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Designing a UK fiscal framework fit for the climate challenge

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Summary

Climate change is the biggest global challenge of our times. The speed and scale at which today's transition must take place to meet emissions reduction targets is unprecedented. Each country will need to balance the investment needs associated with mitigation and adaption against creating greater fiscal space to address the costs from climate change. The balance of these requirements will vary across countries according to their vulnerability to climate change and the extent of structural change necessary to transition away from fossil fuels.

For the UK to achieve net zero, investment needs to increase significantly across the economy. The Climate Change Committee's (CCC) Sixth Carbon Budget estimates around £50 billion a year of additional investment is required up to 2050 to reduce emissions to net zero, and a further £10 billion a year to adapt to a warming climate.

The seismic nature of the net zero transition necessitates a pivotal role for the public sector – both in catalysing private investment and investing in the transition itself. Government will need to leverage all the policy tools it has at its disposal, including regulation, tax, subsidies, public CapEx and loans, to deliver this elevated level of investment. The right balance of these tools will be different for each sector of the economy. There is no one-size-fits-all approach.

For the UK, the evidence clearly points to the need for greater use of fiscal resources – the nation's vulnerability to climate change is relatively modest, whereas its climate investment needs are material. But the UK's fiscal framework currently constrains policymakers' ability to leverage fiscal policy tools to unlock the additional investment required. The new Government's proposed fiscal rules require public sector net debt (PSND) as a percentage of GDP to be falling in the fifth year of the Office for Budgetary Responsibility's (OBR) five-year forecast, restricting headroom for the necessary public investment.

Fiscal credibility is a function of many things: institutions; the fiscal outlook; the economic outlook; but perhaps most importantly that the Government's plans are considered sensible by the investors purchasing the debt that will finance them.

In the case of climate, a different approach in which action is taken early is both sensible and credible. OBR analysis suggests delay will increase the cost of the transition and, in the long term, be fiscally worse. Acting early would also support any future UK industrial strategy, securing comparative advantage in 'green' sectors and low-carbon technologies.

Policy banks are a specific policy tool that can help address many of the investment barriers faced by net zero projects and businesses, including: financing early-stage, unproven technologies; scaling up technologies at pace by bridging the financing gap between the initial wave of projects and the second wave aimed at wider adoption; and providing market capacity by investing in mature technologies if the market is struggling to deliver the quantum of investment required.

However, in the UK, the current PSND rule limits the effectiveness of the UK's policy banks as well as investment. PSND captures the policy banks' liabilities but ignores the financial value of their investments. In effect, it treats financial investments as grants. This prevents UK policy banks from sensibly leveraging their balance sheets, hampering their ability to invest to address climate change.

International precedents favour a different fiscal approach to policy banks. In Europe, both the German and French policy banks can deploy financial leverage largely outside of their national fiscal rules. They have significantly bigger balance sheets than their UK counterparts. New Zealand and Australia recognise the value of financial investments as well as liabilities in their key fiscal measures.

A better designed UK regime would allow the UK policy banks to deploy appropriately managed leverage, provide stronger incentives for government to make financial investments, and remove the current distortion in favour of guarantees. The bringing together of the UK Infrastructure Bank and the British Business Bank under the new National Wealth Fund provides an opportunity to look at a different and better approach.

Recommendations for reforming the fiscal framework to support greater net zero investment in the medium term without damaging credibility or longer-term fiscal sustainability.

Recommendation 1 – Reform the UK's fiscal framework to unlock additional public investment in climate change while retaining fiscal credibility by:

- Explicitly allowing debt to rise over the medium term.
- Reducing the emphasis on public sector net debt as the key 'stock' metric in the fiscal framework.
- Extending the medium-term fiscal forecast from five to 10 years.
- Learning lessons from the hypothecation of green revenues and proceeds from green bonds to green expenditures to better manage the risks involved.
- Ensuring the space created by a looser fiscal framework is smaller than the additional climate investment required to demonstrate additional borrowing is not the sole solution.
- Time-limiting these reforms through formal mechanisms in an updated *Charter for Budget Responsibility*.

Recommendation 2 – Improve the effectiveness of the UK's policy banks by removing them from the UK's fiscal rules so they can deploy balance sheet leverage to create the fiscal space for loans and equity investments.

- The Government has announced plans to bring together the UK Infrastructure Bank and the British Business Bank under the umbrella of the National Wealth Fund.
- The Government should take the opportunity to look at other reforms to improve the effectiveness of this new merged bank, including by taking it outside of the UK's fiscal rules – in particular, the PSND rule.
- This action would unlock space for the National Wealth Fund to increase its activities to address the climate challenge – and, equally, to address other government priorities, such as a more activist industrial strategy.

1. Introduction

This report assesses the ability of the UK's fiscal framework to facilitate policymakers in their leveraging of fiscal policy tools to unlock the additional investment required to meet net zero targets and adapt to the impacts of climate change. The Climate Change Committee (CCC) in its Sixth Carbon Budget estimates around £50 billion a year of additional investment is required to reduce emissions to net zero, and a further £10 billion a year to adapt to a warming climate. But the new Government's proposed fiscal rules would constrain the ability to unlock this investment.

The report is structured as follows:

- **Section 2** explores the fiscal impact of climate change globally as well as in the UK.
- **Section 3** outlines the factors the UK needs to consider when designing a new fiscal framework to unlock additional fiscal space and **Section 4** presents recommendations for reform to unlock additional public investment in climate change.
- **Section 5** outlines the important role policy banks can play in helping deliver the net zero transition. **Section 6** explores their fiscal treatment and **Section 7** presents a recommendation on how to improve these banks' effectiveness by removing them from the Government's proposed fiscal rules.
- **Section 8** concludes.

2. The fiscal impact of climate change

Climate change, and the policies to adapt to its effects and mitigate them, will become increasingly prominent fiscal concerns in the coming years. Although most of the worldwide investment to address climate change and reach net zero will come from private sources, the seismic nature of the net zero transition necessitates a pivotal role for the public sector – both in spurring this investment through support for industry and by investing in the transition itself.

Climate change considerations are becoming increasingly important for policymakers designing fiscal frameworks around the world – from advanced economies to emerging markets and low-income developing countries. All 152 countries that in 2015 joined the Paris Agreement (the legally binding international treaty on climate change) have in addition at least one law addressing climate change or the transition to a low-carbon economy (Koehl, 2022).

Climate change primarily influences the fiscal outlook along three channels:

- The costs and benefits from **mitigating** climate change. Mitigation refers to reducing greenhouse gas emissions, for example through investing in clean technologies, regulating the use of clean technologies or banning the use of dirty ones, or taxing emissions through policies like the UK's Emissions Trading Scheme.
- The costs incurred by **loss and damage** resulting from climate change itself. These can be quantifiable, such as damage to infrastructure, crop yields and supply chain disruption from extreme weather events, but also include those that are harder to quantify, such as impacts of mass displacement or loss of culture.
- The costs and benefits of investing in **adaptation** measures. These aim to enhance resilience within countries to limit economic disruption from climate-related disasters.

Mitigation

There is a large and persistent, but not permanent, need for additional investment to accelerate the transition of the economy and the capital stock from fossil fuels to renewables (CCC, 2020). Table 2.1 summarises estimates of the sums required for the UK, EU and world to transition to net zero. The public sector will have to carry a share of this investment itself for public assets and to catalyse private investment. Where unit costs can be expected to fall as deployment grows, the public sector's involvement in the initial phase of the transition can place the economy on a lower-cost pathway to net zero.

Postponing these investments is unlikely to reduce their overall scale. Several studies have shown costs could be greater from postponing action today, necessitating a more abrupt and disorderly transition at a later date, when climate change is creating greater damage and urgency. This is discussed in the UK context below.

Table 2.1. Estimates of the investment required to achieve net zero

United Kingdom	European Union	Global
The CCC has estimated the UK will require **over £40 billion a year of additional investment as early as 2025**, and details in its sixth Carbon Budget advice that **around £50 billion a year will be required from 2030 to 2050** (CCC, 2020). The Government's 2021 *Net Zero Strategy* estimates an additional **£50-60 billion a year** of investment will be required (DESNZ and BEIS, 2021).	The International Energy Agency (IEA) has estimated EU investment in clean energy must rise to **€530 billion a year by 2030** (IEA, 2023), while McKinsey suggests the EU will require a total of €28 trillion of investment in clean technologies and techniques over the next 30 years (D'Aprile et al., 2020). The European Round Table for Industry has found that **a cumulative €800 billion of public and private sector investment by 2030** will be needed for existing energy infrastructure, including the power grid, to ensure the sector is fit for net zero (European Round Table for Industry, 2024).	The International Monetary Fund (IMF) has identified that to reach net zero by 2050 requires low-carbon investments to increase from **$900 billion in 2020 to $5 trillion annually by 2030** (Black et al., 2023). The Independent High-Level Expert Group on Climate Finance says that **$1 trillion a year in external finance will be needed by 2030** for emerging markets and developing countries other than China (Songwe et al., 2022).

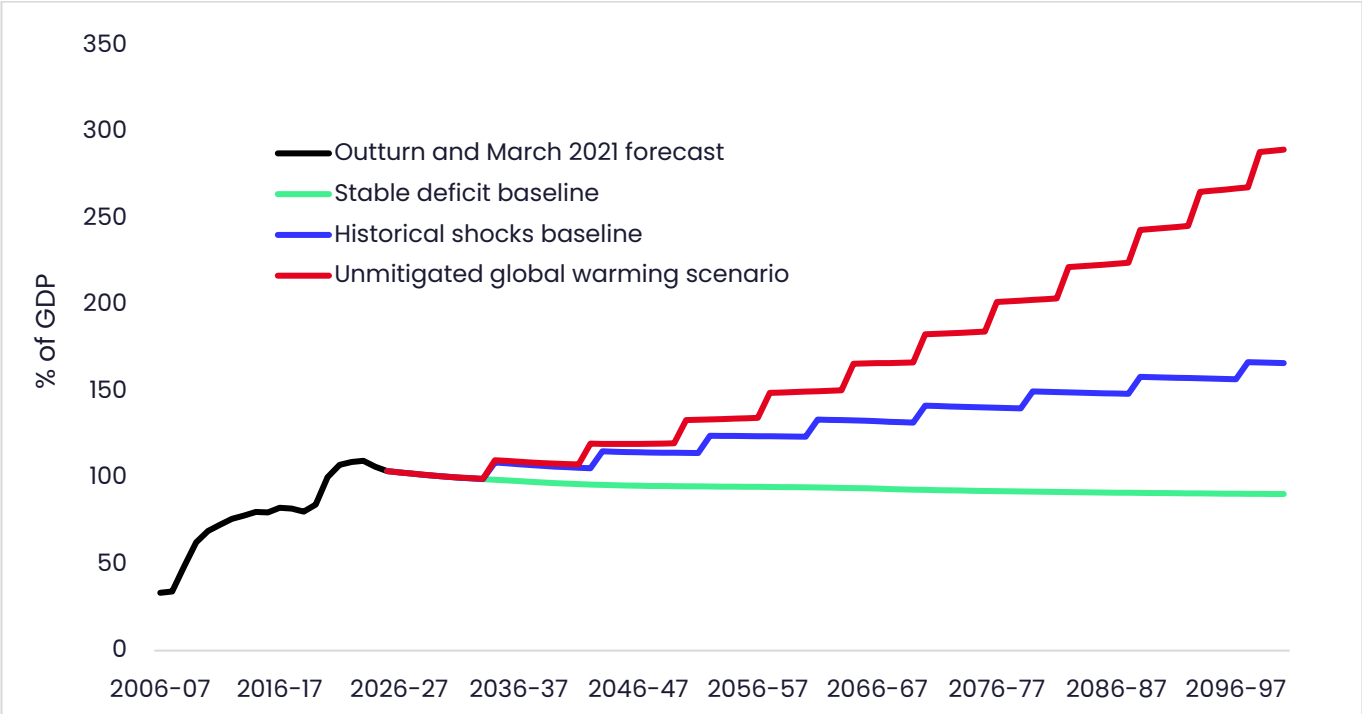
Loss and damage

There is the likelihood of extreme weather events and other natural disasters becoming more frequent, severe and costly. Although future damage can be avoided by increasing investment in mitigation at the global level and reduced through investing in adaptation at the local level, policymakers may view this as pointing to the need to maintain additional fiscal space *ex ante*, in order to cover greater unpredictable costs *ex post* from these disasters.

The CCC's annual assessment of England's progress in adapting to climate change for 2023 (report to Parliament) indicates the risks of more extreme weather events and demonstrates the impacts already being felt in the UK due to increased global temperatures (CCC, 2023b). These impacts will have fiscal consequences. The Office for Budget Responsibility (OBR) has also presented a stylised, more extreme unmitigated global warming scenario that shows potential costs from larger and more frequent climate shocks (OBR, 2021a) – see Figure 2.1 below.

As well as increased acute risks from extreme events, higher temperatures can deliver chronic costs by weighing on productivity. The IMF estimates "a persistent increase in average global temperature by 0.04°C per year, in the absence of mitigation policies, [which] reduces world real GDP per capita by more than 7 percent by 2100", whereas the loss is reduced substantially to around 1% if the world meets the Paris Agreement goals and limits temperature rise to 0.01°C per year (Kahn et al., 2019). Lower GDP growth would, all else being equal, result in a gradual worsening of countries' debt to GDP ratios.

Figure 2.1. Public sector net debt: illustrative unmitigated global warming scenario



Source: OBR (2021a)

Adaptation

The costs from climate change-induced loss and damage raises the need for investment in adaptation to reduce vulnerability to those shocks by improving a country's resilience to climate change.

In the absence of clear policy targets for adaptation,[1] broad-brush estimates have been made to understand the potential future costs of adapting to climate change. For the UK, the CCC estimates (using figures from Paul Watkiss) adaptation to address a core selection of risks might cost around £5 billion a year this decade, though these costs would rise very significantly after 2030 (Watkiss, 2022). Expanding to the full list of 61 risks identified in the *Third Climate Change Risk Assessment* would cost an additional £5 billion a year this decade, when proactive adaptation is included.

Implications for UK fiscal policy

The investment needs associated with mitigation and adaptation are likely to require greater use of fiscal resources, while loss and damage, particularly the costs from extreme weather events, may be seen as requiring greater fiscal space.

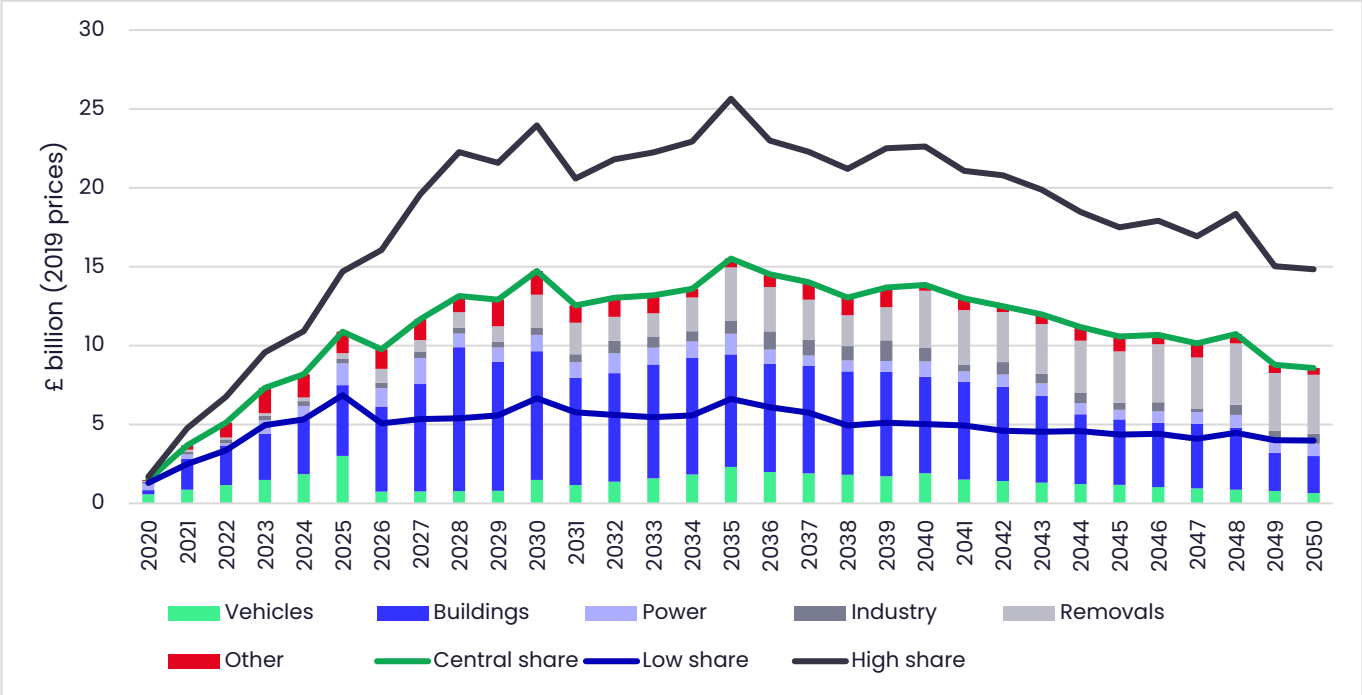
The balance of these requirements will vary across countries according to their vulnerability to climate change and the extent of structural change necessary to transition from fossil fuels to a net zero economy. This presents a challenge for policymakers who must make a judgement on the balance given their countries' fiscal and climate context. **Evidence clearly points to the need for greater use of fiscal resources in the UK** for mitigation and adaption.

[1] There is no equivalent to 'net zero' when it comes to adaptation, where a balance must be struck between the cost of adaptation measures and the extent to which they can reduce exposure to climate change risks.

The Notre Dame Global Adaptation Index has ranked the UK as the 10th least vulnerable country to climate change (181st out of 185 countries) and points to its relatively high readiness for climate change (15th most ready country). The assessment of vulnerability is a relative measure that indicates the UK's strength across economic, governance and social criteria, but restricts risk factors mainly to flooding and urban concentration.

The seismic nature of the net zero transition necessitates a pivotal role for the public sector – both in catalysing private investment and investing in the transition itself. Drawing on the CCC's estimate of £50 billion being needed in annual investment (see above), the OBR (2021a) estimates a range for the share of investment that would fall to the public sector. Figure 2.2 shows the full breakdown of the OBR's 'central share' assumptions (which amount to 0.4% of GDP a year, equivalent to £11 billion in today's terms), plus totals for the 'high-share' and 'low-share' variants.

Figure 2.2. Cost to public sector of the transition to net zero in the UK



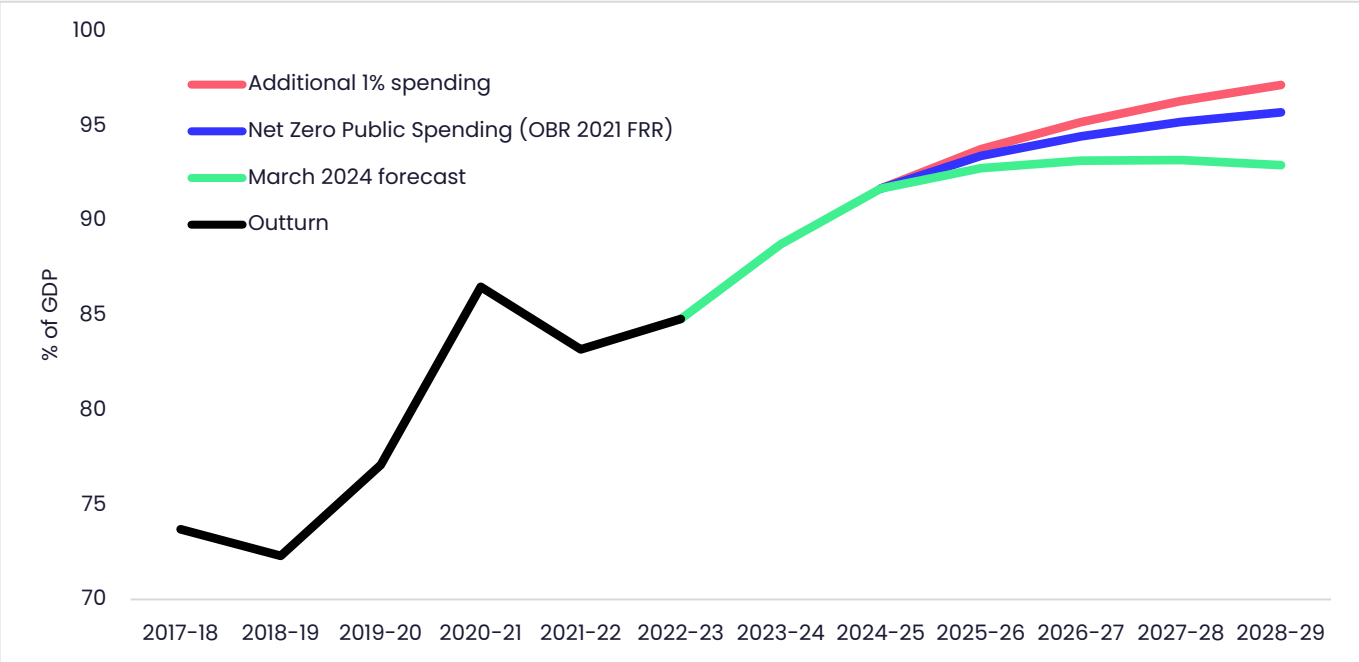
Source: OBR (2021a)

In total, this results in the state bearing around one-eighth of the whole-economy costs in the low-share scenario and two-fifths of the cost in the high-share scenario. For the low-share scenario, net zero investment averages 0.2% of GDP a year (£5 billion in today's terms); for the high-share scenario, it averages 0.6% of GDP (£18 billion) (OBR, 2021a). The CCC figures underpinning these estimates date from its 2020 Sixth Carbon Budget analysis. At this stage, it is unclear in which direction these figures will be revised when the CCC updates these estimates for the Seventh Carbon Budget, which is due in early 2025 (CCC, 2023a). They could be lower than previously anticipated due to further falls in technology costs in recent years, or higher as a result of higher interest rates and pressures on global supply chains and critical minerals.

The CCC's estimates of adaption requirements are over £10 billion a year for this decade (Watkiss, 2022). No estimates are currently available for the public share of adaptation investment but it seems likely it would be higher than for mitigation, given the focus on flood defences. If the public share were 50%, that would imply £5 billion a year of public adaptation investment.

Figure 2.3 presents two alternative medium-term fiscal scenarios that incorporate additional climate-related investment on top of the fiscal plans set out in the March 2024 Budget (OBR, 2024). These are highly stylised scenarios that only consider the effect of additional investment on the numerator in the debt to GDP ratio rather than assessing the impact of such investment on prospects for GDP growth. They are, however, still useful to illustrate what the Government might see in an OBR forecast that captured higher public spending for net zero purposes.[2]

Figure 2.3. Illustrative scenarios for public debt (excl. Bank of England) with additional net zero investment in the UK



Note: FRR = Fiscal Risks Report. Source: OBR (2024) and authors' own calculations

The March 2024 forecast saw the targeted measure of debt reach 92.9% of GDP by 2028-29, and debt to fall by 0.3% of GDP in that year (giving headroom of £9 billion against the debt-falling target). Both scenarios with additional net zero investment diverge from 2025-26 onwards since spending in 2024-25 is already underway.

The first scenario uses the central share of net zero investment figures from the OBR shown in Figure 2.3, plus £5 billion a year of adaptation investment. It results in debt being 2.6% of GDP higher than the March forecast in 2028-29 and debt rising by 0.5% of GDP in that year (to £17 billion). The second scenario uses the Zenghelis et al. (2024) estimate of an additional 1% of GDP a year in investment being required. It results in debt being 4.2% of GDP higher than the March forecast in 2028-29 and debt rising by 0.8% of GDP in that year (to £28 billion).

The addition to the debt to GDP ratio in each scenario would be smaller if GDP were boosted by the investment – particularly if it boosted the economy's underlying potential output. Moreover, investment in the UK's renewable energy generation sector would increase the country's domestic energy supply, therefore insulating it from future energy crises. Adaptation measures to enhance the UK's resilience to climate change would also reduce the costs associated with the increasing frequency and severity of extreme weather events.

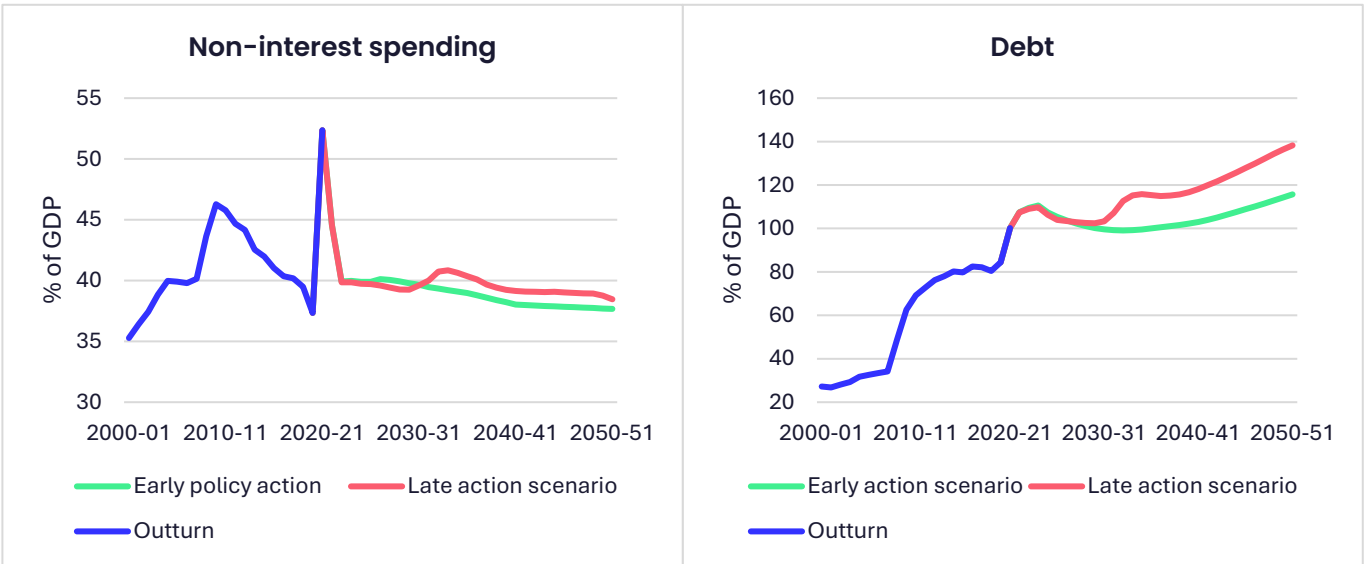
[2] The OBR's assumptions about underlying growth in potential GDP are typically not sensitive to the level of public investment: it has previously argued growth effects accrue over horizons longer than five years (see, for example, Annex B of the OBR's March 2020 *Economic and fiscal outlook*).

Delaying this investment does not remove the need for it – indeed, several studies have concluded that delay raises the ultimate cost by replacing a smooth transition with an abrupt and more disruptive one at some later date, when the transition is even more urgent.

The OBR's 2021 *Fiscal Risks Report* builds on the Bank of England's 'early action' and 'late action' scenarios for the transition to net zero to illustrate this point. The OBR's early action scenario assumes public spending meets around a quarter of the CCC's cumulative investment cost up to 2050 and that all emissions are taxed and more heavily from 2026-27 onwards; and assesses net zero receipts losses, indirect fiscal consequences and debt interest costs. By contrast, the late action scenario assumes "decisive steps to cut emissions globally and in the UK are delayed until 2030" and are then introduced abruptly to achieve the necessary reductions before 2050. This results in a worse outcome for GDP, which settles around 3% lower than in the early action scenario, while direct public spending costs increase by around a half due to higher unit costs as the transition is rushed and supply-chains have less time to develop. Overall, debt in 2050-51 is 23% of GDP higher in the late action scenario than in the early action one (OBR, 2021a).

Figure 2.4 (from the OBR's 2021 *Fiscal Risks Report*) shows public spending and debt as a percentage of GDP in these early and late action scenarios. Upfront investment in the early action scenario raises public spending and debt relative to delaying, but, more importantly, in the long run both spending and debt are lower in the early action scenario than in the late action one. This illustrates the likely benefit of moving early, and in a smooth manner, rather than delaying and having to move abruptly to catch up.

Figure 2.4. Early v. late action scenarios for government non-interest spending and debt, UK



Source: OBR (2021a)

The CCC's analysis presented in the *UK Climate Change Risk Assessment 2022* shows that early investments in adaptation can also deliver value for money. It finds that "benefit-cost ratios typically range from 2:1 to 10:1 – i.e. every £1 invested in adaptation could result in £2 to £10 in net economic benefits" (HM Government, 2022). The analysis also finds that adaptation "...often leads to important co-benefits, so as well as reducing potential losses from climate change, it often generates direct economic gains, or leads to social or environmental benefits". In contrast, the CCC estimates that the economic damage by 2050 "could exceed £1 billion p.a." for eight of the risks it identifies, under a 2°C warming scenario (ibid.). Box 2.1 sets out further the benefits of investing in adaptation.

Zenghelis et al. (2024) and Stern and Valero (2021) highlight that the CCC assesses capital investment costs to be offset by the operational savings delivered over time and that this investment will deliver additional returns for productivity and the wider environment. They note this is dependent on the investing being well executed and embedded in a broader growth strategy for the UK that utilises the opportunities from the technological transition required to reach the 2050 net zero target. Managed well, it is clear the investment needed for the transition could be highly cost-effective, from the level of individual investments in risk mitigation to the economy-wide GDP and debt benefits from investing earlier and smoothly rather than later and abruptly.

It is widely recognised that the investment needed to reach 2050 targets must be frontloaded: investment needs to rise over the next decade before falling through to the target date (CCC, 2020; McKinsey Global Institute, 2022; BloombergNEF, 2023). It is critical the UK increases investment in this current decade to avoid the adverse effects of a late-action scenario. The public share of the frontloaded investment is further skewed to the start of the period, as public investment is needed to catalyse private investment.

Acting early could also secure the UK comparative advantage in 'green' sectors and low-carbon technologies, ensuring it can make the most of economies of scale and path dependencies that drive further cost-reduction in green sectors. Zenghelis et al. (2024) highlight the existing comparative strengths of the UK that can be built upon, indicating that "countries that successfully invest early in green capabilities have greater success in diversifying into future green product markets".

For the UK, the case in favour of creating additional fiscal space for investment is clear. The relatively low risk of climate-related damage combined with substantial investment needs, which are likely to increase if they are postponed, clearly point to the need to ensure public investment can play a significant role in the transition to net zero. The earlier this investment can take place, the better it is likely to be for the UK, and the public component of investment is crucial to unlocking and guiding the private investment required.

Box 2.1. Cost-effective investment in adaptation

Investment in adaptation has been shown to be cost-effective in several areas. Investing now rather than later brings down the costs of climate change today and in the future, by reducing damage and the cost of emergency responses to climate hazards.

Flooding: The Environment Agency's Long Term Investment Scenarios (LTIS) find that over the next 50 years investment in flood and coastal erosion risk management has a benefit to cost ratio of about 9 to 1 (Environment Agency, 2019). The recommended average annual investment of almost £1 billion a year up to the 2040s would bring a net present value benefit of £220 billion over 100 years and lead to a 15% reduction in flood damages over the next 50 years. This is likely to underestimate the benefits as it does not include wider economic benefits for the areas receiving protection, or benefits to health and reduced risk to life.

Drought: The National Infrastructure Commission (NIC) has demonstrated the predicted cost of relying on emergency drought responses during a 1-in-500 year drought (e.g. road and ship tankers being needed to bring water from overseas during periods of drought) could cost around £40 billion over the next 30 years. Alternatively, investing in resilience against drought (e.g. reducing leakage, managing demand, and improving water infrastructure) would cost £21 billion (NIC, 2018).

3. Why the UK's fiscal framework needs to be updated

Box 3.1. The new Government's proposed fiscal rules

- Debt must be falling as a share of the economy by the fifth year of the forecast.
- The current budget moves into balance so that day-to-day costs are met by revenues.

The existing Charter for Budget Responsibility also requires other, broader measures of the public sector balance sheet to be considered: public sector net financial liabilities (which incorporates all financial assets, not just liquid assets) and public sector net worth (incorporating real as well as financial assets).

The fiscal context for increasing public investment in the UK is challenging

For any government contemplating a multi-year, multi-billion-pound endeavour like the transition to net zero and meeting the costs of adapting to climate change, one would hope to be starting from a position of fiscal strength. Unfortunately, this is not the case in the UK today, where the fiscal context is particularly challenging:

- **Recent shocks:** There are legacy economic and fiscal costs from a series of large, and predominantly global, shocks. The global financial crisis saw public debt double from 35.8% of GDP in 2007-08 to 70.6% of GDP in 2010-11. The COVID-19 pandemic then saw debt rise by 9.4% of GDP in a single year, 2020-21. The energy crisis has pushed debt higher again, though less materially. Public debt was estimated to stand at 98.3% of GDP at the end of March 2024, the highest level in around six decades.
- **Ageing population:** These shocks are overlain by slower-moving pressures from an ageing population (OBR, 2022). The Institute for Fiscal Studies (IFS) highlights, "the OBR forecast that government health spending will rise from its pre-pandemic level of 7.2% of GDP in 2018-19 to 13.8% of GDP in 2067-78 as the population ages and healthcare costs rise" (Warner, 2022).
- **Geopolitical and defence considerations:** Rising geopolitical tensions have led to a stronger focus on defence spending and related considerations. The OBR (2022) ran a geopolitical stress test of "a low-probability, high-impact scenario" that assumes "a major cyber-attack occurs […]; rising conventional security threats prompt a future Government to increase defence spending to 3 per cent of GDP […]; and a global trade war reduces cross-border trade and investment […]". The scenario results in an increasingly large hit to GDP, particularly due to economic fragmentation, which combines with higher defence spending to raise public debt by 28% of GDP relative to the baseline. Although this is characterised as a low-probability, high-impact scenario, economic security concerns are reducing economic integration, while defence spending needs could increase further, with several calls from government and other figures for it to rise to 3% of GDP (Sky News, 2024).
- **Other direct emissions-related fiscal pressures:** There is pressure on emissions-sensitive tax bases, such as the impact of the switch to electric vehicles on fuel tax revenues, which will place additional strain on the public finances. The OBR (2021) estimates that receipts from both fuel duty and Vehicle Excise Duty (VED) will fall almost to zero by 2050-51 (fully electric vehicles pay no fuel duty and were, at the time of the OBR's analysis, exempt from VED).[3]

[3] From 1 April 2025, electric and low emission vehicles will have to pay the same tax as internal combustion engine vehicles do.

- **Interest rate environment:** With debt already at multi-decade highs, the rise of interest rates on UK government bonds from lows of around 1% to current levels above 4% has added a further fiscal headwind. In its March 2020 forecast, ahead of the pandemic, the OBR predicted public debt at the end of its five-year forecast in 2024-25 would be 75.1% of GDP and debt interest spending would be 1.4% of GDP – implying an effective interest rate of 1.9%. In its latest, March 2024, forecast, those figures in 2024-25 were public debt of 98.8% and debt interest of 3.2% of GDP – giving an effective interest rate of 3.2%. The increase of almost 2% of GDP in the cost of debt interest has reduced the fiscal space available for other spending. Higher interest rates, and the associated high inflation of the past two years, have also raised the cost of delivering mitigation and adaptation investment, including financing investment in green technologies with high upfront costs and low future running costs.

The OBR's latest long-term fiscal projections show that the combination of these and other factors would put the public finances on an unsustainable path (in the absence of offsetting policy measures). Starting from this point is clearly not what would be desired, but policymakers must.[4] The costs of climate change and the investment needs of both decarbonisation and adaptation need to be met at the same time as government deals with these other major economic and fiscal challenges.

Despite the challenging fiscal context, there is a strong case for reforming the fiscal framework in the UK to facilitate the investment necessary to get decisively on the path to net zero.

The need for greater public investment is clear but running a looser fiscal policy for a number of years (rather than the short spike in debt that follows an economic shock) would need to be handled carefully to ensure associated risks were mitigated. Not least among these would be the risk that markets would push interest rates higher in response to the intention to borrow more, making the cost of servicing past and future debt even more expensive than it has already become.

Fiscal credibility

Fiscal credibility is a function of many things: institutions; the fiscal outlook; the economic outlook (the key driver of the tax base, broadly defined); but perhaps most important is a less quantifiable factor – the Government's plans are considered sensible by the investors purchasing the debt that will finance them.[5]

The fact that credibility is a function of many things, rather than a number for some debt or deficit measure, has been illustrated repeatedly: there was ample fiscal space for governments to bail out the banking system to protect the economy from the global financial crisis, *worth around £133 billion* (plus far more in guarantees);[6] to provide exceptional financing for the National Health Service, businesses and people through the pandemic and associated lockdowns, *worth £229 billion* (House of Commons Library, 2024); and to protect households and businesses from the energy price crisis, *worth £78 billion* in 2022-23 and 2023-24 (OBR, 2023a).

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[4] As Rachel Reeves when Shadow Chancellor put it in her Mais Lecture on 19 March 2024: "We must face the world as it is not as we would have it be. I am under no illusions about the scale of the challenge, nor the stakes; the consequences, should we fail to learn the lessons of our recent past, are severe: for our place in the world, our living standards, our climate commitments, and faith in democratic politics."

[5] The IMF's multifaceted and ultimately qualitative approach to assessing fiscal space is described in two papers (IMF, 2016, 2018). See also OBR (2021b).

[6] Figure taken from the National Audit Office (NAO) webpage: Taxpayer support for UK banks: FAQs - National Audit Office (NAO), last updated November 2020.

However, there was no fiscal space for the Truss/Kwarteng 'mini-Budget' announcement in September 2022 of *£45 billion a year worth* of tax cuts (House of Commons Library, 2022), which were unfunded and lacked credible plans (given no fiscal forecast was published). These cuts were also presented in a manner that undermined the UK's key economic institutions (i.e. the Treasury, Bank of England and the OBR).

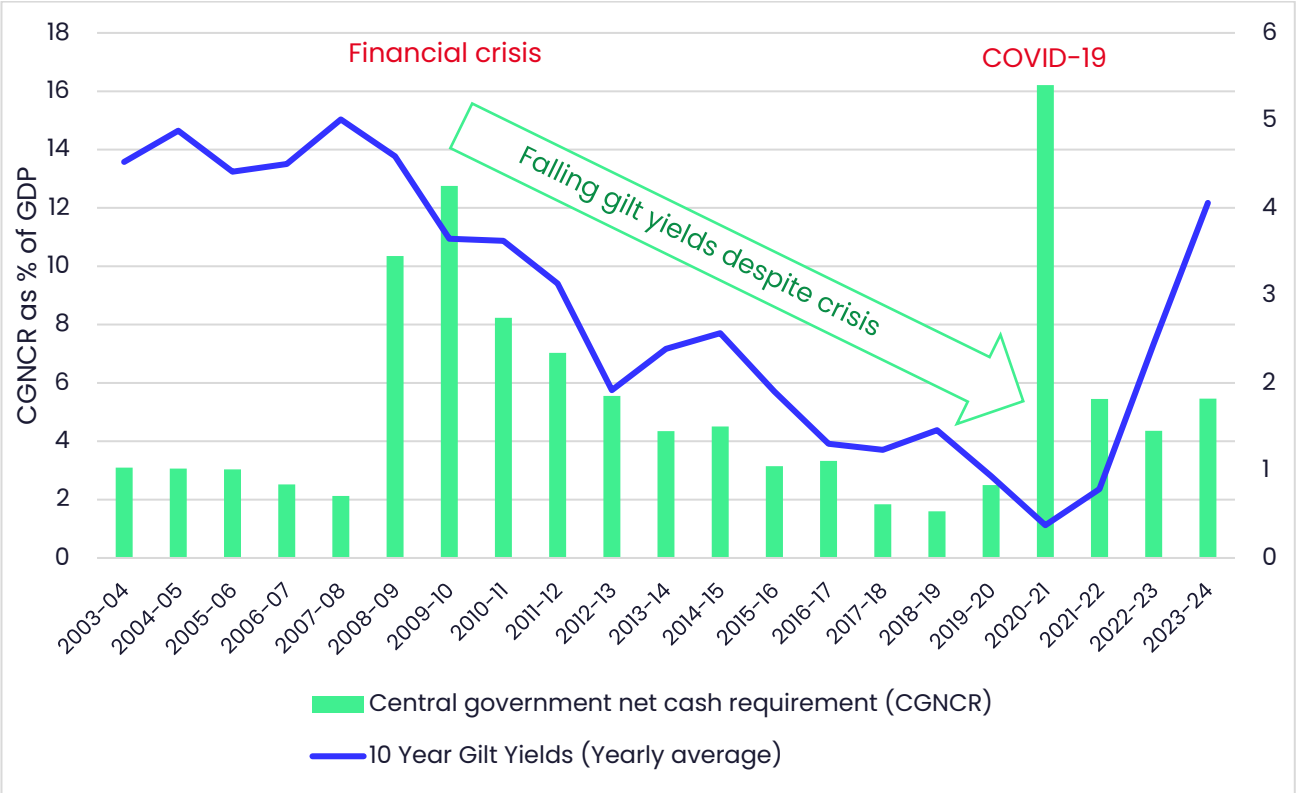
History is full of examples of fiscal crises where governments lost credibility and access to finance, resulting in the need for abrupt policy reversals (similar to those that stabilised markets in the UK after the mini-Budget). A 2017 IMF study found that fiscal crises are often preceded by "loose fiscal policy, as expenditures grow above average", and that once the crisis starts, "countries tighten expenditure growth as economic conditions deteriorate" (Gerling, 2017). The study suggests that while crises may be either "because of complacency or difficulty in implementing a necessary fiscal adjustment", "the evidence suggests countries will be forced to tighten fiscal policy once the crisis arrives in a difficult economic environment" (ibid.).

Figure 3.1 illustrates how UK 10-year government bond ('gilt') yields fell throughout the period from around 2007 to 2022. The key insight is this long-term trend decline (due to factors such as international conditions, declining inflation and quantitative easing) was not affected by successive crises (Bean et al., 2015). This includes the financial crisis, during which government cash borrowing surged as the economy and tax receipts weakened, and the banks were bailed out. Similarly, during the pandemic, costly policy interventions such as the furlough scheme led to an even steeper increase in borrowing.

It is difficult to discern the impact of the Truss/Kwarteng mini-Budget from the wider impact of post-pandemic inflation on interest rates, but the adverse market reaction was clear in the immediate days that followed the announcement, when gilt yields spiked and the Bank of England stepped in to stabilise the market (Figure 3.2). The spike was short-lived, in part because of the Bank's interventions, but more importantly because the announcements that caused the market reaction were quickly reversed.

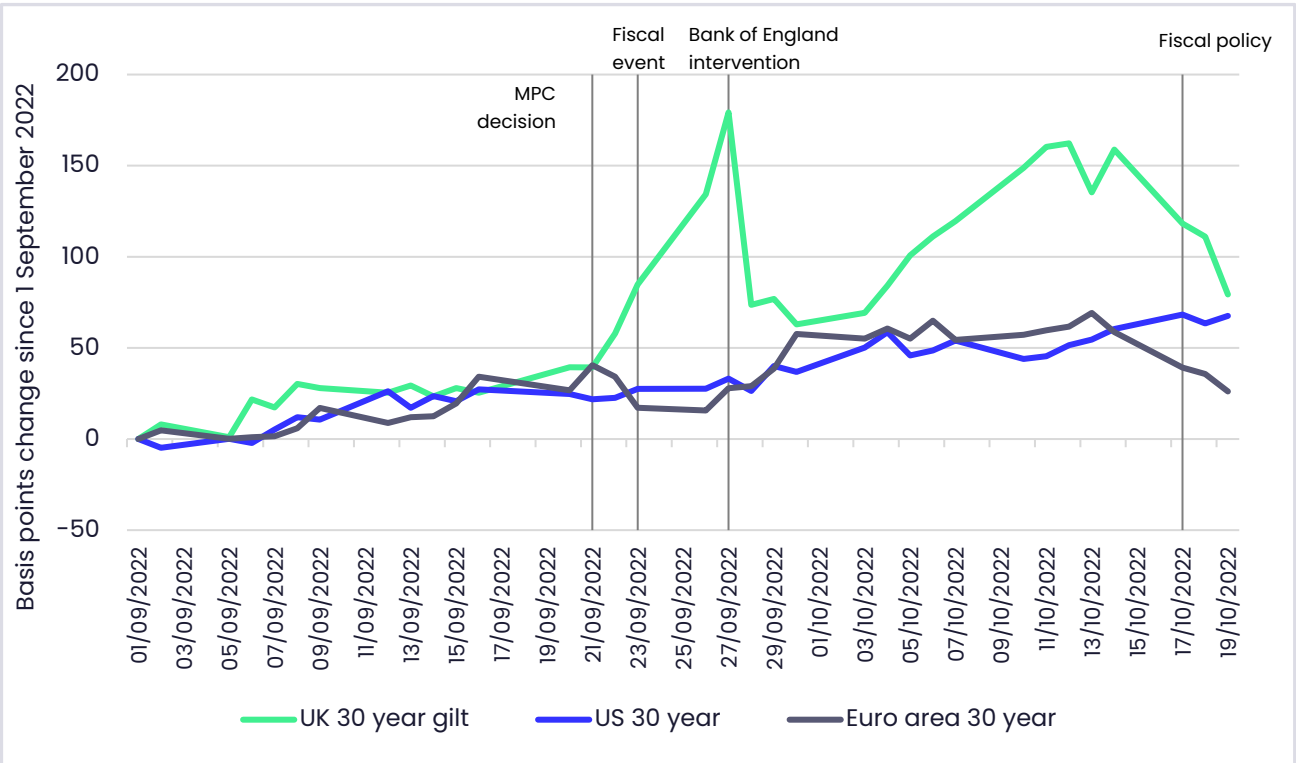
The contrast between the lack of market reaction to high borrowing in the crises of this century and the strong market reaction to the mini-Budget shows the importance of market participants' belief that the reasons for additional borrowing are sensible. Supporting the economy through the financial crisis and pandemic was viewed as sensible – not to have done so would have yielded far worse results for the economy and bondholders. Announcing unfunded tax cuts and attacking institutions *was* not viewed as sensible, and so market confidence was lost. The fall in the value of the pound following the Truss/Kwarteng episode, which came despite the relative rise in UK interest rates, was a further indicator of investor concerns, revealing a rise in the risk premium on UK assets (Wren-Lewis, 2022).

Figure 3.1. UK central government net cash requirement (CGNCR) versus 10-year gilt yields, 2003-04 to 2023-24



Source: Authors' calculations using data from OBR Public Finances Databank (2024) and Federal Reserve Economic Data (2024)

Figure 3.2. Cumulative change in UK nominal government bond yields, September 2022



Source: Recreated from Bank of England (2022a) and Bank of England (2022b) using Bloomberg Finance L.P. data (accessed July 2024)

The large-scale investment needs associated with net zero and adaptation to climate change differ from the shocks of recent decades: they are a 'chronic' multi-year issue rather than an 'acute' one-off demand for fiscal resources.
Meeting these needs through additional borrowing requires a different form of fiscal credibility than is required to ramp up borrowing temporarily in the face of a shock. It is, in some senses, a medium-term use of 'fiscal space' – something the IMF has defined as "the room for undertaking discretionary fiscal policy relative to existing plans without endangering market access and debt sustainability" (IMF, 2020). As the OBR has highlighted, "the climate emergency is like the COVID-19 emergency, just in slow motion and much graver" (OBR, 2021a).

The estimated overall costs for dealing with climate change are lower than those for recent acute shocks. According to the OBR, "the fiscal impact of achieving net zero would add 21 per cent of GDP to public sector net debt in 2050-51 (£469 billion in today's terms). That would be somewhat less than the 23 per cent of GDP (£520 billion in today's terms) rise between 2019-20 and 2021-22 that we expect as a result of the pandemic" (ibid.).

Box 3.2. Fiscal rules and net zero – the debate in the EU

A similar debate around fiscal rules and net zero is happening in the EU against a comparably difficult fiscal context,[7] but with the added complexity of regulatory developments at both the Member State and EU level. Despite a recent agreement for a more flexible fiscal framework in specific areas, the current rules are still considered likely to constrain progress on net zero investment in Member States, in particular from 2026 onwards.

EU net zero commitments and implied investment: With the 'Fit for 55' package, the EU aims to reduce emissions by 55% by 2030 (relative to 1990) and with the European Green Deal to achieve net zero by 2050 (Darvas, 2022a). This requires an estimated €40 trillion of public and private investment by 2050, averaging around 2.3% of EU GDP annually. Public expenditure will need to double to €510 billion a year (Institut Rousseau, 2024).

Fiscal context: The EU suspended its fiscal rules during the COVID-19 pandemic. Against the backdrop of post-pandemic recovery, Russia's war against Ukraine, higher debt levels and interest rates, over the past four years the EU has been reforming the Stability and Growth Pact. This aims to improve the feasibility and effectiveness of the bloc's fiscal rules, which have historically (pre-COVID) had a single-minded focus on stabilising debt levels and containing deficits at the expense of other objectives, including green growth (Odendahl and Baccianti, 2022).

EU expenditure on green and digital priorities was expanded during the pandemic through the Recovery and Resiliency Facility (RRF), which saw countries issue joint debt for the first time. The RRF is still supporting EU-level spending – but is a separate and temporary fund outside the EU's seven-year budget framework, and is set to expire in 2026.

Recent agreement: Following agreement between Member States in December 2023, the European Parliament approved new fiscal rules for the EU in April 2024. While it retains the existing excessive deficit procedures, the revised framework includes some protections on government investment and various provisions to give more 'breathing space' under the fiscal rules.

[7] As acknowledged recently by Kristalina Georgieva, the IMF's Managing Director: "Low growth, high debt. Not a great place from which to begin a big push to develop clean energy supply and fight climate change. But let us be clear: if we do not win the fight against climate change, all of humanity together, we will all suffer" (Georgieva, 2024).

The revised framework aims to ensure a country's public debt ratio is on a 'plausibly downward trajectory' by the end of a fiscal adjustment period of four years (based on the single operational indicator of net primary expenditure). This period can be extended to a maximum of seven years when committing to a range of investments the European Commission assesses to be consistent with debt sustainability. Although national spending on the co-financing of EU-funded programmes will be excluded from the Commission's assessment, the reforms do not include broad exemptions for green public investment at the national level.

Risks on the horizon: Despite these changes, "large fiscal consolidations will be required in a number of (big) euro area countries from 2025 onwards, in order to comply with the reformed fiscal rules" (Heimberger, 2024; see also Sorgi, 2024). This creates the risk that future governments may undershoot the investments required for net zero and climate objectives, especially given the end of the RRF and, from 2026 onwards, the beginning of interest payments on the bonds issued.

Related to this, a recent report presented to the French Government by Pisani-Ferry and Mahfouz (2023) did not rule out debt financing to deal with the economic implication of climate change and highlighted that "delaying mitigation efforts in order to keep a lid on public debt would be counter-productive: it would only improve things superficially, without any substantive benefit". The report models impact on debt of roughly 1.5 to 1.75% of GDP a year and makes recommendations that consider France's fiscal position.[8]

A 'green golden rule': One potential route forward for green investments, proposed by Darvas and Wolff (2022), is a ***green*** *golden rule,* which would "exclude any increase in net green public investment from the fiscal indicators used to measure compliance with fiscal rules". The feasibility of any such measure would rely on credibly counteracting the risks of greenwashing (Darvas, 2022b), with transparent and credible oversight assessing compliance, and a consistent and transparent taxonomy on what investments are eligible under the rule.

Next steps: This debate on green investment is part of broader developments currently underway concerning the foundational elements of Single Market and EU competitiveness. Former Italian Prime Minister Enrico Letta recently published his report on the future of the Single Market, which contains a proposal to include an EU state aid mechanism to require a larger portion of national funding be directed towards European projects, as well as a Clean Energy Deployment Fund for green technologies focused on operational expenditure. Mario Draghi, another former Italian Prime Minister and former President of the European Central Bank, is expected to release a report this summer on the future of the EU's competitiveness, which may include further recommendations on EU institutional and budget reforms.

As highlighted by Kristalina Georgieva, the IMF's Managing Director, at the recent EU Budget Conference 2024, "the size of the additional investments needed to get from here to there – to net zero emissions by 2050 and to an energy-secure Europe – will be huge. Ensuring that this transition happens in the face of countless other fiscal pressures requires an intelligent approach" (Georgieva, 2024).

[8] The report argues more fully that, "Delaying mitigation efforts to keep a lid on public debt would be counter-productive. Absent technology breakthroughs, such a delay would only increase the cost to public finances and require even greater effort in subsequent years in order to achieve our climate targets. Public debt is not the main instrument for financing the climate transition. However, excessively restricting its use could further complicate the task for policy-makers."

4. Recommendation – reforming the UK's fiscal framework to unlock additional public investment

The overarching requirement for any reform to the fiscal framework to boost investment in climate change mitigation and adaptation is that it must be seen as credible and fiscally sustainable, resting on 'sensible' plans. In particular, it must be viewed as such by the institutions that will purchase the debt issued to finance that investment. Since fiscal credibility is a function of many things, getting this right will require political judgement on how to balance the risks associated with allowing debt to rise a little faster in the medium term against the larger but more distant risks from delaying investment in the transition to net zero.

The recommendations presented in this section would enable government to reform the fiscal framework to support greater investment in the medium term without damaging credibility or longer-term fiscal sustainability. By avoiding the greater future costs of a delayed and disorderly transition, and by potentially putting the net zero transition on a more cost-effective path through accelerated deployment of green technologies, following these recommendations would enhance fiscal sustainability.

Ideally, the Government could fit the needs of net zero and climate change within tax and spending plans that allowed debt to fall relative to GDP in normal times – a pragmatic definition of a sustainable fiscal stance that is consistent with the existing fiscal target. But the difficult fiscal context and the urgent needs of net zero, overlaid by the expectation that delaying investment would ultimately raise rather than reduce fiscal costs, mean these are not normal times. Some argue the transformational nature of the investment needed to transition to a sustainable economy means the opportunity costs of failing to make progress now are far greater than the actual costs of delivering that progress today (Zenghelis et al., 2024).

Policymakers need to walk a tightrope: extraordinary times call for extraordinary measures, but not so extraordinary that they damage fiscal credibility and result in extraordinary rises in debt interest costs. What should the UK Government do in these circumstances?

We recommend the Government should consider reforming the UK's fiscal framework to unlock additional public investment in climate change by:

1. Explicitly allowing debt to rise over the medium term.
2. Reducing the emphasis on public sector net debt (PSND) as the key 'stock' metric in the fiscal framework.
3. Extending the medium-term fiscal forecast from five to 10 years.
4. Learning lessons from the hypothecation of green revenues and proceeds from green bonds to green expenditures.
5. Ensuring the space created is smaller than the additional climate investment required to demonstrate that additional borrowing is not the sole solution.
6. Time-limiting these reforms through formal mechanisms in an updated *Charter for Budget Responsibility*.

These reforms would work best in combination as a coherent package, alongside the recommendation on policy banks made in Section 7 of this paper. Policymakers should use their own judgement to choose which among the recommendations would make a debt-financed increase in public investment most credible with the market participants that would finance the additional borrowing.

1. **Explicitly allow debt to rise over the medium term**
    - This would seek to formalise the extent to which debt is allowed to rise over the medium term,[9] while also creating additional space for investment to enable greater net zero investment in an already challenging fiscal context.
    - It should allow debt still to be on a rising path by the fifth year of the OBR forecast, but with the additional debt accumulation at that horizon strictly constrained to uses that contribute to net zero objectives. Given available estimates of additional net zero investment that might be necessary from the public sector, additional space of around 0.5% of GDP at this horizon might be appropriate (see Box 4.1).
    - This reform will only be successful if the Government can retain fiscal credibility. To do this, it should ensure any additional debt raised is done so transparently and for a sustained, but ultimately temporary, period. Care should be taken over the definition of what counts as contributing to net zero objectives and how transparently it is accounted for and reported (as discussed in the fourth recommendation below).
    - The IMF has argued, "advanced economies with sufficient fiscal space could likely accommodate a small increase in debt if needed" (IMF, 2023).
2. **Reduce the emphasis on public sector net debt as the key 'stock' metric in the fiscal framework**
    - This should be done by placing greater weight on broader metrics like public sector net financial liabilities or public sector net worth, which recognise more assets than just the liquid financial assets captured in public sector net debt. There are different ways that this could be done – from targeting one of these metrics (see Box 4.1) and reporting on debt alongside, to allowing debt to rise while giving more weight to broader developments.
    - Debt cannot be ignored as a metric for measuring fiscal sustainability, but it should not be the sole focus for policymakers. Moving away from net debt as the key metric would come with challenges, as assessed by the IFS (Zaranko, 2023). It would not be appropriate to ignore debt altogether as it is debt that must be issued to the market to finance the majority of any deficit spending and most public assets are illiquid and cannot be sold in a crisis. However, it has long been recognised that public sector net debt is an incomplete metric for considering the health of the public finances (Hughes et al., 2019). What matters is the assets the debt has been invested in.

[9] The Government's proposed fiscal target for debt to be falling as a share of GDP only in the fifth year of a five-year forecast period already allows debt to rise over the medium term, but by an unspecified amount. Under the previous Government, which had the same fiscal rule, the extent to which public debt has been projected to rise over the medium term has varied from 3.8% to 7.3% of GDP. The March 2024 Spring Budget forecast debt as a share of GDP would rise to 4.2% of GDP.

Box 4.1. Alternative fiscal metrics

Fiscal frameworks in the UK have typically included a 'flow' target for a measure of the deficit and a 'stock' target for a measure of debt. There are several metrics, each with pros and cons. From the perspective of making sufficient additional space to finance net zero investment while retaining credibility, we can consider the OBR's March 2024 forecast. This reported £9 billion of 'headroom' against the target of PSND excluding the Bank of England (BoE) falling in 2028-29 (the fifth year of the forecast) and £39 billion of headroom against the target for the overall fiscal deficit (public sector net borrowing/PSNB) to be less than 3% of GDP in that year.

As Table 4.1 shows, headroom against the alternative measure of PSND that includes the BoE was £16 billion larger, at £25 billion. Superficially, this might seem an attractive option that frees up 0.5% of GDP of fiscal space. If spent on additional net zero investment, PSND ex-BoE would only rise by 0.2% of GDP in the target year. Unfortunately, this would not provide a sustainable solution because the gap between the two metrics is narrowing for two reasons: Bank Rate is expected to fall; and the stock of gilts held by the Bank is on a declining path. The difference between the two measures of PSND could fall to zero by the early 2030s, meaning no additional space for net zero investment. The degree of space created would in effect be determined by monetary policy decisions, which would be undesirable. The mechanisms that determine BoE debt are explained in more detail in OBR (2023b).

Table 4.1. Headroom under alternative fiscal metrics

	Headroom in 2028-29 in OBR March 2024 *Economic and Fiscal Outlook*		**Space for additional PSNI with £9bn of headroom**	**Year-on-year change in PSND ex-BoE due to higher PSNI**	**Level of PSNB due to higher PSNI**
	% of GDP	£ billion	£ billion	% of GDP	% of GDP
Flow measures					
Current budget	-0.4	14			
Public sector net borrowing (PSNB)	1.2	-39			
Stock measures					
Public sector net debt (PSND) ex-BoE	-0.3	9			
Public sector net debt (PSND)	-0.8	25	16	0.2	1.7
Public sector net financial liabilities (PSNFL)	-1.9	62	53	1.4	2.9
Public sector net worth (PSNW)	-2.0	67	58	1.5	3.0
Memo					
Public sector net investment (PSNI)	1.7	53			

Source: OBR Economic and Fiscal Outlook – March 2024. Calculations: Authors' own

Switching fully to target an improving path for PSNFL or PSNW, with an unchanged £9 billion of headroom, would provide significantly more headroom for additional net zero investment (£53-£58 billion, about 1.75% of GDP or double the plans set out in the March 2024 *Economic and Fiscal Outlook* for public sector net investment as a whole). That would exceed the volume of public investment required for net zero. It would also probably be too large an increase in investment to be delivered within a five-year horizon given other impediments to investment (such as planning delays and supply chain capacity). Perhaps more importantly, it would leave PSND ex-BoE rising by 1.5% of GDP in five years' time and PSNB at around 3% of GDP, which would pose a material risk of undermining fiscal credibility and pushing interest rates higher. The interest on the additional debt would put pressure on the current budget balance (Labour's proposed flow target – against which there was headroom of only £14 billion in the March forecast).

This suggests that there is no clear alternative metric to PSND to achieve the goal of creating additional space for net zero investment while retaining credibility. One possibility would be to target PSND ex-BoE rising by 0.5% of GDP in Year 5 and that margin diminishing thereafter so that debt was falling somewhere in the Year 6–10 window. Another option would be to target PSNFL falling by an amount that was large enough for PSND ex-BoE not to be rising so quickly that it damages credibility - perhaps falling by 1.5% of GDP in Year 5 on the March 2024 forecast. The Government would need to make a judgement on which of these, or any other alternatives, it felt was most credible.

3. **Extend the medium-term forecast from five to 10 years**

   - This recognises the frontloaded nature of net zero investment (see Figure 2.2) and enables the benefits of investment to be more broadly to be captured within forecasts.
   - There would be trade-offs involved in such a change. A concern with recent fiscal forecasts has been the 'fictional' nature of unspecified plans for spending on public services. In the absence of wider reforms to how this spending is captured in the forecast, a longer forecast horizon would give governments even more scope to deploy such tactics (King, 2024). It would also see the fiscal outlook improve automatically through fiscal drag to a potentially unreasonable degree.
   - This change would enable a government to set out the hump-shaped profile of net zero public investment. It would also provide more scope for the growth benefits of public investment more generally (and other supply-side reforms) to be reflected in forecasts.[10]
   - The Institute for Government (IfG) has suggested a similar approach for "a full economic and fiscal forecast for (say) 10 years ahead, rather than the current five-year forecast" and indicates that this would "make clearer the longer-term economic impacts of policies" (Tetlow et al., 2024). Given the challenges associated with accuracy, the IfG's favoured approach would focus on the most relevant policies rather than a fully comprehensive forecast. It says, "one option would be to include, alongside the five-year forecasts and five-year policy scorecard, calculations of the impact of policies at 10- and 20-year horizons, assuming the policy is sustained" (ibid.).
   - The most prominent international example of use of a 10-year forecast horizon is the United States, where the President's budget and the analyses carried out by the Congressional Budget Office cover 10 years. Such a reform in the UK could thus be informed by lessons learnt in the US.

4. **Learn from the hypothecation of green revenues and the proceeds from green bonds to green expenditures to better manage the risks involved**

   - The Government would need to manage risks associated with the fungibility of resources that could undermine the link between the additional fiscal space afforded by allowing debt to rise further and the additional green expenditures it should finance – i.e. the risks from 'greenwashing' public spending. If the space were to be used for business-as-usual expenditures, this could undermine credibility and future fiscal sustainability.

[10] A 10-year forecast horizon would enable a fuller accounting of growth effects of supply-side policies than the partial solution proposed in the Shadow Chancellor's March 2024 Mais Lecture, which called on the OBR "to report on the long-term impact of capital spending decisions".

- Independent oversight should be used: the Green Alliance considers this in its green golden rule proposal, which it notes "risks encouraging the government to greenwash investments as spending could be reclassified as 'green' to exempt it from fiscal rules" (Coulter and Wheeler, 2024). Accordingly, it recommends an independent organisation such as the OBR or CCC to be tasked with monitoring compliance.
- The Organisation for Economic Co-operation and Development (OECD) has also highlighted the difficulties and lessons from 'Green PFM', in particular with green budget tagging: "Budget tagging is by its nature subjective and requires sound judgements to be made across government, even when there may be incentives to 'green-wash' or underestimate relevant budget items as part of the process" (OECD, 2021). It advises tagging decisions be open to scrutiny, with opportunities for oversight by a larger audit institution (ibid.).

5. **Ensure the additional fiscal space created by a looser fiscal framework is smaller than the additional net zero investment that is committed, to demonstrate additional borrowing is not the sole solution**
   - If the necessary additional investment were estimated to be 1% of GDP a year (as in Zenghelis et al., 2024), then the fiscal target could be set to allow debt to be rising by, say, 0.5% of GDP in the fifth year. This would demonstrate that creating additional fiscal space within the fiscal framework is not a substitute for taking difficult decisions about the most appropriate policies for decarbonisation (i.e. to use tax levers as well as public spending) and the need to prioritise within fiscal constraints (i.e. to reduce spending in some other area to make space for net zero spending rather than only using additional borrowing).
   - Borrowing for public investment may not always be the best solution. Governments have other levers at their disposal such as taxing high-carbon activities, regulating business and household activities, and passing on costs to users via levies on energy bills (see, for example, Black et al., 2024). Making space to use borrowing to avoid taxing more heavily or regulating more firmly could undermine fiscal credibility by signalling governments would reach for this easiest political lever again in the future – markets would not believe this planned rise in debt was the end of the story.

6. **Time-limit these reforms through formal mechanisms in an updated *Charter for Budget Responsibility*.**
   - Any reforms to the UK's fiscal framework require the Government to issue a new *Charter for Budget Responsibility*: this is secondary legislation that must be approved by Parliament.
   - To ensure that the temporary necessity of additional fiscal space for the specific needs of the low-carbon transition does not become a permanently looser fiscal framework that allows ongoing needs to be financed through borrowing, clauses can be inserted into the updated *Charter* that explicitly time-limit the operation of these reforms.
   - This could take the form of a 10-year sunset clause with a requirement to review the performance of the new framework in meeting its fiscal and climate objectives after five years. Policymakers could thus use this additional space over the course of two Parliaments to accelerate the transition to net zero over the coming decade.

5. The UK's policy banks and their role in the net zero transition

Policy banks are government-owned financial institutions that invest, through loans, guarantees and equity, in commercial markets to help deliver government policy. Policy banks are a well-established policy tool and can operate domestically, internationally or both. They are financial, not grant-giving, institutions, balancing supporting government policy with effective risk management and sound banking principles to ensure they are sustainable, enduring institutions.

The UK Government's 2023 *Green Finance Strategy* identifies three UK-wide policy banks that can play an important role in helping deliver the transition:

- **British Business Bank** (BBB), a bank focused on small and medium sized enterprises (SMEs), established in 2014. The BBB's mission is to "drive sustainable growth and prosperity across the UK, and to enable the transition to a net zero economy, by improving access to finance for smaller businesses". In 2022/23, the BBB made £1.6 billion of commitments. The BBB targets a return above the Government's medium-term cost of capital: of 6.5% in 2022/23 against a target of 1.3%.
- **UK Export Finance** (UKEF), an export credit agency, in operation for over 100 years. UKEF's mission is to ensure no viable UK export fails for lack of finance or insurance. It supports exports across all sectors, and "the global transition to a low-carbon economy… promoting support for clean growth and climate resilience technologies". In 2022/23, UKEF provided £6.5 billion of financial support via loans, guarantees and insurance policies. UKEF must operate at no net cost to the taxpayer (UKEF, 2023).
- **UK Infrastructure Bank** (UKIB), an infrastructure bank, established in 2021. UKIB's mission is "to partner with the private sector and government to increase infrastructure investment to help to tackle climate change and promote economic growth". UKIB has an initial £22 billion capitalisation: £18 billion for private sector projects and £4 billion for local authority projects (UKIB, 2023c). As of September 2023, the bank had committed almost £1.9 billion. UKIB has been set a return target of 2.5-4% (UKIB, 2022).

The new UK Government has now announced plans to bring together the UK Infrastructure Bank and the British Business Bank under the umbrella of the National Wealth Fund, while also providing a further £7.3 billion in capital over the course of the next Parliament.

There are also two policy banks focused on the devolved administrations:

- **Scottish National Investment Bank** (SNIB), a development bank, established in 2020. The SNIB's mission is "to provide patient (long term) capital to businesses… to support the development of a fairer, more sustainable economy" (SNIB, 2020). In 2022/23, SNIB committed £221 million across 13 investments (SNIB, 2023).
- **Development Bank of Wales** (DBW), a development bank, established in 2017. DBW's mission is "to unlock economic potential in Wales and enhance the local economy by providing sustainable, effective finance" (DBW, 2022). In 2022/23, DBW invested £124.2 million through 516 individual investments (DBW, 2023).

The new Government has also committed to create a further new institution in the form of Great British Energy (GBE). The Labour manifesto stated that this will be a publicly owned company to "partner with industry and trade unions to deliver clean power by co-investing in leading technologies; will help support capital-intensive projects" (Labour Party, 2024).

The *Green Finance Strategy* identifies the important role policy banks can play in helping to deliver net zero investment, through "supporting sectors and technologies across to commercial maturity and scale" (HM Government, 2023).

Detailing the role of the UK's policy banks is beyond the scope of this paper, but in general terms, policy banks are currently required to be additional – that is, they must not crowd-out the market: instead, they invest where the market is hesitant to go. The exact role a policy bank will play in a sector is dependent on many dynamic factors, including investor appetite, macroeconomic conditions, the UK's competitiveness in comparison to other countries, and the wider government support available through subsidies and business models.

The policy banks all highlight how flexibility is an important part of their strategic approach: it enables them to respond to evolving market conditions and demand, ensuring their support remains additional, rather than pre-emptively dictating how and where they will invest. In this regard, in their public strategies, the policy banks highlight:

- **UKIB**: "Market conditions evolve, and we will change with them… Our investment strategy is designed to be flexible" (UKIB, 2022).
- **British Business Bank**: "We are firstly guided by our mission and values, while using the flexibility that we have to ensure that smaller businesses have access to finance whatever the economic circumstances" (BBB, 2023).
- **UK Export Finance**: "Providing flexible support and evolving our product offering to help UK exporters expand globally" (UKEF, 2024).

Examples of how policy banks could help address many of the investment barriers net zero projects and businesses will face in the coming years include:

- **Supporting SMEs through the transition**. SMEs may be responsible for up to 36% of total UK emissions (BBB, 2021). They face multiple barriers to decarbonising their activities, including scarce financial resources (28% cite costs as the main barrier for reducing carbon emissions), current economic conditions (55%), uncertainty about government policies and regulations (52%) and limited tools and skills (24%). Bespoke finance from the BBB with built-in incentives to 'go green' could help SMEs decarbonise their own activities (e.g. by making their premises more energy-efficient, replacing equipment and heating with low-emission alternatives, switching to electric vehicles and reducing waste) or be part of developing new low-emission technologies. Eleven per cent of SMEs have already accessed external finance to support the transition and 22% say they are prepared to borrow in the next five years to do so (BBB, 2021).
- **Financing first-of-a-kind, capital-intensive technologies**. Investment in first-of-a-kind technologies requires investors and lenders to take more risk. In some instances, investors may be unwilling to commit capital or demand a level of return that makes a project's cost of capital too high. Many net zero technologies are capital-intensive, requiring projects to raise significant sums of high-risk, affordable capital. For example, a 2023 policy paper on carbon capture, usage and storage (CCUS) in the UK sets out the ambition to deliver four CCUS clusters by 2030 (DESNZ, 2023).

However, as UKIB highlighted in its CCUS sector update (UKIB, 2023b), CCUS is a first-of-a-kind technology in the UK, deployment is capital-intensive, and investors are nervous about delivery, performance and coordination risks. UKIB has identified three products – senior debt, senior guarantees and credit enhancements – it could offer that could help address these investment barriers (UKIB, 2023c).

- **Providing market capacity**. The market is concerned with maximising returns, not delivering the Government's policy ambitions. Proven, mature technologies may see shortfalls in capital over the coming years, as investors identify sectors that offer better returns or reach their sector concentration limits. For example, currently there is no shortage of finance for bottom-fixed offshore wind projects, but this may not always be the case. Delivering the UK's ambitious offshore wind targets will require tens of billions of pounds in investment. At some point in the future, investors may retreat from the sector as they chase better returns or hit their sector concentration limits. In such a scenario, UKIB highlights it could intervene if necessary: "We will also monitor and respond to any emerging private finance capacity gaps in offshore wind and solar projects with a CfD [contract for difference]" (UKIB, 2022).

Case study: role of the Green Investment Bank in fostering the UK's offshore wind sector

The Green Investment Bank (GIB) played a crucial role in financing early-stage offshore wind projects in the UK. Between 2012 and 2017, it committed £2,211m of capital in 11 offshore wind projects, mobilising £4,660m in private investment. An evaluation by Vivid Economics (2017), commissioned by the National Infrastructure Commission, identified four ways GIB supported the sector:

- **Early deployment and technology risk reduction:** GIB absorbed early deployment and technology risk for offshore wind deployment, facilitating private investment. It crowded-in new investors by managing risk both within and across deals by familiarising the financial sector with the new technology. For example, GIB provided equity to Westernmost Rough, the first application of a large-scale turbine, and Galloper, the UK's first early construction project finance for offshore wind.
- **Large-scale construction risk reduction:** The private sector may be unlikely to finance construction of large, complex projects. Policy banks can provide capital investment to absorb these risks. For example, the GIB equity in the Rampion offshore wind farm successfully filled capital gaps and absorbed construction risks. This was fundamental in insuring the Final Investment Decision.
- **Provide long-term finance and liquidity:** Due to structural or cyclical reasons, there may be gaps in long-term finance requirements. GIB provided long-term debt after the financial crisis. It bought equity stakes in operating offshore wind farms, helping developers 'recycle' and reinvest capital into the technology.
- **Aggregating projects and innovative finance products:** In the initial stages of a market, projects may be too small to attract private investors. Policy banks can play a role in aggregating projects. For example, GIB's UK OSW Fund aggregated six offshore wind stakes into a portfolio that attracted investment from investors with no prior experience in offshore wind, including UK's Strathclyde Pensions and Sweden's AMF pension fund (GIB, 2015).

The barriers faced by net zero projects and business are also experienced by other parts of the economy. BBB, UKEF and UKIB all have mandates that go beyond investing in net zero. This allows them to play a crucial role in supporting government's overall economic policy and act as a countercyclical stimulus tool when credit markets are tight.

6. The fiscal treatment of the UK's policy banks

The activity of policy banks makes them unusual in the UK public sector.

Central government departments predominantly engage in conventional public spending. Where investment is concerned, that means either procuring capital projects from private sector providers (after which the public sector owns a real, non-financial asset) or issuing capital grants to support capital projects (after which the private sector owns the real asset). Public corporations, such as Ordnance Survey and Channel Four, predominantly operate as commercial entities selling goods and services.

By contrast, policy banks make investments either by financing private sector assets through loans and equity stakes, taking on a financial asset, or issuing guarantees to businesses and investors, taking on a contingent liability and receiving a fee to compensate for the risk taken.[11]

The UK's current fiscal framework only partly reflects the difference between grants and investments. In government budgeting, loan and equity transactions score as financial transactions (FTs). FTs do not score against public sector net borrowing (PSNB) - as PSNB is an accruals measure and FTs generate a financial asset which accrues against the financial liability incurred, cancelling it out. FTs do score against public sector net debt (PSND) because PSND is a cash measure and makes no allowance for the financial asset created as a result of a transaction (Eurostat, 2019).

The UK uses PSND as its targeted measure of debt because it is the widest measure designed to reflect the country's need to raise financing on the international capital markets (i.e. by issuing gilts). It is a robust and rigorous approach, intended to support the credibility of the fiscal regime.

However, the impact for policy banks is that their liabilities score against PSND without any offsetting allowance for the value of the assets they acquire. By extension, their activity is constrained by the Government's proposed PSND-related fiscal rule (i.e. to have debt falling by the fifth year of the forecast) so that they cannot bring financial leverage (borrowing capital to fund investments) to bear in the way that their private sector counterparts can.

For the NWF and GBE, we assess that under the current Office for National Statistics (ONS) rules it is likely that both will be treated as on-balance sheet entities. Therefore, they will also be subject to the proposed fiscal rules – meaning their activity will be constrained in the fifth year of the forecast by the existing fiscal debt target (in 2028/29). This will constrain their ability to help deliver the level of investment needed for the net zero transition, as they will have to compete for funding against other spending pressures, such as health.

[11] Other public bodies that make investments include the UK's development finance institution, British International Investment (BII), and the Government's housing and regeneration agency, Homes England.

How the fiscal treatment of UK policy banks limits their effectiveness

Constraining their size

The UK's policy banks are small, both individually and collectively, compared with their European peers and the European Investment Bank (EIB) – see Table 6.1.

Table 6.1. UK and European policy banks

	Launched	2022/23 Investment, £bn (% GDP)	Assets/portfolio, £bn (% GDP)	No. of employees	Captured by fiscal rules
UK Export Finance	1919	£6.5 (0.3%)	£4.5 (0.2%)*	523	Yes
British Business Bank	2014	£1.6 (0.07%)	£3.8 (0.17%)	609	Yes
UK Investment Bank	2021	£1.1 (0.05%)	£0.66 (0.03%)	198	Yes
KfW[1]	1948	€40 (1%)	€560 (14%)	8,149	No
Bpifrance[2]	2012	€26.4 (1%)	€100.4 (4%)	3,860	No
European Investment Bank	1948	€75.1 (0.4%)	€566 (3.6%)	4,020	No
National Wealth Fund	Due to invest £7.3bn over this parliament to crowd private investment into infrastructure (Labour Party, 2024)				Yes

Notes: 1. Germany's state-owned investment and development bank. 2. France's state-owned investment bank.
*The majority of UKEF's portfolio is guarantees, which is included on its total assets figure.
Sources: UKEF (2023); BBB (2023); UKIB (2023a); KfW (2023); Bpifrance (2023); EIB (2024) and Eurostat (2023)

In 2022/23 the total activity of UK policy banks amounted to £9.2 billion, compared with KfW's €40 billion and Bpifrance's €26.4 billion. In addition, in 2023 the EIB invested €7 billion in Germany and €10.7 billion in France (EIB, 2023).

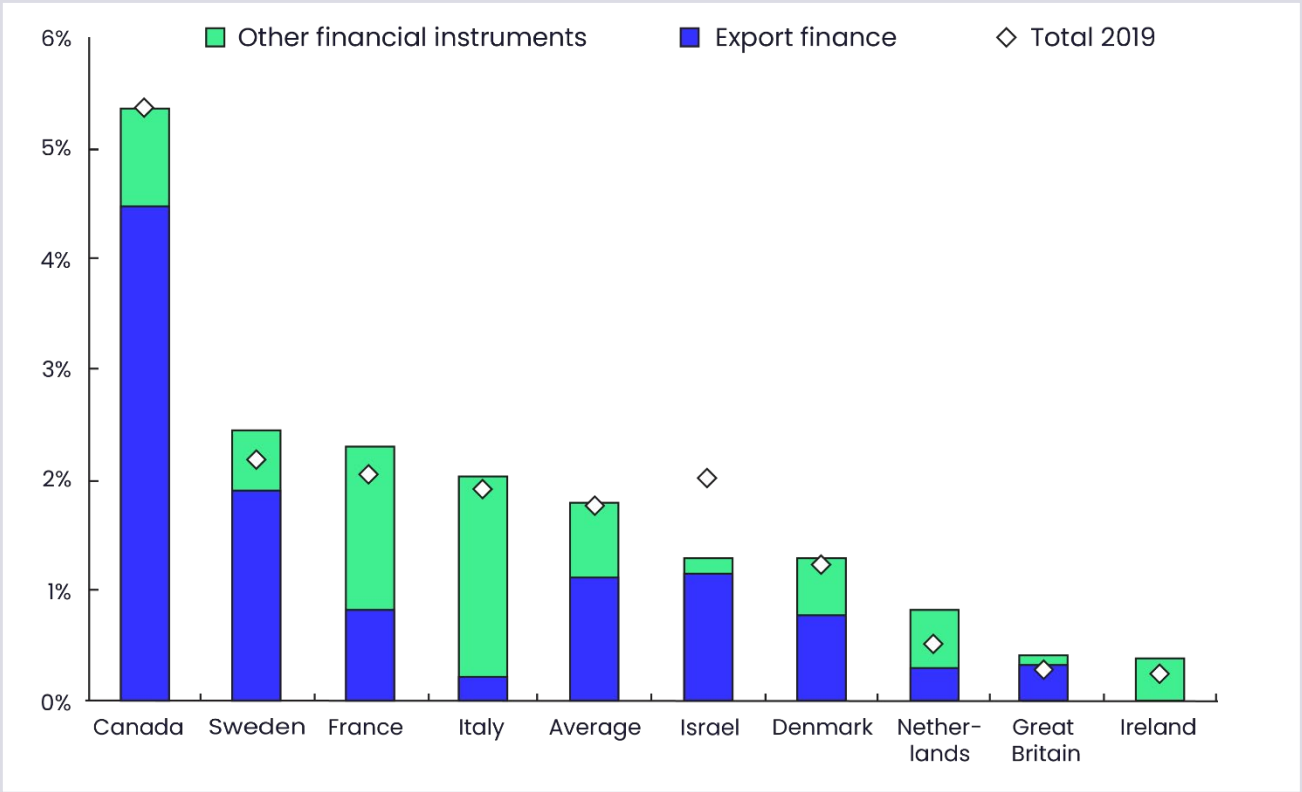
Including policy banks within the UK's fiscal rules limits their scale, hindering their ability to use financial leverage to help deliver government policy. They must compete against other public spending for funding and design investment plans that incorporate the need for PSND to be falling in the fifth year of the forecast.

European policy banks typically finance themselves by borrowing from the markets rather than via government as in the UK. This means EU policy banks do not need to compete against other public spending for funding and do not have to adjust their investment plans to fit within fiscal targets in the same way.

The European approach is preferable. Policy bank activity should be determined by their mandate, market need and opportunities to help deliver government policy, not fiscal rules that fail to recognise the value of the financial assets that they hold and acquire.

Figure 6.2, from a recent OECD report on the composition of industrial strategies across nine countries, highlights the UK is an outlier compared with its peers in terms of its low usage of financial instruments.

Figure 6.2. Financial instrument support by export finance and other instruments in 2021 (excl. COVID), diamond indicating values for 2019, % of GDP



Source: OECD (2023)

Causing inefficiencies in the policymaking process

Including policy banks within the nation's fiscal rules creates inefficiencies in the policymaking process, hindering their ability to help deliver government policy. This accounting treatment:

- **Does not recognise an asset is brought onto the government balance sheet.** PSND only captures the Government's liabilities. It does not capture its assets – and in particular, it does not capture the value associated with financial assets. Where the balance sheet of a public bank is planned to grow (as it is with UKIB and the NWF), the growth in the liability side of that balance sheet will therefore go directly to PSND. This will limit the Government's wider fiscal headspace and the benefits of leverage that could otherwise be brought to bear (and which the EU regime, under the Stability and Growth Pact, would allow).
- **Does not sufficiently incentivise the use of financial instruments.** With PSND being the binding constraint, as it is today, the current fiscal regime does little to differentiate between the use of financial instruments and grants. A different regime could drive stronger incentives to deploy financial instruments rather than grants, resulting in better value and innovation in policy design within Whitehall.
- **Incentivises the use of guarantees.** Policymakers lean heavily on guarantees because, as contingent liabilities, they do not impact the fiscal metrics unless and until the guarantees are called. For example, £10 billion of UKIB's £18 billion financial capacity is in the form of guarantees.

- **Causes consolidation complications for individual investments.** PSND is a national statistical measure set according to rules established by the European Statistical Authority and determined in the UK by the ONS. Those rules are difficult to interpret and are not widely understood. There is a long history of entities unexpectedly being brought onto the public sector statistical accounts. For example, in 2014 Network Rail was reclassified as a central government body, increasing PSND by £30 billion. In 2015 the UK's housing associations were reclassified to the public sector, increasing PSND by £60 billion, forcing the Government to make changes to their control and oversight arrangements so that they could be classified back into the private sector in 2017. A standard commercial approach to managing investments could, in certain circumstances, bring a much bigger PSND impact than expected. Reducing the significance of PSND for such investments should give the public banks greater flexibility to exercise the controls and protections.

7. Recommendation – improving the effectiveness of the UK's policy banks

In 1997, Chancellor of the Exchequer Gordon Brown introduced the UK's first formal fiscal rules, which included "that, as a proportion of national income, public debt [PSND] will be held at a prudent and stable level over the economic cycle" (Brown, 1997). Since then, one of the nation's fiscal rules has related to the measure of PSND (IfG, 2024).

Policy banks can play a critical role in helping the Government deliver net zero and tackle climate change. However, their inclusion in the PSND metric hinders their ability to do so. It constrains the expansion of their operations at a time of significant investment needs and distorts the policy process.

The BBB and UKIB were created in 2014 and 2021 respectively. Policymakers in 1997 therefore did not have policy banks at the forefront of their minds when designing a set of fiscal rules. As such, when the BBB and UKIB were created, these banks had to operate within the existing fiscal regime rather than a regime designed to maximise their effectiveness.

The UK's public sector and the policy challenges it tackles evolve, and the fiscal framework should evolve with it. The new Government and the introduction of GB Energy and the National Wealth Fund into the policy bank space present an opportunity for policymakers to reassess the UK's fiscal framework to ensure it best enables policy banks to deliver on their mission.

We recommend the Government improves the effectiveness of the UK's policy banks by removing them from the public sector net debt fiscal rule.

This would unlock the fiscal space for both conventional public spending and for policy banks to increase their activities to address the climate challenge.

Based on the banks' 2022/23 annual reports, if enacted this could reduce PSND by up to £9 billion, reflecting the current size of their existing portfolios. This change would create space for conventional public spending.

More importantly, removing the fiscal constraint from policy banks and allowing them to use leverage would enable them to scale up their activities beyond their current plans, since those plans reflect the existing PSND-driven constraint on their activity. This change to the fiscal framework would therefore create space for additional activity from policy banks, too, thereby creating two sources of additional fiscal space for climate action.

It is hard to estimate how a policy bank's activities might increase if the fiscal constraints under which they operate were removed. A conservative estimate would be to assume the banks gradually increase their activities over the decade, so by the end of the current forecast period their activity is double what they had initially planned. In this scenario, policy banks would deliver up to £18 billion of additional investment across the remainder of the decade. Policy banks aim to crowd in private capital, so the total investment unlocked would be larger. For example, in UKIB's first year, the Bank closed seven deals worth £610 million – mobilising more than £4.2 billion of private capital in the process (UKIB, 2022).

The benefits go beyond simply allowing the policy banks to expand their balance sheets. The inefficiencies in the policy process outlined in Section 6 of this paper would be addressed, enabling policy banks to be more effective in their activities.

If the Government were minded to make a larger change to the fiscal framework and switched to targeting public sector net financial liabilities (PSNFL) rather than a measure of PSND, the constraints on the expansion of policy banks' balance sheets would also be lifted. Broader considerations around such a switch are discussed in Box 4.1.

Policy design considerations

Taking the new National Wealth Fund and its constituent parts outside of the PSND fiscal rule would bring material benefits on its own, but there are other changes that the Government would sensibly consider alongside such a change: on banks' ability to raise their own finance, their public sector classification, and how they are supervised.

1. Financing

In theory, an increase in policy bank activity could be financed through gilts that are ringfenced and taken outside the PSND control framework. However, the more simple and effective solution would be to replicate how European policy banks finance their activities and allow UK policy banks to borrow from the markets themselves.

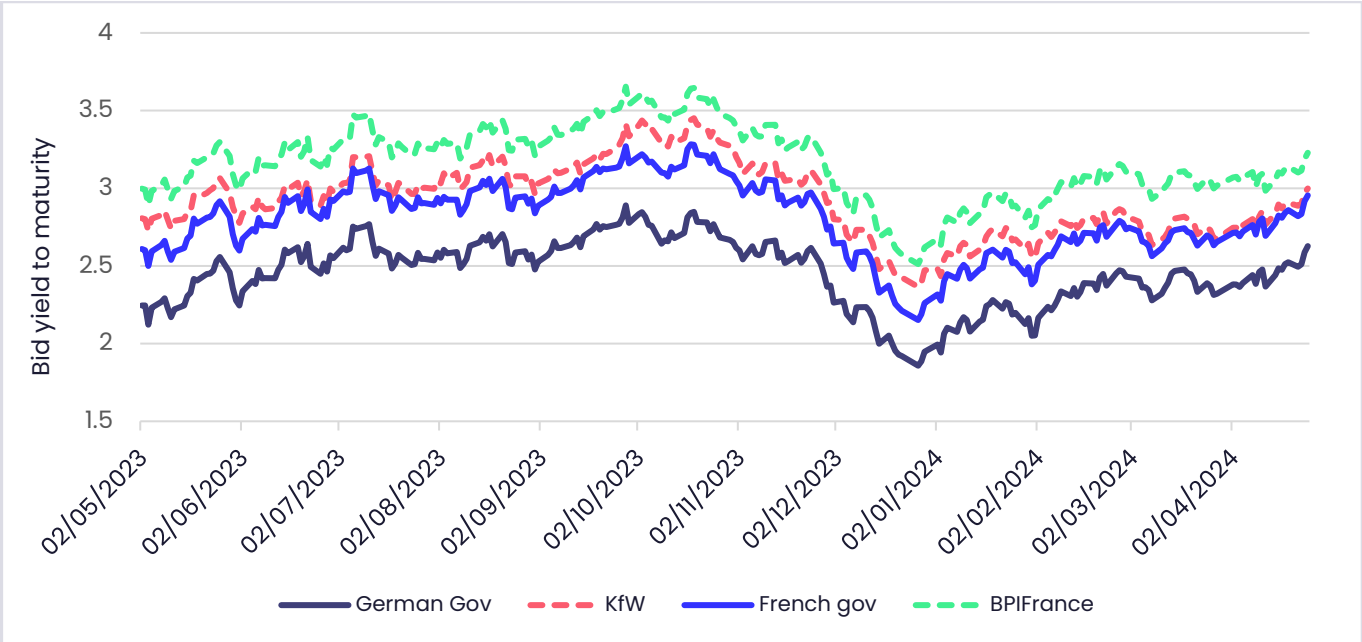
European policy banks finance their investments through issuing bonds on capital markets. In 2023 KfW Group increased its borrowing by €90.2 billion (KfW, 2023). Bpifrance borrowed €6.1 billion (Bpifrance, 2023).

Credit rating agencies issue European policy banks with credit ratings. These are normally aligned to the policy bank's sovereign's credit rating, due to the presence of both implicit and explicit guarantees to support the policy bank if it faces financial difficulties. For example, KfW is rated AAA by Fitch as it is "aligned with those of the bank's guarantor and 80%-owner, the Federal Republic of Germany (Germany, AAA/Stable/F1+), which Fitch deems extremely likely to support the bank"[12] (Fitch Ratings, 2023). The presence of implicit and explicit guarantees from the German state means KfW borrowing costs closely track German Bunds.

Figure 7.1 compares KfW and Bpifrance's borrowing costs with German and French sovereign bonds respectively. If the debt of a UK public bank were guaranteed in a similar way and with a similar price differential, then the additional financing costs might equal around £5 million per year for every £1 billion of debt raised.

[12] The Federal Government owns 80% of KfW's share capital and the German federal states own 20% (KfW, 2023).

Figure 7.1. Bid yield to maturity of German and French government and development bank (KfW bonds and Bpifrance) five-year bonds, May 2023–May 2024



Source: Bloomberg L.P. (2024)

2. Public corporation classification

UKIB and the BBB are currently classified by the ONS to central government, whereas UKEF is classified as a public corporation. The National Wealth Fund and GB Energy are yet to be classified. While a public corporation classification is not essential to enable a change in fiscal treatment, making the changes necessary to move the National Wealth Fund to this classification would provide a cleaner narrative around the change and avoid the need to amend the *Monthly statistics on the public sector finances: a methodological guide* (ONS, 2023), which provides information on the monthly public sector finances (PSF) statistical bulletin jointly produced by the ONS and the Treasury. This guide does not currently permit exclusions for central government bodies.

The ONS makes its classification decisions in line with the guidance set out in the *Manual of Government Deficit and Debt*: specifically, in this case, the guidance on 'captive financial institutions'. Allowing a policy bank to raise its own finance in the markets is unlikely to be sufficient on its own to secure a public corporation classification – certainly if that debt is directly guaranteed. While precedents set by UKEF and policy banks elsewhere in Europe suggest a public corporation classification should be possible, detailed discussions between the Treasury and ONS would be required.

On reaching its decision, we can expect the ONS to consider the National Wealth Fund to be a 'captive financial institution' and therefore classified to central government if at the same time the following conditions are met:

- The unit would carry out a limited range of activities in narrow conditions set by government (in the framework of public policy objectives).
- Government influence or constraints would be evidenced simultaneously on both the assets' side and liabilities' side of the unit.
- The unit would not behave like a 'normal' commercial entity (e.g. there would be no expectation of a market rate of return on equity).

By the same token, if any one of those conditions is not met, it would not be a captive financial institution and so should be classified to the wider public sector rather than central government – as is already the case for UKEF (or, by its official title, the Exports Credit Guarantee Department). This is notwithstanding UKEF's close working relationship with the Department for Business and Trade (DBT) with, for example, UKEF's CEO sitting on the main board of DBT.

3. Supervision

If the National Wealth fund were to be taken outside of the PSND control framework, then government would need to consider if additional measures are required to manage the risks associated with those banks. Broadly, there are three ways this could be achieved:

i. **Status quo supervision arrangement.** Currently, policy banks are separate corporate entities with their own boards established in line with the UK's Corporate Governance Code and therefore with a majority of independent non-executive directors. These boards typically include a shareholder representative from UK Government Investments. They produce annual reports that include statements of viability and going concern and are prepared in line with the IFRS 9 accounting standard (which means that they need to recognise expected future losses in their accounts). These annual reports and accounts are signed off by their boards and externally audited by the National Audit Office. The policy banks have their own risk management processes with, in the case of UKIB, a capital regime (in which individual investments are allocated risk weights and so on) that operates on similar principles to that which would operate in a commercial bank. Unlike a conventional commercial bank, though, none of the UK's policy banks is currently subject to external financial supervision. Instead, they are overseen by their shareholder departments (and, typically, the non-specialist civil servants within those departments) in line with governance arrangements set out in their individual framework agreements. This arrangement could continue if the banks were taken outside the PSND control framework if government were confident that it could adequately supervise an organisation with responsibility for raising its own finance.

ii. **Bespoke arrangement with a new committee.** If government should consider it necessary to strengthen the status quo, then one option would be to create a bespoke arrangement. The EIB provides one precedent for how to do this. It has a Board consisting of representatives from EU Member States and operates outside of conventional financial supervision. It also has a separate body, the EIB Audit Committee, which is staffed by expert external figures rather than EIB Board members and adds a further layer of independent scrutiny. The EIB Audit Committee has three main responsibilities: (i) to confirm the annual report gives a true and fair view of the financial position of the bank; (ii) to verify the bank's risk management and monitoring activities; and (iii) to verify the bank conforms to the best banking practice applicable to it. It produces a public annual report to the EIB Board of Governors (who are the Finance Ministers of the EU27). The Audit Committee has also worked with the EIB to identify what financial regulation should not apply to the institution, given its unique status as a non-deposit-taking multilateral development bank. The UK could learn from this approach by establishing a small, independent committee outside of the policy banks and their Boards (and own internal audit committees). This committee could provide an additional layer of scrutiny and challenge over the policy banks, similar to the role played by the EIB Audit Committee. It could report publicly and to Parliament as appropriate.

iii. **Prudential and financial conduct regulation.** An alternative approach would be to bring the UK policy banks within the ambit of the Prudential Regulation Authority (PRA) and/or the Financial Conduct Authority (FCA). Careful thought would need to be given to this approach as there are significant concerns over the extent to which PRA/FCA supervision would impede the policy goals of the banks. KfW in Germany might provide a useful model. In 2013, Germany passed a law – the 'law concerning KfW' – which established the legal basis for applying key banking supervision standards to KfW, with supervision of compliance to these standards assigned to the German Federal Financial Supervisory Authority (BaFin). The law applied a bespoke set of regulations to KfW in recognition of its status as a public sector entity without a deposit business: for example, it excludes the application of liquidity ratios and maintenance of recovery and resolution plans as these are not considered relevant for a state-guaranteed institution. The law also requires BaFin more widely to take account of KfW's status as a 'promotional' bank. As highlighted above, the EIB has undertaken a similar process to identify the bespoke set of regulations it should follow. The UK could consider replicating this approach, creating a bespoke regulatory arrangement whereby the policy banks would be overseen by the PRA/FCA, but in a bespoke way that recognises their unique status and policy goals.

8. Conclusion

The UK must act faster to meet its emissions reduction targets and adaptation requirements. Public investment will be a pivotal actor in the transition – both in catalysing the volumes of private investment required and by investing in the transition itself. Policymakers must pull all the levers available to drive this investment.

However, the UK's fiscal framework is constraining policymakers' ability to invest in the transition to a more resilient, net zero economy. The challenging fiscal context in which the UK finds itself calls for a loosening of the fiscal rules to allow a time-limited increase in public investment. A change is required to the fiscal treatment of the UK's policy, as called for in this paper. A new framework should be designed to better support the role of the policy banks in delivering resilient, net zero-aligned investments.

References

Bank of England (2022a) *Bank of England confirms details of emergency bond buying in correspondence with Treasury Committee.* https://committees.parliament.uk/committee/158/treasury-committee/news/173401/bank-of-england-confirms-details-of-emergency-bond-buying-in-correspondence-with-treasury-committee/

Bank of England (2022b) *Financial stability report – December 2022.* www.bankofengland.co.uk/financial-stability-report/2022/december-2022

Bean C, Broda C, Ito T and K Randall. (2015) Low for long? Causes and consequences of persistently low interest rates. *Geneva Reports on the World Economy 17.* International Center for Monetary and Banking Studies and Centre for Economic Policy Research. www.cimb.ch/uploads/1/1/5/4/115414161/geneva_report17_2.pdf

Black S, de Mooij R, Gaspar V, Parry IWH and Zhunussova K (2024) *Fiscal implications of global decarbonization*. International Monetary Fund (IMF) Working Paper No. 2024/045. www.imf.org/en/Publications/WP/Issues/2024/03/01/Fiscal-Implications-of-Global-Decarbonization-545459

Black S, Jaumotte F and Ananthakrishnan P (2023) World needs more policy ambition, private funds, and innovation to meet climate goals. Blog post, 27 November. IMF. www.imf.org/en/Blogs/Articles/2023/11/27/world-needs-more-policy-ambition-private-funds-and-innovation-to-meet-climate-goals

BloombergNEF (2023) *New energy outlook: Europe.* https://about.bnef.com/new-energy-outlook-series/

Bloomberg Finance L.P. (2024) *Bloomberg database.* Accessed on 2 July 2024.

British Business Bank [BBB] (2021) *Smaller businesses and the transition to net zero.* www.british-business-bank.co.uk/sites/g/files/sovrnj166/files/2023-03/J0026_Net_Zero_Report_AW.pdf

BBB (2023) *Annual report and accounts 2023*. www.british-business-bank.co.uk/about/research-and-publications/annual-report-and-accounts-2023

Bpifrance (2023) *Annual report EPIC Bpifrance 2023.* www.bpifrance.fr/download/media-file/79704

Brown G (1997) Budget statement 1997. *Hansard House of Commons debates*. 297, c. 303–16. https://api.parliament.uk/historic-hansard/commons/1997/jul/02/budget-statement

Climate Change Committee [CCC] (2020) *The Sixth Carbon Budget: the UK's path to net zero*. www.theccc.org.uk/publication/sixth-carbon-budget/

CCC (2023a) *Proposed methodology for the Seventh Carbon Budget advice*. www.theccc.org.uk/publication/proposed-methodology-for-the-seventh-carbon-budget-advice/#introduction

CCC (2023b) *Progress in adapting to climate change – 2023 report to Parliament*. https://www.theccc.org.uk/publication/progress-in-adapting-to-climate-change-2023-report-to-parliament/

Coulter S and Wheeler F (2024) *Why the UK needs nature-positive fiscal rules.* Green Alliance. https://green-alliance.org.uk/briefing/why-the-uk-needs-nature-positive-fiscal-rules/

Darvas Z (2022a) *Legal options for a green golden rule in the European Union's fiscal framework.* Policy contribution 13/22. Bruegel. https://www.bruegel.org/system/files/2022-07/PC%2013%202022.pdf

Darvas Z (2022b) A European climate fund or a green golden rule: not as different as they seem. Blog post, 3 February. Bruegel. www.bruegel.org/2022/02/a-european-climate-fund-or-a green-golden-rule-not-as-different-as-they-seem/

Darvas Z and Wolff G (2022) A Green Fiscal Pact for the EU: increasing climate investments while consolidating budgets. *Climate Policy*. https://doi.org/10.1080/14693062.2022.2147893

D'Aprile P, Engel H, van Gendt G, Helmcke S, Hieronimus S, Nauclér T, Pinner D, Walter D and Witteveen M (2020) *How the European Union could achieve net-zero emissions at net-zero cost.* McKinsey. www.mckinsey.com/capabilities/sustainability/our-insights/how-the-european-union-could-achieve-net-zero-emissions-at-net-zero-cost

Department for Energy Security and Net Zero [DESNZ] and Department for Business, Energy and Industrial Strategy (2021) *Net zero strategy: build back greener.* www.gov.uk/government/publications/net-zero-strategy

DESNZ (2023) *Carbon capture, usage and storage: a vision to establish a competitive market.* https://assets.publishing.service.gov.uk/media/6594718a579941000d35a7bf/carbon-capture-usage-and-storage-vision-to-establish-a-competitive-market.pdf

Development Bank of Wales [DBW] (2022) *About us.* Web page. https://developmentbank.wales/about-us

DBW (2023) *Annual report and financial statement 2022-23.* https://developmentbank.wales/sites/default/files/2023-10/Annual%20Report%20and%20Financial%20Statement%202022-23.pdf

Environment Agency (2019) *Long-term investment scenarios (LTIS) 2019.* www.gov.uk/government/publications/flood-and-coastal-risk-management-in-england-long-term-investment/long-term-investment-scenarios-ltis-2019#the-impacts-of-flooding

European Round Table for Industry (2024) *Strengthening Europe's energy infrastructure*. https://ert.eu/wp-content/uploads/2024/04/ERT-Strengthening-Europes-energy-infrastructure_March-2024.pdf

European Investment Bank [EIB] (2024) *Financial report.* www.eib.org/attachments/lucalli/20230354_eib_financial_report_2023_en.pdf

Eurostat (2019) *Manual on government deficit and debt.* https://ec.europa.eu/eurostat/documents/3859598/10042108/KS-GQ-19-007-EN-N.pdf/5d6fc8f4-58e3-4354-acd3-a29a66f2e00c

Eurostat (2023) *Real GDP growth rate – volume.* https://ec.europa.eu/eurostat/databrowser/view/tec00115/default/table?lang=en

Fitch Ratings (2023) *Fitch affirms KfW at 'AAA'; Outlook Stable.* www.fitchratings.com/research/banks/fitch-affirms-kfw-at-aaa-outlook-stable-26-01-2023

Gerling K, Medas PA , Poghosyan T, Farah-Yacoub J and Xu Y (2017) *Fiscal crises.* IMF Working Paper No. 2017/086 www.imf.org/en/Publications/WP/Issues/2017/04/03/Fiscal-Crises-44795

Georgieva K (2024) *An EU budget for a global Europe. Keynote address at the annual EU Budget Conference 2024*. www.imf.org/en/News/Articles/2024/04/29/sp042924-an-eu-budget-for-a-global-europe-by-kristalina-georgieva

Green Investment Bank [GIB] (2015) *Annual Report and Accounts 2014-2015.* www.greeninvestmentgroup.com/annual-report-2015.pdf

Heimberger P (2024) The agreed reform of EU fiscal rules. Blog post, 23 February. Substack. https://heimbergecon.substack.com/p/the-agreed-reform-of-eu-fiscal-rules

HM Government (2022) *UK climate change risk assessment 2022.* www.gov.uk/government/publications/uk-climate-change-risk-assessment-2022

HM Government (2023) *Green Finance Strategy*. https://assets.publishing.service.gov.uk/media/643583fb877741001368d815/mobilising-green-investment-2023-green-finance-strategy.pdf

House of Commons Library (2022) *The 17 October 2022 fiscal statement: summary and background.* Research briefing. https://commonslibrary.parliament.uk/research-briefings/cbp-9643

House of Commons Library (2024) *The budget deficit: a short guide.* Research briefing. https://commonslibrary.parliament.uk/research-briefings/sn06167/

Hughes R, Leslie J, Pacitti C and Smith J (2019) *Totally (net) worth it: the next generation of UK fiscal rules.* Resolution Foundation. www.resolutionfoundation.org/app/uploads/2019/10/Totally-net-worth-it.pdf

International Energy Agency [IEA] (2023) *Ensuring an orderly energy transition: Europe's competitiveness and financial stability in a period of global energy transformation. Background document.* IEA-ECB-EIBInternationalConference2023_Backgrounddocument2.pdf

International Monetary Fund [IMF] (2016) *Assessing fiscal space - an initial consistent set of considerations.* www.imf.org/en/Publications/Policy-Papers/Issues/2017/01/13/pp5080-Assessing-Fiscal-Space-An-Initial-Consistent-Set-of-Considerations

IMF (2018) *Assessing fiscal space: an update and stocktaking*. www.elibrary.imf.org/view/journals/007/2018/033/article-A001-en.xml

IMF (2020) *United Kingdom: 2020 Article IV consultation-press release; staff report; staff supplement; and statement by the Executive Director for the United Kingdom.* IMF Staff Country Report No. 2020/320. www.imf.org/en/Publications/CR/Issues/2020/12/18/United-Kingdom-2020-Article-IV-Consultation-Press-Release-Staff-Report-Staff-Supplement

IMF (2023) *Climate crossroads: fiscal policies in a warming world.* www.imf.org/en/Publications/FM/Issues/2023/10/10/fiscal-monitor-october-2023

Institut Rousseau (2024) *Road to net zero: bridging the green investment gap.* https://institut-rousseau.fr/road-2-net-zero-en/

Institute for Government (2024) *Strengthening the UK's fiscal framework*. www.instituteforgovernment.org.uk/2024-02/strengthening-uk-fiscal-framework.pdf

Jameson D and Howat M (2024) *Labour's Great British Energy and National Wealth Fund: good ideas that need more work.* Blog post, 2 July, LSE British Politics and Policy Blog. https://blogs.lse.ac.uk/politicsandpolicy/labours-great-british-energy-and-national-wealth-fund-good-ideas-that-need-more-work/

Kahn ME, Mohaddes K, Ng R, Pesaran MH, Raissi M and Yang JC (2019) *Long-term macroeconomic effects of climate change: a cross-country analysis.* IMF Working Paper No. 2019/215. www.imf.org/en/Publications/WP/Issues/2019/10/11/Long-Term-Macroeconomic-Effects-of-Climate-Change-A-Cross-Country-Analysis

King A (2024) How the OBR can help people understand the implications of government's stated spending plans. Institute for Government. Web page. www.instituteforgovernment.org.uk/comment/obr-government-spending-plans

Koehl A (2022) What is climate change legislation? Web page. Grantham Research Institute on Climate Change and the Environment. www.lse.ac.uk/granthaminstitute/explainers/what-is-climate-change-legislation/

KfW (2023) *Financial report 2023.* www.kfw.de/About-KfW/Service/Financial-Publications

Labour Party (2024) *Labour's manifesto: My plan for change*. https://labour.org.uk/change/kickstart-economic-growth/

McKinsey Global Institute (2022) *The net-zero transition: what it would cost, what it could bring.* www.mckinsey.com/the-net-zero-transition-what-it-would-cost-what-it-could-bring

National Audit Office (2020) Taxpayer support for UK banks: FAQs. Web page. www.nao.org.uk/taxpayer-support-for-uk-banks-faqs/

National Infrastructure Commission (2018) *Preparing for a drier future: England's water infrastructure needs.* https://nic.org.uk/app/uploads/NIC-Preparing-for-a-Drier-Future-26-April-2018.pdf

Odendahl C and Baccianti C (2022) *How to make EU fiscal rules compatible with net zero.* Centre for European Reform. www.cer.eu/publications/archive/policy-brief/2022/eu-fiscal-rules-net-zero

Organisation for Economic Co-operation and Development [OECD] (2021) *Green budget tagging: introductory guidance & principles*, OECD Publishing, Paris. https://doi.org/10.1787/fe7bfcc4-en

OECD (2023) Quantifying industrial strategies across nine OECD countries. OECD science, technology and industry policy papers No. 150. www.oecd-ilibrary.org/science-and-technology/quantifying-industrial-strategies-across-nine-oecd-countries_5f2dcc8e-en

Office for Budget Responsibility [OBR] (2021a) *Fiscal risks report – July 2021.* https://obr.uk/frs/fiscal-risks-report-july-2021/

OBR (2021b) *Assessing 'fiscal space'.* https://obr.uk/box/assessing-fiscal-space/

OBR (2022) *Fiscal risks and sustainability – July 2022.* https://obr.uk/frs/fiscal-risks-and-sustainability-july-2022/

OBR (2023a) *An international comparison of the cost of energy support packages*. Web page. https://obr.uk/box/an-international-comparison-of-the-cost-of-energy-support-packages/

OBR (2023b) *Fiscal accounting for quantitative easing and tightening*. Web page. https://obr.uk/box/fiscal-accounting-for-quantitative-easing-and-tightening/

OBR (2024) *Economic and fiscal outlook – March 2024.* https://obr.uk/efo/economic-and-fiscal-outlook-march-2024/

Pisani-Ferry J, Mahfouz S (2023) *The economic implications of climate action: a report to the French Prime Minister.* France Stratégie. www.strategie.gouv.fr/sites/strategie.gouv.fr/files/atoms/files/2023-the_economic_implications_of_climate_action-report_08nov-15h-couv.pdf

Sky News (2024) *Grant Shapps calls for UK defence spending to rise to 3% of GDP.* Press release, 14 March. London: Sky News. https://news.sky.com/story/grant-shapps-calls-for-uk-defence-spending-to-rise-to-3-of-gdp

Scottish National Investment Bank [SNIB] (2020) *About us.* Web page. www.thebank.scot/about-us

SNIB (2023) *Annual report and accounts 2023.* www.thebank.scot/sites/default/files/2023-09/SNIB041%20Annual%20Report%202023_WEB_reduced_0.pdf

Songwe V, Stern N and Bhattacharya A (2022) *Finance for climate action Scaling up investment for climate and development.* www.lse.ac.uk/granthaminstitute/wp-content/uploads/2022/11/IHLEG-Finance-for-Climate-Action-1.pdf

Sorgi G (2024) *Risk of 'lost decade' as EU countries face economic cliff edge.* Press release, 19 March. Brussels: Politico. www.politico.eu/article/eu-countries-economy-spending-rules-budget-pandemic-funds/

Tetlow G, Bartrum O and Pope T (2024) *Strengthening the UK's fiscal framework Putting fiscal rules in their place.* Institute for Government. www.instituteforgovernment.org.uk/sites/default/files/2024-03/strengthening-uk-fiscal-framework.pdf

UK Export Finance [UKEF] (2023) *Annual Report and Accounts 2022–23.* www.gov.uk/government/publications/uk-export-finance-annual-report-and-accounts-2022-to-2023

UKEF (2024) *UK export finance business plan 2024-2029.* www.gov.uk/government/publications/uk-export-finance-business-plan-2024-29/uk-export-finance-business-plan-2024-2029

UK Infrastructure Bank [UKIB] (2022) *UK Infrastructure Bank strategic plan.* www.ukib.org.uk/sites/default/files/2022-06/UKIB-Strategic-Plan-2022-Full_1.pdf

UKIB (2023a) *Annual report and accounts 2022-23.* www.ukib.org.uk/annual-report-and-accounts/annual-report-and-accounts-2022-23

UKIB (2023b) *Strategy update: carbon capture, usage and storage.* www.ukib.org.uk/sites/default/files/2023-09/UKIB-Strategy-Update-CCUS.pdf

UKIB (2023c) *Strategy update 2023.* www.ukib.org.uk/strategy-update

Warner M (2022) *The economic consequences of the UK's ageing population.* Comment, 7 March. The Institute for Fiscal Studies. https://ifs.org.uk/articles/economic-consequences-uks-ageing-population

Watkiss P (2022) *The costs of adaptation, and the economic costs and benefits of adaptation in the UK*. Policy paper. www.theccc.org.uk/publication/the-costs-of-adaptation-and-the-economic-costs-and-benefits-of-adaptation-in-the-uk-paul-watkiss/

Wren-Lewis S (2022) Why is it crucial to understand why financial markets move, rather than worry about the role of markets in aiding the downfall of a Chancellor and Prime Minister. Blog post, 18 October. mainly macro. https://mainlymacro.blogspot.com/2022/10/why-it-is-crucial-to-understand-why.html

Zaranko B (2023) *Public sector net worth as a fiscal target Green Budget 2023 – Chapter 6.* IFS Green Budget 2023. Institute for Fiscal Studies. https://ifs.org.uk/publications/public-sector-net-worth-fiscal-target

Zenghelis D, Serin E, Stern N, Valero A, Van Reenen J and Ward R (2024) *Boosting growth and productivity in the United Kingdom through investments in the sustainable economy.* London: Grantham Research Institute on Climate Change and the Environment, London School of Economics and Political Science. www.lse.ac.uk/granthaminstitute/wp-content/uploads/2024/01/Boosting-growth-and-productivity-in-the-UK-through-investments-in-the-sustainable-economy.pdf