technologies
[19] Source: www.reuters.com/world/uk/uk-government-launches-strategy-low carbon-hydrogen-production-2021-08-16/
[20] Source: www.gov.uk/government/collections/industrial-energy-transformation-fund
[21] Source: www.gov.uk/guidance/rural-community-energy-fund
[22] Source: www.iea.org/policies/14332-net-zero-strategy-future-nuclear-enabling-fund

Future Nuclear Enabling Fund	The Government will launch a new £120 million fund to provide targeted support in relation to barriers to entry for nuclear, including for small modular reactors, with potential sites such as the Wylfa site in Anglesey. Further details on how the fund will be operated will be published in 2022, along with a roadmap for deployment.[22]
Transport	
The Automotive Transformation Fund (ATF)	The Automotive Transformation Fund (ATF) is a new programme that aims to establish a competitive and sustainable UK supply chain. It offers a share of up to £1 billion of funding for capital and associated industrial research projects. This will be to support the industrialisation of a high value, electrified automotive supply at scale in the UK. Accessed through the Advanced Propulsion Centre and delivered in collaboration with the Department for Business Energy and Industrial Strategy (BEIS), the Department for International Trade (DIT) and Innovate UK, the fund provides support for large-scale, capital-focused projects in the following key electric vehicle technology areas: • Batteries including cells ('gigafactories'), • Electric machines and, drives, • Power electronics, • Fuel cells, • Upstream supply chain for any of the above, • Recycling any aspect of the above. The fund has been designed to support the industrialisation of investments that fulfil key elements of strategic electrified supply chains, accelerating the transition to electrification for a net zero automotive industry in the UK and beyond. Round 11 closed on 16th June 2021.[23]
Rural Mobility Fund	The rural mobility fund is part of the Government's better deal for bus users. English local authorities were invited to bid for funding to trial on-demand bus services in rural or suburban areas. The rural mobility fund competition took applications between 30 April 2020 and 4 June 2020. The 17 successful mobility fund applications and their bid values have been announced.[24] Under this scheme Cumbria County Council have been awarded £1.5 million to deliver a pilot for improved transport solutions in Egremont, St Bees, Penrith, Ulverston and Wigton.
eCargo Bike Grant Fund	The Department for Transport has made £400,000 available in 2021/22 for the purchase of ecargo bikes, to support businesses switching to a sustainable transport solution. • Funding covers up to 40% of the total cost of an ecargo bike, up to a maximum of £2,500 for two-wheel models and £4,500 for three-wheel models. • Applications will be capped at five bikes per organisation. Larger applications will be considered on a case-by-case basis. • Applications may include more than one organisation. In these joint 'high-street' applications, a lead applicant will be responsible for submitting the application. The application deadline for this scheme is 14th December 2021.[25]
Electric Vehicle Homecharge Scheme	The Electric Vehicle Homecharge Scheme (EVHS) provides grant funding of up to 75% towards the cost of installing electric vehicle charge points at domestic properties across the UK.[26]
Subsidies for Electric Vehicles.	The Government provides grants to subsidise the cost of buying electric vehicles. To be eligible for the grant, cars must cost less than £35,000. This is the recommended retail price (RRP), and includes VAT and delivery fees. The grant will pay for 35% of the purchase price for these vehicles, up to a maximum of £2,500.[27]

[22] Source: www.iea.org/policies/14332-net-zero-strategy-future-nuclear-enabling-fund
[23] apply-for-innovation-funding.service.gov.uk/competition/904/overview
[24] Source: www.gov.uk/government/publications/rural-mobility-fund
[25] Source: www.energysavingtrust.org.uk/grants-and-loans/ecargo-bike-fund/
[26] Source: www.gov.uk/government/publications/customer-guidance-electric-vehicle-homecharge-scheme
[27] Source: www.gov.uk/plug-in-car-van-grants

Energy Efficiency & Retrofit	
Renewable Heat Incentive (RHI)	The Renewable Heat Incentive (RHI) is a Government financial incentive to promote the use of renewable heat. It has been operational since April 2014. Under the scheme, quarterly cash payments are made over seven years if you install or have already installed an eligible heating technology. Eligible technologies include: • Biomass (wood fuelled) boilers • Biomass pellet stoves with integrated boilers providing space heating • Ground to water heat pumps • Air to water heat pumps • Solar thermal panels • Water source heat pumps • Certain cooker stoves and high-temperature heat pumps The RHI has two schemes – Domestic and Non-Domestic. These have separate tariffs, joining conditions, rules and application processes. You can only join one of the schemes. The Domestic RHI is open to homeowners and private or social landlords in England, Scotland and Wales. The RHI will be closed to applications after 31 March 2022.[28] It is being replaced by the Boiler Upgrade Scheme (BUS) – see below.
Boiler Upgrade Scheme (BUS)	In October 2021, as part of the Heat and Buildings Strategy, the Government announced the The Boiler Upgrade Scheme (BUS). The BUS, which will launch in spring 2022, will help to fund a transition from gas boilers to low carbon alternatives. People switching from boilers to renewable technologies, such as air source heat pumps, ground source heat pumps, and biomass boilers, will receive upfront payments to help cover the capital costs. More specifically, homeowners will receive £5,000 towards installing an air source heat pump, and £6,000 towards a ground source heat pump. Homeowners in rural areas could receive £5,000 towards the cost of a biomass boiler. The BUS will replace the Renewable Heat Incentive (RHI), which will close to applications after 31st March 2022.[29]
The Social Housing Decarbonisation Fund	The 2019 Conservative Manifesto committed to a £3.8 billion Social Housing Decarbonisation Fund over a 10-year period to upgrade 'a significant amount' of social housing stock, delivering warm, energy-efficient homes, reducing carbon emissions and fuel bills, tackling fuel poverty, and supporting green jobs. There will be £160 million for the first wave of funding (available in the financial year 2021 to 2022). SHDF will offer the potential for registered providers of social housing, including private and local authority providers, to upgrade the energy performance of their social homes. For the first wave, grants will be awarded via Section 31 which means housing associations will not be able to apply directly to the fund. However, they will be able to apply as part of a local authority led bid. Following the launch of the Social Housing Decarbonisation Fund (SHDF) Demonstrator in October 2020, £62 million in funding has been awarded to 17 local authorities for 19 projects.[30]

[28] Source: www.ofgem.gov.uk/environmental-and-social-schemes/domestic-renewable-heat-incentive-domestic-rhi
[29] Source: www.gov.uk/government/publications/social-housing-decarbonisation-fund
[30] Source: www.gov.uk/government/collections/public-sector-decarbonisation-scheme

Public Sector Decarbonisation Scheme	The Public Sector Decarbonisation Scheme provides grants for public sector bodies to fund heat decarbonisation and energy efficiency measures. Phase 1 of the Public Sector Decarbonisation Scheme provides £1 billion in grants as part of the Chancellor's 'Plan for Jobs 2020' commitment to support the UK's economic recovery from COVID-19, supporting up to 30,000 jobs in the low carbon and energy efficiency sectors. Phase 2 of the Public Sector Decarbonisation Scheme provides £75 million of grant funding for the financial year 2021/2022. It has a stronger focus on heat decarbonisation than Phase 1, in order to deliver greater carbon emission reductions. It supports the public sector in taking a 'whole building' approach when decarbonising their estates. Reflecting the importance of the public sector's role in meeting the Government's commitment to net zero by 2050, the Net Zero Strategy (2021) and Heat and Buildings Strategy (2021) confirmed that Phase 3 of the Public Sector Decarbonisation Scheme will receive £1.425 billion of funding over the period 2022/2023 to 2024/2025.[31]
Sustainable Warmth Competition	The Sustainable Warmth Competition will award funding to Local Authorities to help them upgrade energy inefficient homes of low-income households in England. The competition encompasses two existing schemes: • Local Authority Delivery Phase 3 (LAD3): a third phase of the Local Authority Delivery scheme with £200 million available. LAD3 has a refined scope to support low-income households heated by mains gas • Home Upgrade Grant Phase 1 (HUG1): £150 million for low-income households with homes off-gas grid through the HUG scheme. The focus will be retained on upgrading the worst insulated owner-occupier and private rented homes with energy efficiency installations and low carbon heating. Projects that upgrade homes with an Energy Performance Certificate (EPC) rating of E, F or G will be prioritised. Upgrades to properties with an EPC rating of D will be allowed but will be limited. Low-income households who own their home can get upgrades fully funded within the relevant cost caps and do not have to contribute. Where a household is low-income and renting their home, the landlord must contribute at least a third of the total cost of upgrading the property within the relevant cost caps. **The Home Upgrade Grant Phase 1 (HUG1)** £150 million has been committed to supporting low-income households by upgrading the most energy inefficient off-gas grid homes in England. Targeted funding will support the installation of multiple measures in these homes, which can face higher upgrade costs, to substantially improve their energy performance. **Local Authority Delivery Phase 3 (LAD3)** £200 million of new funding is available for projects delivering upgrades to low-income households in the most energy inefficient homes in England that are on the gas grid. This is in addition to the £500 million already awarded via the LAD scheme. The main criteria for on-gas grid properties will remain the same as those in the first two phases of LAD, including the cost caps for owner-occupier and private rented properties.[32]

[31] Source: www.gov.uk/government/collections/public-sector-decarbonisation-scheme
[32] Source: www.gov.uk/government/publications/apply-for-the-sustainable-warmth-competition