

Update to the Green Finance Strategy: Call for Evidence

Positive Money submission

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Positive Money welcomes the opportunity to respond to the government's consultation on the update to the Green Finance Strategy

We are a not-for-profit research and campaigning organisation, working towards reform of the money and banking system to support a fair, democratic and sustainable economy. We are funded by trusts, foundations and small donations.

If you would like to discuss any aspects of this response please contact Simon Youel, Head of Policy & Advocacy at Positive Money: simon.youel@positivemoney.org.uk. More information about Positive Money is available on our website: <https://positivemoney.org/>.

Key Points

- A “green” and “Net Zero aligned” UK financial centre should have the same underlying principle: proactively shifting financial flows towards a decarbonised economy in line with the Paris Agreement’s 1.5°C warming target.
- To prevent a tight monetary policy context from holding back public and private investment into decarbonisation, a Green Investment Toolkit should be established. This should include a Green Term Funding Scheme, greening collateral frameworks, scaling up green public investment, incentivising local environmental transitions, and promoting a more diverse financial sector.
- Regulators should adapt prudential tools, including Pillar 1 capital requirements, to account for climate risks. Financial regulators should be equipped with a new statutory objective that requires them to align the financial sector with the Paris Agreement and environmental sustainability.
- Nature-related financial disclosures should become mandatory. Nature and biodiversity goals should be integrated into Net Zero Transition Plan Guidance and Sustainable Disclosure Requirements, and financial institutions should be required to align their portfolios with the Post-2020 Global Biodiversity Framework.
- Internationally, the UK Government should become a leader within international fora in financing a just transition for developing and emerging economies. This should include scaling up grants, offering debt forgiveness, and promoting a green international monetary order.

Question 1: What are the key characteristics of a leading global centre for green finance

The most fundamental characteristic for a cluster of financial institutions to be considered a leading global centre for green finance is alignment with the Paris Agreement’s goal to limit the increase in the global average temperature to 1.5 degrees Celsius above pre-industrial levels. For financial institutions, alignment with the Paris Agreement means project financing,

corporate financing, and underwriting that is aligned, at a minimum, with the IEA's net zero scenario.¹

As outlined by the Oxford Sustainable Finance Group, alignment with the IEA's net zero scenario means no more financing for new fossil fuel projects not approved as of 2021 or for any new coal-fired power generation, and requiring that borrowers implement transition plans that phase out existing fossil fuel production and power generation within the timeframes set out in the IEA's scenario.²

In a leading global centre for green finance, financial institutions would also vastly reduce their contributions to other types of environmental harm beyond greenhouse gas emissions, such as deforestation and biodiversity loss. Nature-related financial disclosures, following the framework developed by the Taskforce on Nature-related Financial Disclosures, should become mandatory.³ Nature and biodiversity goals should also be incorporated within UK regulatory and legislative architecture, including Sustainable Disclosure Requirements and Net Zero Transition Plans. Once fully adopted, financial institutions should be required to align their portfolios with the Post-2020 Global Biodiversity Framework.⁴

The size or so-called 'international competitiveness' of a financial centre should not be considered a factor in whether it is a leading global centre for green finance. A relatively small cluster of financial institutions and regulators effectively implementing the above criteria should be considered far more of a leader than a large cluster of financial institutions that is failing to align with environmental goals.

Question 2: Do you consider the UK's green finance regulatory framework to be world-class?

No. The UK's green finance regulation is insufficient to shift financial flows at the scale and speed necessary to meet environmental goals. The IEA has reported that to meet the goal of net-zero by 2050, there can be no more new investments in fossil fuel supply, beyond that already committed in 2021. However, last year just five UK banks invested £35 billion of new money into fossil fuels.⁵ In 2019, the carbon emissions associated with the UK's financial sector institutions amounted to 805 tonnes of carbon dioxide, which is 1.8 times the UK's domestically produced emissions.⁶

The government's 'Greening Finance: A Roadmap', published in October 2021,⁷ outlined three phases to greening the financial system: (1) *informing* investors and consumers, (2) *acting* on the information to create expectations of business, and (3), *shifting* financial flows

¹ <https://www.iea.org/reports/world-energy-model/net-zero-emissions-by-2050-scenario-nze>

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<https://www.smithschool.ox.ac.uk/sites/default/files/2022-03/Implications-of-the-International-Energy-Agency-Net-Zero.pdf>

³ <https://tnfd.global/the-tnfd-framework/tnfd-framework-summary/>

⁴ <https://www.cbd.int/doc/c/abb5/591f/2e46096d3f0330b08ce87a45/wg2020-03-03-en.pdf>

⁵ <https://priceofoil.org/content/uploads/2022/03/Banking-on-Climate-Chaos-2022.pdf>

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<https://www.greenpeace.org.uk/wp-content/uploads/2021/05/The-Big-Smoke-the-global-emissions-of-the-UK-financial-sector.pdf>

⁷ [HM Treasury](#), 'Greening Finance: A Roadmap to Sustainable Investing', 18 October 2021

in line with the UK's net zero commitment. Action to date has focused primarily on phase 1, and to a lesser extent phase 2. Given the short remaining time-frame for reaching Net Zero, and the rising costs from our reliance on fossil fuels, we now need to see a much more active approach to phase 3, *shifting* financial flows.⁸

To shift financial flows, the UK's green finance regulatory must move past the false assumption that financial institutions will become net zero aligned through market led disclosures, a green taxonomy, and voluntary initiatives.⁹ This is insufficient to change investment behaviour, account for market failure, and shift financial flows from fossil fuels towards greener alternatives.

To shift these financial flows away from environmentally damaging activities, more interventionist regulation is needed. The government should use the opportunity of the Financial Services and Markets Bill to introduce a new statutory objective that requires regulators to align the UK's financial sector with the 1.5 degrees temperature goal of the Paris Agreement, and the protection and restoration of nature.^{10 11}

The UK Green Taxonomy currently under development will only be effective if it: excludes all fossil fuel production,¹² defines *both* sustainable *and* unsustainable activities, and moves away from a binary approach to identify different degrees of sustainability.¹³

Question 3: To what extent does the UK's private and public sectors have appropriate skills/capacity to attract international green finance flows?

There is a risk of competence greenwashing in ESG, which could restrict London's capacity to become an international centre for green finance. Advising on ESG issues requires expertise beyond traditional financial performance.¹⁴ ESG teams are required to deal with non financial and extra financial data, and understand complex granular aspects of scientifically based measurements. This requires ESG teams to be made up of those with specialist knowledge, across environmental, social, and governance issues, and not dominated by financial experts.¹⁵

⁸ <https://www.gov.uk/government/publications/greening-finance-a-roadmap-to-sustainable-investing>

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https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002578/20210630_UK_Government_Green_Financing_Framework.pdf

¹⁰ <https://www.wwf.org.uk/sites/default/files/2022-05/Aligning-the-UK-Financial-System-to-Net-Zero.pdf>

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https://financeinnovationlab.org/wp-content/uploads/2022/05/6-May-2022-Climate-Briefing_FINAL.pdf

¹²

<https://9tj4025ol53byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/Joint-CSO-statement-on-UK-Green-Taxonomy-31st-May-2022.pdf>

¹³ https://www.suerf.org/docx/f_55c6017b10a9755ef3681b09ccb01e94_21233_suerf.pdf

¹⁴

<https://sustainabilitynews.eu/dr-kim-schumacher-on-esg-competence-greenwashing-we-should-not-estimate-awareness-or-passion-with-subject-matter-expertise/>

¹⁵

<https://www.responsible-investor.com/competence-greenwashing-could-be-the-next-risk-for-the-esg-in-dustry/>

Failure to recruit individuals with sufficient specialist knowledge on climate and environmental issues may contribute to “greenwashing” scandals. Members of the Glasgow Financial Alliance for Net Zero in particular have lost public confidence in their green finance capacities, since they continue to finance environmentally damaging activities.¹⁶ To establish any kind of green credibility, the City of London must stop all investment in new coal, oil, or gas expansion, in line with the recommendations of the International Energy Agency scenario analysis for reaching net zero by 2050.¹⁷

Question 5: How can the UK government measure progress towards becoming a leading global centre for green finance?

Progress towards becoming a leading global centre for green finance should be measured against the IEA’s Net Zero Emissions by 2050 Scenario, which is consistent with limiting the global temperature rise to 1.5°C.¹⁸

The government should set up a Green Finance Action Taskforce (GFAT), with a mandate to monitor progress in greening private finance, tackle transition risks, and respond to barriers and obstacles that prevent private finance from being reorientated to green activities. This should encompass monitoring and mitigating transition risks, and overseeing the coordination of green fiscal, industrial and financial policies. The GFAT should be composed of officials from the Bank of England, HM Treasury, the Department for Business, Energy and Industrial Strategy, and regulatory bodies including the Financial Conduct Authority and the Pensions Regulator, and the Green Technical Advisory Group.¹⁹

Question 7: How can the UK support a financial system that leverages private investment to meet the UK’s climate and environmental objectives?

The Green Finance Action Taskforce (GFAT) should develop a Green Investment Toolkit, which includes the following policies.

The Bank of England should implement a Green Term Funding Scheme (GTFS). During COVID-19, the Bank of England implemented a Term Funding Scheme with additional incentives for SMEs, setting a strong precedent for preferential rates for certain types of lending.²⁰ This framework could be replicated to produce a GTFS, with a refinancing rate set at a much lower level than the base rate, or in negative territory.²¹ This would incentivise financial institutions to support longer term, capital intensive green projects. Access to the

¹⁶ <https://www.stand.earth/carney>

¹⁷ <https://www.iea.org/reports/net-zero-by-2050>

¹⁸

https://iea.blob.core.windows.net/assets/932ea201-0972-4231-8d81-356300e9fc43/WEM_Documentation_WEO2021.pdf

¹⁹

https://labour.org.uk/wp-content/uploads/2019/11/12851_19-Finance-and-Climate-Change-Report.pdf

²⁰

<https://www.bankofengland.co.uk/markets/market-notice/2020/term-funding-scheme-market-notice-mar-2020>

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<https://positivemoney.org/wp-content/uploads/2021/06/Greening-finance-for-a-BBB-recovery-FINAL-2.pdf>

GTFS rate could be aligned with the forthcoming UK taxonomy, combined with a negative screening option for coal and fossil fuel activities. The use of differential lending rates would leverage private investment into green activities and disincentivise investment in dirty activities, which is necessary for achieving the green transition as well as long term price stability. Christine Lagarde, Governor of the European Central Bank (ECB), has indicated that the ECB's Governing council is considering using such an approach to support the low carbon transition.²²

The Bank of England should green its collateral framework. By subjecting environmentally damaging assets to haircuts or excluding them from being eligible as collateral, while doing the opposite for green assets, the Bank would decrease the value of dirty assets across the financial system and increase the value of green assets.²³ BEIS and the Bank should also consider a more direct approach to green investment by setting limits on credit allocation to environmentally harmful projects, and minimum quotas for allocation of credit to green projects.²⁴

The government should 'crowd in' private investment by scaling up public investment. The UK Infrastructure Bank, with its core objective to meet net zero emissions by 2050, will play an important role in shaping green markets and addressing market failures. At portfolio level, the Bank's investment performance should be evaluated based on social, climatic and environmental performance of projects rather than just financial. Currently the Bank's investments need to deliver positive financial returns, but to foster innovation, create new markets, and support longer term green projects the Bank should give equal weight to projects with social and environmental benefits.²⁵ The Bank's investments should be aligned with the UK's green taxonomy, along with Do No Significant Harm Standards, to ensure that projects will be screened to make sure that one goal is not achieved at the expense of another.²⁶

Question 8: How can the UK support a financial system that leverages private investment to meet the objectives of the British Energy Security Strategy, including in areas such as nuclear, hydrogen, carbon capture and storage and domestic oil and gas production, to reduce our reliance on imported fossil fuels as part of a smooth energy transition?

The UK will be unable to achieve energy security without scaling up investment in renewable energy, particularly wind and solar. A focus on future technologies and large scale nuclear

²² <https://greencentralbanking.com/2022/06/10/lagarde-seeks-ecb-green-targeted-lending/>

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<http://positivemoney.org/wp-content/uploads/2021/03/Positive-Money-Green-Central-Banking-Scorecard-Report-31-Mar-2021-Single-Pages.pdf>

²⁴

https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/INSPIRE-toolbox_-2nd-Edition-1.pdf

²⁵

<https://9tj4025ol53byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/02032022-E3G-Joint-Letter-to-UKIB-on-KPIS-.pdf>

²⁶

https://9tj4025ol53byww26jdkao0x-wpengine.netdna-ssl.com/wp-content/uploads/UK-National-Infrastructure-Bank-Investment-Principles_-Briefing_clean.pdf

projects would come with high costs and lengthy development timelines.²⁷ Moreover, increasing production of domestic oil and gas will not ensure energy security in the long term. Therefore, the UK should focus on crowding in investment in cheap renewable energy sources, and making energy use more efficient. Retrofitting the countries' housing stock should be considered a particularly urgent priority, which could be partly financed through cheap loans from the UKIB.²⁸

Question 9: What barriers are there to unlocking private investment to support the UK's energy security, climate and environmental objectives?

Tighter monetary policy prevents an unlocking of private investment into the UK's energy security, climate and environmental objectives. As renewable energy sources and infrastructure are much more capital intensive, they are more sensitive to interest rate rises, meaning that private investment is likely to be deterred from green energy projects in a tight monetary policy context.²⁹ However, if the transition to renewable sources continues to be delayed, energy security will be put further at risk, as the impacts of climate change unfold. Blanket interest rate rises and quantitative tightening, without consideration for the investment that is needed for decarbonisation, will continue to undermine energy security.³⁰ As detailed above, a dual interest rate policy should be used to ensure that monetary policy does not choke private investment into renewable sources of energy.

Question 17: How can the UK financial sector support the delivery of the UK's climate and environmental objectives at the local level, whilst also benefiting local growth and communities?

As outlined in question 7, the Bank of England, BEIS and the Treasury, coordinated and led by the Green Finance Action Taskforce, should develop and implement a Green Investment Toolkit. Policy tools to incentivise local environmental transitions should be part of this toolkit. This should include the creation of criteria that would give local authorities access to central bank funding for certain types of green projects. Such a scheme could take inspiration from the Municipal Liquidity Facility (MLF) run by the Federal Reserve during COVID-19. The MLF was set up to support the increase in state and local government expenditures during the pandemic.³¹ A green version of this scheme could be established, functioning as a specific and targeted form of monetary stimulus, where the Bank of England would purchase green local bonds, supporting local authorities in achieving their climate and environmental objectives. Eligibility of local green bonds for the scheme should be aligned with the UK's forthcoming green taxonomy.

²⁷

<https://www.carbonbrief.org/ga-what-does-the-uks-new-energy-security-strategy-mean-for-climate-change/>

²⁸

https://neweconomics.org/uploads/files/Great-Home-Upgrade-Policy-Briefing_September-2021_final.pdf

²⁹

https://greencentralbanking.com/2022/05/19/greenflation-central-banks-fossilflation-inflation/?utm_source=twitter&utm_medium=social&utm_campaign=news

³⁰

<https://www.bankofengland.co.uk/markets/market-notice/2022/may/asset-purchase-facility-market-notice-5-may-2022>

³¹ <https://www.newyorkfed.org/markets/municipal-liquidity-facility>

Lending from the UK's financial sector is currently heavily skewed towards the finance, real estate and insurance sectors, whilst neglecting the needs of local growth and communities.³² This has been made more problematic by the increasingly oligopolistic structure of the banking sector, with the largest three UK banks currently accounting for over 50% of total banking assets and the largest five banks accounting for close to 70%.³³ A more diverse banking system that is inclusive of stakeholder banks would better serve the needs of customers and communities, by lending more towards the real economy. In particular, Community Development Finance Institutions can provide financial products and services to local communities that are excluded by larger financial institutions.³⁴ As stakeholders have no legal claim on profits of financial institutions, as is the case in financial institutions with shareholder models of governance, they are able to take on more long term lending, which is required for green projects with long horizons. Local banks can maintain much better knowledge of the local economy, enabling better assessment of viable local projects, which will benefit local growth. New legislation, such as within the Financial Services and Market Bill, should actively promote stakeholder banking models, which enables regulators to create a more level playing field.³⁵

Question 20: How can the UK financial sector support SMEs and retail customers to align with the UK's climate and environmental objectives?

As mentioned in question 7, a green lending scheme (specifically, a green TFS) would contribute to this objective, as it would incentivise cheap lending to SMEs that are seeking to green their business models.

Question 26: What are the key characteristics of a Net Zero-aligned Financial Centre? How would these characteristics apply to a typical UK-based:

Both a 'green' and a 'Net Zero' aligned financial centre should be characterised by decarbonisation of financial flows in line with the Paris Agreement. Growth of green financial instruments is no substitute for restricting financial flows into new oil, gas, or fossil fuel expansion. A 'green' financial system should also support environmental sustainability beyond emissions reductions.

Question 27: What market barriers are there to the integration of environmental-related factors into financial decision-making?

Financial institutions, as well as regulatory institutions, make decisions based on short term investment horizons, rather than over the longer period in which climate risks, and

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<https://positivemoney.org/wp-content/uploads/2022/06/Positive-Money-Report-Banking-on-Property-March-2022.pdf> p. 26

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<https://positivemoney.org/wp-content/uploads/2022/06/Positive-Money-The-Power-of-Big-Finance-Report-June-2022.pdf> p. 59

³⁴ https://neweconomics.org/uploads/files/e0b3bd2b9423abfec8_pem6i6six.pdf

³⁵

<https://positivemoney.org/wp-content/uploads/2022/06/Positive-Money-The-Power-of-Big-Finance-Report-June-2022.pdf> p. 70

benefits of environmental investment come to fruition.³⁶ This means that climate risk is not appropriately priced into financial institutions' portfolios.

Further, climate-related financial risks are characterised by radical uncertainty, as multiple forces interact to create uncertain, irreversible and non linear outcomes.³⁷ Climate-related financial risks do not have a calculable probability, are not represented in historical data, and do not have clear transmission channels. Therefore, the extent of the risks are unknown, and are ill suited to the methodological approach that underpins climate stress tests. In the face of potentially catastrophic and irreversible outcomes, such radical uncertainty must be addressed by application of the precautionary principle.³⁸

Question 28: What should the role of the UK government or regulators be to support the greening of the financial system? How could they go further?

The Bank of England's Climate Biennial Exploratory Scenario (CBES) found that climate change could cost UK banks more than £340bn in a scenario in which climate action is delayed.³⁹

To avoid financial instability resulting from risky fossil fuel financing, the government and Bank of England should adapt prudential tools to account for climate risks. In particular, the "One for One" Rule should be applied to Pillar 1 capital requirements, requiring that for each pound of financing to new fossil fuels, banks and insurers should have a pound of their own funds held liable for potential losses.⁴⁰ This would have at least two effects. First, it would protect individual financial institutions from both physical and transitional climate risks, by building up sufficient capital. Second, it would have the effect of redirecting financial flows towards green alternatives, by adequately pricing in the risk of environmentally destructive assets, and thereby lowering the financial sector's contribution to the build-up of systemic climate risk in the first place.

Regulators need to move beyond market-led disclosures, to net zero transition plans that are supervised and enforced by regulatory and supervisory bodies. Transition plans should apply to all financing activities (lending, underwriting, investing, advisory services, and insurance underwriting), and should include interim emissions reductions targets that are in line with

³⁶

<https://www.bankofengland.co.uk/-/media/boe/files/speech/2015/breaking-the-tragedy-of-the-horizon-climate-change-and-financial-stability.pdf?la=en&hash=7C67E785651862457D99511147C7424FF5EA0C1A>

³⁷ <https://www.bis.org/publ/othp31.pdf> p. 29

³⁸ <https://www.sciencedirect.com/science/article/pii/S092180092100015X>

³⁹

<https://www.bankofengland.co.uk/stress-testing/2022/results-of-the-2021-climate-biennial-exploratory-scenario>

⁴⁰

<https://www.finance-watch.org/the-one-for-one-rule-a-way-for-cop26-ambitions-to-manifest-in-policy/>

1.5 degrees pathways.⁴¹ Private sector transition plans must be embedded in robust legal and regulatory frameworks that incentivise and enforce implementation.

As outlined above, the government and regulators should play a fundamental role in establishing and implementing a green investment toolkit, which should include green refinancing programmes, green collateral frameworks, and creating and shaping green markets through the UK Infrastructure Bank.

Question 31: Are Scope 3 (supply chain) emissions data important for investors to assess and manage climate-related risks and opportunities?

Scope 3 emissions are fundamental to investors' assessments, as the majority of carbon emissions often fall outside a company's own operations.⁴² Therefore, including scope 3 emissions also enables companies to understand and harness the largest opportunities for emissions reductions, which will be reflected in investors' balance sheets.⁴³ If scope 3 emissions were to be excluded from investors assessments, this would produce false reporting and measurements on both climate related risks and opportunities.

Question 33: Up to 2030, how can the UK government best support the global transition to a net zero, nature-positive financial system that is both inclusive and resilient?

The UK should leverage its diplomatic influence to secure international ambition for private sector financial reform, with an aim to secure a commitment within both the G7 and the G20 for mandatory transition plans to net zero of financial systems.

The UK should leverage its influence within the Bank for International Settlements, the Network for Greening the Financial System and the Financial Stability Board, to push for high impact financial regulation, including the adaptation of Pillar 1 capital requirements to account for climate-related financial risks.

Question 34: How can the UK government increase the mobilisation of public and private investment to achieve 2030 climate and nature targets in emerging and developing economies?

The UK government must act as a leader in meeting its commitments to climate finance for developing countries. First, the UK government should ensure that the \$100billion of finance per year that was committed in 2009 is met this year, and scaled up ahead of 2025. Currently, climate finance is delivered in the form of predatory market rate loans, causing emerging and developing economies debt levels to increase, further restricting fiscal capacity to spend on climate change mitigation and adaptation.⁴⁴ The UK Government should scale up grant-based public climate finance to Least Developed

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<https://www.greenpeace.org.uk/wp-content/uploads/2021/05/The-Big-Smoke-the-global-emissions-of-the-UK-financial-sector.pdf>

⁴² <https://www.carbontrust.com/resources/briefing-what-are-scope-3-emissions>

⁴³ https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf

⁴⁴ <https://www.oxfam.org/en/research/climate-finance-shadow-report-2020>

Countries and Small Islands and Developing States, with a particular focus on finance for loss and damage, which has so far been excluded from targets.

Question 35: How should the UK government assess and measure progress towards the transition of the global financial system and mobilisation of finance for global climate and nature goals?

The mobilisation of finance towards global climate and nature goals should be assessed and measured in line with the Katowice principles, to prevent predatory financial flows which do not advance climate and nature goals in the long term. This should include requiring reporting on a project-by-project basis, showing evidence of causality between public investment and mobilised finance, and preventing double counting by attributing mobilised finance to specific bodies.⁴⁵

Question 38: What are the unique challenges for emerging and developing economies in meeting the requirements of the transition to a net zero and nature-positive global financial system, and how can the UK best provide support to overcome these?

Emerging and developing economies are often uniquely challenged by their lack of monetary power within the international economy. With weak currencies and high debt burdens, developing countries are forced to export environmentally intensive goods to pay debts and obtain hard currency needed for the importation of essential goods.⁴⁶ In 2015, 10.1 billion tons of embodied raw materials, accounting for 50% of total consumption in high income countries, moved from the Global South to the Global North.⁴⁷ Where such developing countries cannot sufficiently export raw materials to prevent a current account deficit, they are dependent on foreign investment, producing a greater debt burden, and further preventing such countries from using fiscal capacity to invest in the transition to net zero. During 2020, the Global South spent \$327 billion on servicing debt.⁴⁸ This creates a spiral, where developing countries are further encouraged to engage in environmentally harmful practices, such as deforestation, mining, and burning fossil fuels to service their debts.⁴⁹

The UK should take a leadership role within international institutions to create a green international monetary order, which unlocks the potential of the Global South to transition to a net zero and nature-positive global financial system. To do so, the UK should join a growing campaign led by developing economies, such as Barbados, for the reallocation of Special Drawing Rights within the IMF, to provide reserves to climate vulnerable countries, reducing the need for environmentally intensive exports.⁵⁰

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<https://oxfamlibrary.openrepository.com/bitstream/handle/10546/621066/bp-climate-finance-shadow-report-2020-201020-en.pdf>

⁴⁶ <https://positivemoney.org/2021/12/how-currency-power-constrains-climate-action/>

⁴⁷ <https://www.tandfonline.com/doi/full/10.1080/13563467.2021.1899153?scroll=top&needAccess=true>

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<https://jubileedebt.org.uk/wp-content/uploads/2021/09/Debt-and-the-Climate-Crisis-a-Perfect-Storm.pdf>

⁴⁹ <https://debtjustice.org.uk/news/new-briefing-debt-and-the-climate-crisis-a-perfect-storm>

⁵⁰ <https://voxeu.org/article/debt-natural-disasters-and-special-drawing-rights>