Spending review 2021-2024

Representation

September 2021

Summary

The 2021 spending review covers three critical years both in recovering from the pandemic, and in driving action on climate and nature to meet the government's targets.

Decisive action now, supported by targeted public investment, is cheaper than the cost of inaction and will reduce impacts from climate change on low income families. A plurality of people in almost every demographic is more concerned about the economic cost of inaction than the cost of net zero policies. Investing early in building competitive UK markets, like manufacturing low carbon heating installations and electric vehicles, will help to drive down long term costs for all consumers. This can be complemented with policies to ensure the distribution of costs and benefits is fair.

A spending review that invests in the green recovery is also critical to meeting other government objectives, including driving job creation, skills development and levelling up. This can be achieved cost effectively, whilst delivering financial co-benefits and billions in savings, for example, improved productivity through reduced illness and deaths from poor air quality and homes.

To support innovation, industry and individuals, policy and spending in the review must do three things:

- provide the initial capital investment that stimulates green markets and jobs;
- set regulation that ensures industry adapts, innovates, and provides value for public money in decarbonisation;
- reform government policymaking to prevent waste in the system such as the financing of assets likely to be stranded in future as a result of environmental imperatives.

The appendices to this submission set out the measures that can meet these objectives across each of the major sectors of the UK economy and their economic, social and political benefits (appendix one), as well as the spending required from government (appendix two).

The next section of this submission covers in more detail what is needed for three of the highest emitting sectors: homes, transport, nature and land use.

Homes

Buildings account for 16 per cent of the UK's emissions. The poor quality of UK homes is also a drain on public resources and productivity, estimated to cost the NHS in England £2 billion per year as well as keeping consumer bills higher than necessary. A clear package of policies around the spending review can address this waste, save households money and help to meet the government's net zero target.

Public opinion

Public support for an ambitious and bold home energy efficiency scheme is clear, 62 per cent of homeowners in England were interested in the Green Homes Grant before it was scrapped. Of those who own homes with poor energy efficiency ratings, 66 per cent were very or fairly interested.

The British public is overwhelmingly in favour of the use of financial subsidies, for example, to encourage individuals and businesses to install better home insulation (69 per cent) and to switch away from natural gas heating (62 per cent). In addition, the UK Climate Assembly recommended 19 policy measures on heat and energy use in the home, such as changes to VAT on energy efficiency and zero carbon products (83 per cent) and government support for low income households (68 per cent).

Policy package

To ensure value for money, the Treasury must encourage action across government to develop markets and allow private finance to follow in after initial government investment.

- **Zero rate VAT on renovation and low carbon installations** in line with the zero rate of VAT on new builds to further incentivise consumers to drive retrofits themselves. Lowering barriers to action is crucial to directing those with recent savings from the pandemic to invest in their homes.
- **Help provide financial incentives for key groups to upgrade their homes**, such as through green mortgages, grants, or zero per cent loans. There is clear demand, the Green Homes Grant was vastly oversubscribed, while 15 per cent of the public want to install low carbon solutions. The UK Infrastructure Bank should help to deliver concessional loans to households via retail banks.
- **Introduce regulation on minimum energy efficiency standards** to ensure all homes are rated EPC band C or above by 2030 at the point of sale, boosting the uptake of financial incentives especially for the able-to-pay market. Local authorities will need greater resource and support to ensure this is met, particularly in the private rented market. This must be combined with bringing forward the Future Homes Standard to 2023 at the latest. Without this, private companies will continue to build homes that are expensive to retrofit, which will cost the Treasury down the line.

One of the challenges of the Green Homes Grant was the upscaling of supply chains. As the Joint Committee on Vaccination and Immunisation has done for vaccine deployment, the government can look to priority groups to begin the rollout of home energy retrofits, building markets and bringing down costs for more challenging demographics. These include:

- **The 15 per cent of households already considering shifting to low carbon heating**
  These are predominantly well off, service sector households, with higher average savings, and noticeably increased bills from remote working. Grants here for the able-to-pay are fundamental to pump-priming the market and reducing costs later.

- **The fuel poor**
  Existing government spending programmes, like ECO4, can be better targeted to support clean heat transition, looking to proactively replace fossil fuel boilers for example. To further reduce costs, prior to installation of new heat, ECO4 should lead with efficiency measures.

- **Social housing**
  Fully realising the Conservative manifesto promise of the Social Housing Decarbonisation Fund, where delivery is already proving highly successful, will also help to upscale local providers to support the broader able to pay market.

Below we set out how this would be delivered through a £12 billion programme over the course of the parliament. Much of this initial capital investment for buildings can be funded from future savings. Reduced pressure on the NHS will save up to £2 billion per year.

Homes: policy details		
Purpose	**£m/yr to 2024**	**Details**
Long term grant scheme	1,200	All households: initiate a new long term grant scheme available to all households, worth £3.6 billion over this parliament, including those not in Local Authority Delivery areas and not eligible for manifesto programmes.
Allocate the Home Upgrade Grant	783.3	Manifesto delivery: low income households: allocate the remainder of the £2.5 billion Home Upgrade Grant (HUG) to 2025.
Allocate the Social Housing Decarbonisation Fund	333.3	Manifesto delivery: low income households: allocate the remaining programmed share to 2025 of the ten year £3.8 billion Social Housing Decarbonisation Fund (SHDF).
Grant scheme for new heat pump targets	1,586.6	All households: expand the grant scheme to support new heat pumps targets, such as through the Clean Heat Grant, with up to £10,000 available for low income households.
Deep retrofit	83.3	On top of the £50 million committed by the government, an additional one-off investment of £250 million should be used to innovate deep energy efficiency approaches, such as Energiesprong and Passivhaus.
Total 2021 £m/yr	**£3,987**	

Benefits

The policy package will bring clear benefits to the Treasury and the public, including:

- **Ensuring all homes are EPC band C or above would reduce household energy spend by £7.5 billion per year**, with greater gains in the regions the government is aiming to level up. Homes with poorer energy performance (and higher need for fuel) are predominantly located outside London and the South East. Retrofitting is therefore likely to deliver greater job creation in these places, which also have higher levels of underemployment.
- **A one-off investment to innovate deep energy efficiency approaches can boost productivity in the construction sector** and create high skilled jobs. In the Netherlands, labour productivity of construction in factories building parts for Energiesprong retrofits has improved by 75 per cent.
- **A long term home decarbonisation programme could add a further £11 billion a year to the economy.** This could stimulate 190,000 new jobs, doing more in regions most affected by unemployment, underinvestment and fuel poverty, such as the North East, North West, Yorkshire and Humber, and the West Midlands.
- **The energy efficiency product sector contributes £13.9 billion a year to the economy**, employing 100,000, and is becoming a core economic sector for the UK.

Transport

The government's increased ambition to tackle the 31 per cent of emissions from transport – the largest share of any sector – is welcome. The 2030 phase-out date for new petrol and diesel cars and vans is a significant step forward, and the transport decarbonisation plan indicates progress on a zero emissions vehicle (ZEV) mandate and phase-out dates for new non-zero emission HGVs. To ensure delivery of government's objectives at pace and at scale, the spending review can match this ambition with investment and policy.

Policy package

The ZEV mandate is a good example of a policy proposal that provides signals to business and starts to shift responsibility from the public purse to private sector. Over time, more mechanisms of this type will be needed. Looking more broadly, the government should:

- The government is consulting on what type of vehicles would be allowed from 2030. To accelerate the transition to electric vehicles it should **legislate for a ban on the sale of hybrid vehicles from 2030** and only allow the sale of plug-in hybrid vehicles that can be driven in electric mode for the majority of their trips. This should be complemented by the proposed ZEV mandate, aligned with the CCC's recommended uptake of ZEVs over the 2020s. A rapid transition to electric vehicles will also allow the second-hand market to develop, bringing down costs for consumers.
- Improve provision of **sustainable public transport and cycling and walking infrastructure** across the UK, including in rural areas. This includes restoring bus routes and electrifying buses. This will encourage the use of public transport and active travel, driving down congestion and air pollution as well as emissions. Local authorities will soon be required to include quantifiable carbon reductions in local transport planning, to ensure planning decisions align with the government's net zero target, the spending review should help them to deliver.
- Enhance the UK's rail network by **improving services on existing routes, extending rail electrification, creating new routes to expand regional connectivity, and supporting a shift of freight from road to rail.** Adequate funding must be made available to deliver these improvements, including at devolved and regional level. The government should also implement policy to ensure rail fares are affordable and competitive with less sustainable options like car journeys and flying.

Below we set out how this would be delivered through a £23 billion programme over the course of the parliament.

Transport: policy details		
Purpose	**£m/yr to 2024**	**Details**
Charging infrastructure	0	To date, the government has committed £100 million per year for electric vehicle (EV) fast charging infrastructure and £328.8 million per year for EV charging on roads and near homes and workplaces. These commitments have met our 2020 spending ask for £50 million per year additional annual investment for charging infrastructure for electric vehicles several times over.
Walking and cycling Buses Bus electrification	2,266	The government has pledged £1 billion per year for new bus and cycle infrastructure funding, including electrification. To close the gap to our 2020 spending ask, a further £2.2 billion a year is needed for: - A national strategy to improve walking and cycling. This would raise spending to £25-35 per capita per year, equivalent to countries like the Netherlands, where active travel levels are higher. - Restoring bus routes that have been cut since 2014 and add new routes where local authorities deem necessary. - Switching buses and coaches across the UK to electric.
Trams	1,000	£1 billion per year on trams. In 1927 there were 14,000 trams in operation across the UK yet today very few UK cities benefit from a tram network.
Railways	4,401.15	Since 2020, there have been multiple local settlements including: City regions, midland rail, Trans Pennie, Cardiff and Southampton. £4.4 billion additional funding per year is needed to enhance the UK's railways – specifically works to improve the core north-south UK mainlines, extend electrification, reopen lines and create new lines.
Total 2021 £m/yr	**£7,667.15**	

The following should be considered to bring in revenue:

- **The Treasury should publish a consultation on road pricing** to address the projected shortfall in income from fuel duty over the coming years as consumers switch to electric vehicles. Key to designing a successful scheme for road pricing will be embedding equity and ensuring that lower income households are not disproportionately affected, while retaining polluter pays principle.
- **The Treasury should remove existing tax subsidies on carbon and fossil fuels**. Fuel duty on diesel should be increased for off-road vehicles ('red diesel'), which includes agricultural vehicles and trains for example. Taking into account recent government reforms on red diesel, which reduced the size of the subsidy from £2.4 billion to £1 billion every year, increasing fuel duty could still save the Treasury £1 billion every year. The planned reduction in Air Passenger Duty for domestic flights should also be cancelled.
- **The Treasury should review the RIS2 programme** and assess which schemes within it do not contribute to the UK's net zero targets. Road maintenance and improvement aside, the programme is spending billions supporting new roads that drive higher traffic and emissions. Reassessing these schemes could reallocate resource to low carbon travel.

Benefits

Changing how we travel will have clear benefits not only for reaching net zero, but also for the Exchequer, public health and the economy.

- **Investing in improved public transport and sustainable urban transport** could help to generate more than 230,000 jobs, while providing electric vehicle charging to 56 per cent of rural businesses could bring a further 23,768 jobs. Areas with high potential for employment include electric vehicle and battery manufacturing, the delivery of active travel infrastructure, the installation of electric vehicle charge points and the electrification of buses and railways.
- **Transport is the main contributor to air pollution**, which causes up to 36,000 premature deaths per year and costs society, businesses and the NHS an estimated £20 billion every year. Leading to more active lifestyles, with more walking and cycling, would save UK society £7.4 billion per year.
- **Reducing car use, particularly in city centres, would reduce congestion** and therefore boost productivity. According to INRIX, congestion cost the UK economy £6.7 billion in 2019.

Nature and land use

Nature restoration and land use change should be central to government's objectives on levelling up and green job creation. As the Plan for Growth recognises, our natural assets are crucial to a sustainable, resilient economy in the future.

- **Investment in the nature restoration can create jobs across the UK**, especially in constituencies with higher than average labour market challenges. Green Alliance's research with WPI Economics has demonstrated that improving woodland, peatland and urban parks could create over 16,000 jobs across the 20 per cent of British constituencies experiencing the most severe employment challenges. Investing in these types of green initiatives also produces more jobs per £1 investment than traditional infrastructure, like fossil fuel power generation. Every £1 in peatland restoration returns £4.60 in benefits while, for woodland, the figure is £2.80 and for salt marsh creation it is £1.30.
- **The public is strongly in favour of nature related spending**. The RSPB, for example, found 80 per cent of people oppose the idea of reduced public spending on nature. Investment in the natural environment can also yield public health benefits. National Trust research, for instance, suggests that a £5.5 billion commitment to an urban green infrastructure fund could create £200 billion in physical health benefits through disease prevention and improved mental wellbeing.

A clear plan for the economy to benefit from nature requires three things:

- direct investment in nature, where only the government can act;
- greening the financial system to avoid environmental loss and any financial risk that that might cause;
- creating a regulatory framework to facilitate private investment in the natural environment.

Full details of this package can be found in our joint submission (forthcoming) with Wildlife and Countryside Link.

We draw particular attention to our work on the following areas:

- **Setting up a new Office for Carbon Removal**. As sectors and businesses increasingly look to reduce their emissions through nature-based carbon offsets, this would play a vital role in creating the regulatory and financial framework needed for a fully fledged market.
- **Increase funding for environmental oversight, delivery, and enforcement bodies**, such as Natural England and the Environment Agency. Properly funded bodies are needed to effectively monitor, scrutinise and enforce new environmental policies, laws and targets, such as '30 by 30', tree planting and biodiversity net gain. The government should also clarify when the Office for Environmental Protection's first five year indicative budget will commence and include appropriate ring fencing in this spending review.
- **Supporting the UK Infrastructure Bank's efforts to invest in natural capital**, including making nature restoration an official target in the primary legislation establishing it, whilst further increasing capitalisation to deliver on government's nature objectives through the bank.

The agriculture and land use sectors are also central to government's push for net zero and nature's recovery. Emissions from agriculture and land use account for 12 per cent of UK carbon emissions. Meanwhile, the 2020 biodiversity indicators report has revealed that the UK is failing on 14 of its 24 long term biodiversity targets. To reverse biodiversity decline and drive decarbonisation across the land use sector, the spending review must underpin biodiversity targets, implement the recommendations of the Treasury's recent Dasgupta Review into the economics of biodiversity, and stimulate private sector activity through regulation, enforcement and market making.

The new **Environmental Land Management (ELM) scheme** will be central to delivery of the goals of the 25 year environment plan. To ensure that ELM delivers, the following must be put into place before cross compliance comes to an end in 2024:

- To give farmers the confidence and ability to plan ahead and take part in these schemes, the total funding needs to be guaranteed until at least 2029 as argued in the National Food Strategy.
- To ensure environmental targets are met, budgets need to be informed by a robust assessment of the funding needed to meet the policy objective.
- Training and knowledge sharing must be funded and prioritised to develop the skills needed to deliver environmental public goods from the land.
- The new public money for public goods system must also be underpinned by a new and more effective regulatory system.
- Regulatory gaps on climate, management of soil and water, management of hedges and walls, and pesticides must be filled to achieve environmental objectives, and new compliance mechanisms will be need to replace cross compliance

Below we set out how this would be delivered through a £17 billion programme over the course of the parliament. Some of this can be achieved through altering provisions of existing funding schemes, including the Levelling Up Fund, to provide explicitly for government's nature objectives.

Nature and land use: policy details		
Purpose	**£m/yr to 2024**	**Details**
Nature delivery	2,261.7	Since 2020, the government has committed £145.13 million per year to habitat creation and restoration, predominately through the Nature for Climate Fund. A further £2,261.7 million per year is needed for: - Terrestrial land management (including priority habitat and species recovery). - Achieving water targets, as set out by the Environment Bill and 25 year environment plan. - Achieving targets for marine protected areas, as set out in the 25 year environment plan.
Access to nature	1,830	Since 2020, the government has pledged £1,000 million year to level up access to nature in towns and cities. An additional £1,830 million per year is required to improve access to urban green space.
Advice, enforcement, and capacity building	483.03	This spending ask includes: - £60 million per year to boost the Environment Agency's ability to monitor and enforce water quality regulations. - £198 million per year to increase Natural England's advisory capacity to deliver large-scale expansion in advisory services in readiness for ELM. - £43 million per year for local authority staffing to support local authorities' statutory commitment to enforce Biodiversity Net Gain. - £173 million per year for farming and land management advice and training to improve preparedness for moving to the new Environment Land Management System.
Total 2021 £m/yr	**£4,574.73**	

Annex one: sector asks

Heat and buildings						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
Almost all of the UK's 29 million homes need to be retrofitted for energy efficiency and low carbon heat if the country is to meet climate targets by 2050, requiring an ambitious new approach. **Poor quality housing also leads to greater household energy expenditure, productivity loss, and exacerbates health conditions leading to excess winter deaths.**	Put in place regulation on minimum energy efficiency standards of all tenures of housing, so that all homes are rated EPC band C or above by 2030 Bring forward the Future Homes Standard to 2023 to put the costs on housing developers, instead of the costs of retrofit on homeowners and the government, thus saving the Treasury money.	Set out attractive incentives to upgrade homes through grants and financial mechanisms, like green mortgages, which provide incentives for home efficiency through reduced rates.	Bring VAT on renovation and low carbon installations in line with zero rate VAT on new builds. While new build is zero-rated for VAT, most renovation work and repairs are charged 20 per cent VAT which puts people off necessary improvements to energy inefficient homes and drives a wasteful cycle of demolition and new build over restoration. Demolishing buildings squanders the carbon emissions generated in their construction, which is especially problematic for residential buildings, where emissions associated with construction can account for over	£1,200 million per year over the rest of parliament to initiate a new long term grant scheme available to all households. £783.3 million per year over the rest of this parliament to allocate the remainder of the Home Upgrade Grant to 2025. £333.3 million per year over the rest of this parliament to allocate the remaining programmed share to 2025 of the ten year Social Housing Decarbonisation Fund. £11,586.6 million per year for a grant scheme to support new heat pump targets.	On average, 10,000 people die each winter due to cold housing conditions. Deaths and illnesses associated with poor quality housing currently costs the NHS an estimated £1.4-2 billion per year, in England alone. Energiesprong, a whole house model of retrofit, is more immediately compatible with social housing. Rolling it out across 2.3 million social homes could save construction costs of between £10.5-£31.5 billion.	**Public support:** 76 per cent of people support government funding for energy efficient upgrades to homes, compared to just ten per cent who oppose. The public support offering financial subsidies for: installing better home insulation (69 per cent) and switching away from nature gas heat in homes (62 per cent). According to the BEIS attitude tracker, 15 per cent of people are considering installing low carbon heating over next few years **By 2030** The UK energy efficiency product sector already makes £13.9 billion a year and employs 100,000 people. Raising its productivity by investing in a large scale Energiesprong retrofit programme now could add a further £11 billion a year to the UK market in the 2030s. A long term home decarbonisation programme could support 190,000 jobs in energy efficiency and heat across a range of trades through to 2030 Ensuring that all homes are at least EPC band C or higher by 2030 will reduce household energy by £7.5 billion per year, doing more in regions most impacted by unemployment, fuel poverty and under-investment.

			half of total climate impact over their lifecycle.			

Transport						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
To meet the net zero climate target, a comprehensive policy package is needed to accelerate the switch to electric vehicles, reduce emissions from aviation, and increase active travel. Our economy depends on the movement of goods and people, but air pollution and congestion give rise to health issues and economic losses; lower income households are priced out of sustainable modes of travel such as electric cars and rail; and access to public transport remains unequal across the country.	Legislate a ban on the sale of hybrid vehicles from 2030 and only allow the sale of plug-in hybrid vehicles that can be driven in electric mode for the vast majority of their trips. This should be complemented by putting in place the Zero Emission Vehicle (ZEV) mandate, with ambitious targets that are aligned with the CCC's recommended uptake of ZEVs over the 2020s. Build a world class network for electric vehicle charging, including in rural areas	Improve the provision of sustainable public transport and cycling and walking infrastructure across the UK, including in rural areas.	Enhance the UK's railways by improving the core north-south UK mainlines, extending rail electrification, reopening lines and creating new lines.	£2,266 million per year over the rest of parliament for: a nationwide strategy to improve walking and cycling; restoring bus routes; and switching buses and coaches to electric. £1,000 million per year over the rest of parliament for upgrading and improving tram access. £4,401 million per year over the rest of parliament for upgrading railways, specifically works to improve core north-south UK mainlines,	Reform the first year Vehicle Excise Duty to reward electric vehicle purchases and discourage buyers of polluting cars. Begin a public consultation on road pricing as a potential sustainable income source, ensuring equity is embedded throughout. A tax on kerosene would simultaneously discourage its use, while raising funds for research into zero carbon aviation solutions, such as sustainable aviation fuels and zero emission aircraft. The health problems	**Public support** Polling by YouGov found that a majority of people supported the following: investment in restoring and expanding regional bus and train routes, even if taxpayers' money goes towards the costs (59 per cent); investment in electric buses and trains, even if taxpayers' money goes towards the costs (57 per cent); and incentives for people to replace old petrol and diesel cars with electric cars, even if taxpayers' money goes towards the costs (52 per cent). **Short term** Human made air pollution, largely from road vehicles and the fuels they use, is attributable to between 28,000 to 36,000 premature deaths in the UK each year. **By 2040** According to Faraday, investing in electric vehicle and battery manufacturing could grow the automotive and vehicle battery workforce by 29 per cent from 170,000 to 220,000 employees by 2040 including creating 78,000 new jobs in new UK battery gigafactories.

				extend electrification, and reopen and create new lines.	associated with air pollution costs society, businesses, and the NHS an estimated £20 billion every year. The Climate Change Committee calculates that electrifying transport can deliver annual operating cost savings of over £30 bn in 2050. The majority of this will be from eliminating the need for petrol and diesel in road vehicles.	

Industrial decarbonisation						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
UK steel was once the envy of the world but it is in decline. It is also a polluting industry, at odds with UK climate change commitments. But the UK can both invest in its industrial heartlands and take climate action, with clean steel produced with green hydrogen rather than coal. This technology is well on the way with trials in Germany, Sweden and China. It is time for the UK to join the race, before it is left behind.	Set out, before COP26, a new commitment and plan for the steel industry to reach near zero emissions by 2035.	Pilot trail hydrogen-based steelmaking in the UK in 2021-2022.	Support energy and resource efficiency in industry through increasing and frontloading the Industrial Energy Transition Fund, and improving support for fuel switching by increasing funding for the Industrial Fuel Switching Competition.	As the main delivery vehicle for energy and resource efficiency and a driver of long term savings for industry, the Industrial Energy Transformation Fund should receive at least the £500 million pledged in the Conservative manifesto "to help energy intensive industries move to low carbon techniques". To support electrification of industry and the growing role for hydrogen, the Industrial Fuel Switching Competition funds should be increased to £394 million.	The initial pilot trialling clean steel could be funded in partnership with any number of interested businesses, possibly including the Jingye Group, the owners of the Scunthorpe steelworks plant, or Tata Steel, the owners of Port Talbot. The government has already set aside £250 million in the Clean Steel Fund and may also be able to make use of funds committed to industrial clusters and hydrogen. Given the lack of consensus on the Clean Steel Fund's best use and developments since the previous consultation, it could use at least some of this money for the purpose.	**By 2036** Research by IPPR North suggests that a nationwide commitment to, and investment in, decarbonising the steel industry in the North, could save 12,000 jobs directly across the region and a further 20,000 to 27,000 jobs in the supply chain across the UK. Investment in electrification, carbon capture storage and hydrogen technologies to decarbonise steel, meanwhile, could create 40,000 jobs in energy generation and fuel supply jobs across the North in the early 2030s.

Power						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
The UK has already shown bold leadership in the power sector through the highly successful phase out of coal, which will be removed from the grid by 2024, and the parallel increase in renewable generation. The main source of emissions in the power sector is now unabated natural gas.	Commit to decarbonising the electricity grid by 2035. This should be complimented by guarantees around security of supply, the rapid adoption of policies to support flexibility and storage, and new ambition around onshore wind and solar deployment.			£67 million a year over the rest of parliament for new port development for offshore wind.		**By 2030** Up to 46,000 jobs could be created in the north of England by 2030, in the power sector alone. The offshore wind industry alone is set to employ 69,000 people in the UK by 2026, and secure £10.6 billion of private investment each year.

Resources						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
Resource efficiency is overlooked by current government climate policy. Existing targets are not legally binding, and will not deliver reductions in resource use, as resource productivity is measured against economic output. This means resource consumption could carry on rising so long as the economy grows.	Ensure the 'right to repair' is enshrined in legislation by: - putting caps on the prices that manufacturers can charge for spare parts to encourage repair; - extending the legislation to cover a broader range of products, including electronics; - extending access to spare parts and repair information for all products to product owners.	Set an economy wide target to reduce resource use by 50 per cent by 2050, with separate targets and plans for high impact sectors and strategic materials. Binding interim targets should be set to ensure progress	Undergo a stocktake of circular economy infrastructure which is not currently covered in tracking of waste infrastructure This will inform investment in infrastructure that is needed, avoiding waste and duplication.	Dedicate at least £133 million a year over the rest of parliament to support initiatives and create jobs, though better product design, durability, reuse, refurbishment, and high quality recycling across all sectors.		**Short term** Improving resource efficiency could add £10 billion a year to the bottom line of UK manufacturing firms, which represent a fifth of the economy in areas of high unemployment. **By 2035** A transformational shift to a circular economy has the potential to create nearly half a million gross jobs by 2035.

Nature and land use						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
Since April, the government has made its ambition to protecting and enhancing nature clear. What is lacking, however, is the regulation, enforcement and market making that can underpin these targets and stimulate private sector activity.	As sectors and businesses increasingly look to nature-based carbon offsets to reduce their emissions, it is important that a new Office for Carbon Removal is established. This office can set and enforce rules and standards to create and verify carbon removal credits, and layout the framework for credit allocation and payment.	In line with the National Food Strategy recommendation, the government should ringfence £500-£700 million of agriculture spending from Direct Payments for schemes to encourage natural carbon removal and habitat restoration.	New targets, such as '30 by 30', tree planting and the biodiversity net gain principle are only as good as the enforcement which underpins them. To ensure they are met, government should increase funding for regulatory enforcement agencies, such as Natural England and Environment Agency. This should also include appropriate ringfencing for the Office for Environmental Protection's budget.			**Public support** Polling by RSPB found that 80 per cent of people oppose the idea of reduced public spending on nature, whilst 76 per cent support the suggestion that nature could contribute to the UK's economic recovery post-Covid. Polling by Bright Blue found that 59 per cent of people agree the UK should stop funding overseas projects which harm nature, even if they bring economic opportunities. 55 per cent also agree that future trade deals should include clauses around conservation, even if this makes deals harder to reach. **Short term** Green Alliance's research into the jobs impact of investment in nature restoration across Britain found that: - improving woodland, peatland and urban parks could create 16,050 jobs across the 20 per cent of British constituencies experiencing the most severe employment challenges; - two thirds of the best lands for tree planting are in constituencies with higher than average labour market challenges, with 112,000 hectares of this land in 'Red Wall' areas. - investing in green initiatives produces more jobs per £1 investment than traditional infrastructure like fossil fuel power generation, with £4.60 back for every £1 invested in peatland, £2.80 back in woodlands, and £1.30 for salt marsh creation.
Small and diverse pots of funding are failing to stimulate the growth of green jobs.	The Levelling Up Fund (LUF) has 60 times the funding of the Green Recovery Challenge Fund to improve local infrastructure, but this does not include environmental projects. Widening the LUF's definition	The UK Infrastructure Bank (UKIB) is mandated to drive net zero and level up the country. The Treasury has promised that the bank will review natural capital investments, but				**Public opinion** Polling by CEN found that people would prioritise jobs in nature conservation sector if the government chose to support the creation of new jobs in the economic recovery. Green Alliance's focus groups with recent graduates and older, school leavers found a high enthusiasm for jobs in nature.

	of infrastructure to include environmental regeneration would allow regions with labour market risks to create more green jobs, with local authorities adapting projects to suit their unique environmental circumstances	there is no timeline. The sooner the bank finalises this, the sooner communities will benefit from the job creation potential of nature-based investment. The bank's role in supporting local authorities will be particularly important for the tailored local investments needed for varying ecosystems. Given the risk of these projects for private investors, the bank will play a leading role in securing private investment in nature services. When these services become established and less financially risky, the bank can step back to allow private finance to flow.				The Green Recovery Challenge Fund (GRCF) has already shown the strong demand for green jobs: even after the scheme's funding was doubled, it was still heavily oversubscribed.

Cross-sector asks:

Fiscal policy						
Challenge	**Solution: policy package**			**Investment**	**Income source**	**Outcomes/proof points**
The UK tax system is not fit for the challenges of the 21st century, including the environmental emergencies we face. There are numerous perverse taxes or 'perverse subsidies' which encourage high carbon activities	Stimulate the green economy through zero rating VAT for green retrofit. While new build is zero-rated for VAT, most renovation work and repairs are charged 20 per cent VAT which puts people off necessary improvements to energy inefficient homes and drives a wasteful cycle of demolition and new build over restoration. Demolishing buildings squanders the carbon emissions generated in their construction, which is especially problematic for residential buildings, where emissions associated with construction can account for over half of total climate impact over their lifecycle.	Zero VAT for zero carbon products. The logic of promoting green products through eliminating VAT should extend beyond buildings and energy efficiency measures to other goods (such as electric vehicles) needed to enable the low carbon transition.	In the UK, VAT is charged at the standard rate for repairs for goods like electronics, which, combined with high labour costs, discourages people from mending broken items and encourages huge amounts of unnecessary waste. The problem of electronic waste, for instance, is particularly acute in the UK, which generates more e-waste per capita than any other country in the world, apart from Norway.		The government should remove existing tax subsidies on the production and use of carbon and fossil fuels, including cancelling the planned reduction in Air Passenger Duty for domestic flights. The environmentally perverse tax reliefs that the National Audit Office identified include £2.1 billion in accelerated capital allowances for the oil and gas sector, £5 billion in reduced VAT on domestic fuel and power, £4.8 billion through zero VAT on domestic passenger transport, including flights, and £2.5 billion through not charging fuel duty on kerosene. Following the recent	**Public opinion** Green Alliance research suggests this enjoys high levels of public support: around six in ten support the principle of making environmentally beneficial behaviours less expensive (and vice versa), with only one in ten opposing the idea. **Short term** Over a five year period, analysis from Experian has shown that a reduction of VAT on household retrofit and energy efficiency measures would provide an economic stimulus of over £15 billion and create nearly 100,000 extra jobs in construction and the wider economy.

					government fuel duty reforms for off-road vehicles (also known as 'red diesel'), £1 billion for fuel duty is still spent in reducing the rate of fuel duty on 'red diesel' vehicles.	
Many government decisions undermine our ambitious climate and environment bill targets by promoting high carbon, environmentally damaging activity, such as new roads, waste incineration facilities and housing built to poor energy efficiency standards.	Implement a 'net zero test' for overall spending and a screen for infrastructure proposals to ensure all investment aligns with UK climate goals.	Embed this principle in other HM Treasury associated bodies, including a net zero/nature screen on UKIB expenditure.	The Environment Bill must extend the biodiversity net gain principle to cover all major infrastructure projects, not just projects granted within the Nationally Significant Infrastructure Project (NSIP) process.	None: potential cost saving measure, saving spend on harmful activities and those with short economic horizons		
As the UK progresses towards its net zero target, there is a risk that policy making does not balance the costs and benefits of decarbonisation across the country, in and between regions. Doing so is essential for maintaining a broad public consensus for net zero and for ensuring the net zero transition is fair.	Provide funding and support for: local and regional distribution; skills development, investment in further education colleges, retraining and local investment, especially in areas with carbon intensive or exposed industries.			£4.3 billion/year over the rest of parliament for a just transition fund to support skills development, retraining and local investment.		

Annex two: spending asks

Buildings							
Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
Energy efficiency	1,950	Further £7.8 billion for energy efficiency over four years from 2021	1,098	£13 million/year for Social Housing Decarbonisation Fund Demonstrator, £149 million/year for the Green Homes Grant, £250 million/year for public sector decarbonisation fund, £80 million/year for one year Green homes grant extension, £171 million/year announced in the 2020 spending review to make public buildings greener, help poorest homes become more energy efficient and cheaper to heat with low carbon energy, and to retrofit social housing, £360 million/year increase in funding for ECO in fuel poverty strategy, £50 million/year additional funding for Local Authority Delivery phase 3 as part of sustainable warmth competition, £25 million/year additional funding for Social Housing Decarbonisation Fund Wave 1.	1,200	All households: initiate a new long term grant scheme available to all households, worth 3.6 billion over this parliament, including those not in the Local Authority Delivery areas and not eligible for manifesto	E3G '*2021 budget and spending review: investing in British housing and British people with a green home infrastructure package*' (forthcoming), this uses EEIG analysis on energy efficiency improvement and RAP analysis on heat pumps. Further detail of spending asks on p 7-9: *E3G buildings 2021 Budget and Spending Review* (forthcoming)
					783.3	Manifesto confirmation: low income households: allocate the remainder of the £2.5 billion Home Upgrade Grant (HUG) to 2025	

					333.3	Manifesto confirmation: low income households: allocate the remaining programmed share to 2025 of the ten year £3.8 billion Social Housing Decarbonisation Fund (SHDF)	
Heat pumps	1,450	Further £5.8 billion for heat pumps over the four years from 2021.	121.2	£20 million/year for low carbon heat grants, £73.2 million/year for heat network investment project and greening heat network project, £28 million/year renewable heat incentive extension	1586.7	All households: expanded grant scheme to support new heat pumps targets, such as through the Clean Heat Grant, with up to £10,000 available for low income households	
Deep retrofit	62.5	On top of the £50 million committed by the government, an additional one-off investment of £250 million should be used to innovate deep energy efficiency approaches such as Energiesprong and Passivhaus			83.3	The government should meet the remaining spending gap by committing to an additional one-off investment of £250 million to innovate deep energy efficiency approaches such as Energiesprong and Passivhaus	Based on the £300 million asked for in: Greenpeace, et al, 2019, Government investment for a greener and fairer economy
Total buildings (per year)	3,462.5		1,219.2		3,987		

Transport

Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
Charging infrastructure	50	£50 million as an additional annual investment towards the charging infrastructure for	428.75	£100 million/year for EV fast charging infrastructure and £3,28.75 million/year for EV charging on roads and near homes and work places (10PP)	0	This spending ask has been met several times over	Original spending ask from Jan 2020 taken from: Greenpeace, et al, 2019, Government investment for a greener and fairer economy

		electric vehicles to achieve coverage across the UK, including rural areas. The government is also supporting UK-wide charging infrastructure through a £200 million contribution to a £400 million public-private charging infrastructure project to be spent over three years, plus funding Highways England to install chargers		www.gov.uk/government/publications/government-vision-for-the-rapid-chargepoint-network-in-england/government-vision-for-the-rapid-chargepoint-network-in-england			
Walking and cycling	1,780	£2 billion/year on a nationwide strategy to improve walking and cycling. This raises the spending to £25-35 per capita per year, equivalent to investment levels in countries like the Netherlands, where active travel levels are higher. The current annual spending on active walking and cycling is £220 million	1,000	£1billion/year for new bus and cycle infrastructure funding (10PP) - including electrification, www.gov.uk/government/news/major-boost-for-bus-services-as-pm-outlines-new-vision-for-local-transport	2,266		

Buses	1,300	£1.3 billion per year additional expenditure on buses, on top of £2bn per year existing expenditure. This is to restore the bus routes that have been cut significantly since 2014 and add new routes where local authorities deem necessary					
Buses electrification	186	£186 million per year to switch buses and coaches across the UK to electric					
Railways	5,520	£5.52 billion additional funding per year to enhance the UK's railways, specifically works to improve the core north-south UK mainlines, extend electrification, reopen lines and create new lines	1,118.85	£630 million/year for City Regions Transport Settlement, £4 million/year for Midland Rail Hub, £2 million/year for Unlocking Manchester's Railways, £120 million/ year for Transpennine mainline upgrades, £68.6 million/year for Welsh railways to upgrade Cardiff central station, £81 million /year for Southampton rail freight capacity increase, £198.5 million/year for East West Rail funding, and £14.75 million/year investment in local railways and stations.	4,401.15	Most of announced spending does not seem to be targeted as we have requested, not much on electrification	
Trams	1000	£1 billion per year on trams. In 1927 there were 14,000 trams in operation across the UK yet	0		1,000		

		today very few UK cities benefit from trams					
Total transport (per year)	9,836		2547.6		7,667.15		

Resources							
Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
Circular economy	333	£1 billion from the government's Waste Infrastructure Delivery Programme should be allocated to upstream activities including better product design, new business models and domestic reprocessing infrastructure during the spending review period to target waste reduction and limit the requirements for new treatment infrastructure (£333 million per year). This sum is already accounted for within the	1.94	0.14 million per year for Extended Producer Responsibility and 1.8 million per year for Digital Waste Tracking system	133	£400 million to support resource efficiency investments, as a seed fund for circular economy infrastructure development and business models	Green Alliance, 2021, Levelling up through circular economy jobs.

		existing Defra budget noted above, but should be spent differently, according to these improved principles.					
Total resources (per year)	333		1.94		133		

Industry							
Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
Energy and resource efficiency	212	The government has identified a £315 million Industrial Energy Transition Fund to be spent over five years. This is woefully inadequate and will only enable UK businesses to realise about one fifth of the total estimated additional profits from resource efficiency. The fund should therefore be spent over the three year spending review period, and added to by a further £400 million, to support a manufacturing upgrade programme. This equals an annual investment fund of £212 million.	0		125	The government has established a £315 million Industrial Energy Transition Fund to be spent over five years. As the main delivery vehicle for energy and resource efficiency and a driver of long term savings for industry, the Industrial Energy Transformation Fund should receive at least the £500 million pledged in the Conservative manifesto "to help energy-intensive industries move to low-carbon techniques". Improving energy and resource efficiency should be the first step in any industrial decarbonisation effort	Original spending ask from January 2020 taken from Greenpeace, et al, 2019, Government investment for a greener and fairer economy. This relates to reallocating existing spending commitments except for the £400 million addition (updated from original £320 million). The new spending ask is based on the Conservative Party manifesto commitment to spend £500 million "to help energy-intensive industries move to low-carbon techniques".

						and the government expects this to be where most emissions savings will be made in the 2020s. Uptake of the fund has been good to date, suggesting funding should be frontloaded within the period, extended if industry interest demand continues to be high and put on a sustainable long term footing to provide industry certainty.	
Fuel switching			13.75	£55 million Industrial Fuel Switching Competition to support the development and trials of solutions to switch industry from high to low carbon fuels such as natural gas to clean hydrogen, helping industry reach net zero by 2050.	98.4	The government recently assigned £55 million to a second round of funding for industrial fuel switching. This is inadequate given the capex spending requirement over the parliament to support the electrification of industry and the increasing emergence of hydrogen. To provide long term certainty for the sector, this baseline spending level should be increased in line with demand.	Estimate of capex costs for fuel switching: £1,312 million, from Committee on Climate Change, 2021, The Sixth carbon budget – The UK's path to Net Zero for electrification 2021-24 (no capex costs for hydrogen 2021-24). Assuming government covers 30 per cent of the cost of electrification (state aid rules): 30 per cent of £1,312 = £393.6 million for fuel switching over rest of the parliament.
Total industry (per year)	212		13.75		223.4		

Nature and land use (source Wildlife and Countryside Link, updated nature spending asks 2021 - forthcoming)					
Issue	£m/yr	Total Govt spending to date m/yr	Remaining ask for CSR 2021 m/yr	Why it's needed	Details
Land					
Land management	3,551	1.952	1,599	Additional funding is needed for species recovery to hit the 2030 nature target and '30x30' target, whilst also meeting the 25 year environment plan target of 75 per cent of Sites of Special Scientific Interest in a favourable condition.	The Government as already committed: • £473 million alongside NGO biodiversity spend of £258 million (source JNCC 2018/19) • The farming budget of 'environmental and animal welfare outcomes' has on average a yearly budget of £1.093 billion. This does not account for devolved farming spend. • The Nature for Climate fund is £128 million per year.
Darwin fund	10	10	0	The Darwin Fund for Overseas Territories funds vital habitat and species work	Government committed £10 million to Darwin fund in SR 2020/2021. The government should commit the same again this year.
Subtotal terrestrial	3,561		1,599		
Freshwater					
Water Framework Targets (WFD)	524	0	524	This funding will allow government to meet water targets under the Environment Bill and fulfil the 25 year environment plan commitments. Investment would provide £726 million in benefits per year and £5 billion in savings until 2052.	Government funding for floods and water is currently £524 million in capital spend.
Water (Catchment Based Approach)	n/a	1.6	3.2	Catchment-based partnerships deliver a range of benefits to the wider environment, but particularly freshwater ecosystems.	Centrally the support has varied over the years but is generally between £200,000 and £300,000. This is for the central Steering Group and Working groups that do stuff to support the Catchment Based Approach as a whole. Currently partnerships receive £15 000 for a whole catchment (or a portion for a sub catchment) and there are 105 in total. There is an additional government spend of ~£1.4 million on hosting costs.

subtotal freshwater			527		
Marine					
All Marine Protected Areas (MPAs) to get to good environmental status	90	6	84	To meet the 25 year environment plan commitment for all MPAs to have good environmental status.	Expenditure figure only accounts for the funding for the Marine Management Organisation from 2020/2021
Seagrass and coastal restoration	16.5	5	11.5	Marine seagrass restoration is needed to introduce effective management measures to all English Marine Protected Areas, implement remote electronic monitoring on fishing vessels and expand the ReMeMaRe project	The current Environment Agency Project will end in 2023, its current expenditure is here.
Marine subtotal	16.5	1.1	95.5		
TOTAL	4,226	1,969	2,262		
Access to nature					
Issue	£m/yr	Total Govt spending to date m/yr	Remaining ask for CSR 2021 m/yr	Why it's needed	Details
Access to urban green space	1,830	n/a	1,830	According to National Trust, a total of £5.5 billion investment over three years would bring £200 billion in health and wellbeing benefits. Estimated 40,000 jobs in initial construction and over 6,000 created permanently for ongoing maintenance.	Some of government's allocation for access to green space comes through local authorities. There are opportunities from other existing funds for government to improve this allocation for example through the levelling up fund.
Nature and land use: Advice, enforcement, and capacity building					
Body	£m/yr	Total Govt spending	Remaining ask for	Why it's needed	Details

		to date m/yr	CSR 2021 m/yr		
Environment Agency	100	40	60	The Environment Agency's ability to monitor and enforce water quality regulations is limited by lack of funding. This poses major risks to the environment, as well as risks to the Government's statutory obligations. The recent finding of 0 per cent of rivers meeting Good Status is a case in point, alongside widespread public concern about the Agency's ability to uphold water quality rules.	
Natural England	389	198	198	This would increase Natural England's advisory capacity to deliver a large scale expansion in advisory services in readiness for the Environmental Land Management scheme. This includes its capacity to fulfil its statutory duties with regard to protected sites and drive nature's recovery according to the 25 year environment plan.	
Farming and land management advice, training etc	173	*	173	To help preparedness for moving to new ELM system and delivery of targeted species and habitats work.	
National Nature Service pilot	1.5	0	1.5	There is increasing evidence of the benefits of macroeconomic intervention to encourage investment in nature. There is currently no formal vehicle to drive this forward through a fund for jobs. £4.5 million could be taken from a number of funds, including the Levelling Up Fund, or a new	

				Green Jobs Taskforce. This would constitute just 2.25 per cent of the government's Kickstarter scheme, which is also designed to boost employment young people and is expected to be underspent.	
Improving biosecurity to protect and conserve nature	6	0	6		The government has committed to the recommendation of the EAC (Oct 2019) report on INNS, tripling the invasive species biosecurity budget to £3m and providing a further £3 m to form a dedicated invasive species inspectorate.
National parks and Area of Natural Beauty funding	13.4	6.7	6.7		£75 million for national parks and ABONBs was committed to in the 2020/2021 spending review, but its allocation remains unclear. This is likely an underestimate of need due to increase burden such as the 30x30 target.
Local Nature Recovery Strategies (LRNSs)	2.13	1	1.13	With the roll-out of these planned for April 2022, sufficient resources must be made available to local authorities in the forthcoming spending review to ensure that they are successfully delivered.	
Biodiversity net gain (local authority staffing)	0.043	n/a	0.043	Statutory commitment for local authorities to enforce Biodiversity Net Gain. Many local authorities lack the capacity and expertise to do this	
Sub-TOTAL	729	246	483		
Total nature and land use			4,570		

Power							
Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
Renewables	Previously no spending asks on power				66.7	£200 million one off investment for new port development for offshore wind. According to Renewable UK, around an extra £200 million investment is needed from the government for new port development, particularly in North Scotland and South Wales, and the expansion of existing ports along the North East coast. A big chunk of these funds are needed for port growth to facilitate floating offshore wind. Floating offshore wind provides particular opportunities for oil and gas sector workers to transition because of a high transferability of skills in relation to dynamic cabling. There are also more opportunities for UK businesses to secure first mover market advantage in becoming specialist floating offshore wind developers and suppliers which, in turn, could create more UK jobs.	Personal communication from Renewable UK
Total power (per year)					66.7		

Just transition							
Sub-sector	Spending ask from Jan 2020		Total government spending to date		Remaining spending ask for CSR 2021		Source
	£m/yr	Details	£m/yr	Details	£m/yr over the rest of parliament	Details	
	4,230	The government should provide explicit financial support for: local and regional distribution, skills development, retraining and local investment, particularly in areas where there are works in carbon intensive or exposed industries.	8.5	Aberdeen Energy Transition Zone, Global underwater hub and North Sea Transition Zone	4311.4	The government should meet the remaining spending gap by providing explicit financial support for: local and regional distribution, skills development, retraining and local investment, particularly in areas where there are works in carbon intensive or exposed industries.	Original spending ask from January 2020 taken from Greenpeace, et al, 2019, Government investment for a greener and fairer economy.
Total just transition (per year)	4,320		8.5		4,311.4		