

ICE briefing paper: Financing and funding net zero

November 2022

Executive summary

Financing a fair transition to net zero is an enormous challenge. More than 140 countries now have net zero greenhouse gas emission targets, covering close to 90% of global emissions.¹ They are joined by 115 state and regional governments, 235 cities and more than one-third of the world's biggest publicly traded companies.

Delivering net zero is an essential part of the UK's response to climate change. To hit net zero greenhouse emissions by 2050, the Climate Change Committee (CCC) believes that the UK needs to be investing an extra £50 billion a year. However, the framework to deliver this investment is unclear. In the current cost of living crisis, financing a fair transition that will relieve financial pressures on households becomes an urgent priority.

In the UK, the government's introduction of the Energy Price Guarantee offers limited short-term support.² However, household energy prices are still set to rise substantially by April next year, reaching over £4000 for an average household.³ The government urgently needs to find a balance between protecting consumers, decreasing demand, and increasing supply. Long-term support on this scale is not tenable or sustainable and a solution is needed that meets multiple outcomes while providing contingency to protect consumers, suppliers and the economy.

On a global scale, Europe is facing an energy crisis, with forward prices for winter 2022/23 delivery having recently surpassed €1,000/MWh—four to five times the prices experienced on average last winter.⁴ America is also experiencing its worst energy crisis in nearly five decades,⁵ and Russia's invasion of Ukraine has led to major disruptions impacting the global energy system.⁶ The disruption has thrown energy markets into turmoil and created major energy security and energy poverty risks across the globe. We need solutions to this ongoing crisis – the rapid deployment of renewables, energy efficiency and other low emissions technologies can solve supply and demand issues.

Financing net zero must be a principal priority. However, it is important that the transition is managed in a way that avoids another energy crisis and subsequent damaging economic shock. The net zero transition faces multiple challenges alongside financing and funding net zero infrastructure – delivering the necessary infrastructure to tight timescales, gathering and maintaining political support and commitment across the political spectrum, retraining and skilling a workforce to operate net zero technologies. By starting with filling in the gap when it comes to financing and funding net zero ambitions, policymakers, businesses and local and national government will be better placed to address these supplementary challenges.

¹ Climate Action Tracker (2022) [Climate Action Tracker](#)

² BEIS (2022) [How Households and Businesses will be Supported by the Energy Prices Bill](#)

³ Cornwall Insight (2022) [Cornwall Insight Comments on the Announcement of the October Price Cap](#)

⁴ S&P Global (2022) [Global Power and Renewables Research Highlights](#)

⁵ Wall Street Journal (2022) [America's New Energy Crisis](#)

⁶ International Energy Agency (2022) [What Does the Current Global Energy Crisis Mean for Energy Investment?](#)

The UK's net zero target is protected by law. But to get there, targeted and scaled investment is key, not just in the UK, but worldwide.

So, what happens next?

Significant questions must be addressed as to who is responsible for paying for net zero, how the public can be brought along on the transition and defining what constitutes a net zero investment.

- **What is the scale of investment needed for net zero infrastructure?**
- **How can investment priorities be realigned to focus on net zero?**
- **Do we have sufficient data and metrics available to work out who should be paying for net zero and the longer-term costs this will incur?**
- **What are the options for funding net zero (taxpayer, billpayer, borrowing etc.) and which should be prioritised?**
- **What is the role of regulation relating to financing net zero?**
- **Are the public willing to pay for net zero? And how much?**
- **How can we achieve public buy-in for net zero and communicate the benefits?**
- **How can we ensure that the burden of paying for the transition in the long term does not affect those suffering most from the cost-of-living crisis in the short term?**
- **How are net zero investments being defined? Do we also need to look at climate change mitigation/adaptation/resilience/nature-based solutions as part of a wider definition?**
- **What should governments do if they fail to leverage the private investment needed for net zero? What interventions are needed for when things go off course?**
- **If governments took or continue to take limited action to facilitate net zero finance, what else can be done to move things forward?**

ICE wants to hear views from across the sector on these questions and more when considering financing and funding net zero infrastructure. Using the ICE's [Infrastructure Blog](#) as the platform for debate, we are keen for opinions and thoughts on the main issues policymakers should be considering to be brought to the fore.

This briefing paper provides an initial starting point for this discussion, which will culminate in an online panel debate providing an honest look at options for what policymakers need to do next.

Please contact policy@ice.org.uk if you are interested in authoring a guest blog on this topic or attending the panel debate.



What are the options for financing and funding net zero infrastructure?

It's important first to consider the various options available when it comes to examining the financing and funding of net zero infrastructure.

Private sector

Business and private finance has a key role to play in financing the transition to net zero. In a UK context, almost half of the country's infrastructure, chiefly water and energy, is financed and delivered by the private sector, and paid for by consumers, under the Regulated Asset Base (RAB) model.⁷

Private investment can be stimulated through for example the Infrastructure Banks as evidenced in Canada, India and the UK.⁸ These Banks crowd-in finance to lead to an increase in economic growth and provide financing tools including loans, enhancements and equity investments to tackle longer-term infrastructure challenges. Investments from Infrastructure Banks are structured to leverage revenue streams and crowd-in private sector and institutional investors who are willing to share risk, for example bringing new innovative technologies to market.⁹

For the most part, the funding and financing mechanisms required to support infrastructure's transition to net zero already exist.

The private sector can follow the example of public sector and government-led initiatives in adapting and iterating existing mechanisms so they can be deployed where appropriate and are tailored to net-zero outcomes. In many instances in the UK, this work is already underway within government, including expansion of the RAB model,¹⁰ and the adding of new technologies to the Contracts for Difference scheme (the government's main mechanism for supporting low-carbon electricity generation).¹¹ These mechanisms could also be considered for the deployment of carbon capture and storage technologies, hydrogen infrastructure and other sources of renewable energy, such as tidal lagoons.

ICE has previously recommended that energy storage and other emerging technologies receive enhanced government support, drawing on the successful impact of Contracts for Difference on the renewable energy market, to unlock the market for net-zero technologies identified by the CCC.¹²

According to the UK Cities Climate Investment Commission (UKCCIC), the investment opportunity in net zero is around £500 billion.¹³

The principal ask for the private sector is to show leadership in accelerating decarbonisation and ensure investment in transition initiatives while exploring new solutions. Outside of the UK, corporate and institutional investors have started to decarbonise their own business models and portfolios. In the latter camp, the Asset Owner Alliance, a group of the world's largest pension funds and insurers, collectively responsible for directing more than \$2 trillion in investments, is committed to transitioning to carbon neutral investment portfolios by 2050.¹⁴

⁷ ICE (2018) [State of the Nation 2018: Infrastructure Investment](#)

⁸ ICE (2022) [Presidential Roundtable Summary: Financing a Fair Net-Zero Transition](#)

⁹ Coalition for Green Capital & Evergreen (2017) [Green Bank Financing](#)

¹⁰ BEIS (2012) [RAB Model for Nuclear](#)

¹¹ BEIS (2022) [Contracts for Difference for Low Carbon Electricity Generation](#)

¹² ICE (2020) [State of the Nation 2020: Infrastructure and the 2050 Net-Zero Target](#)

¹³ Green Finance Institute (2022) [Financing Net Zero: Unlocking Investment Opportunities, Supporting Local Transition](#)

¹⁴ Imperial College Business School Centre for Climate Finance & Investment (2019) [Financing Low Carbon Infrastructure](#)

Asset Owner Alliance member and global investment group Caisse de dépôt et placement du Québec (CDPQ), increased their total low carbon assets to \$34 billion in 2020.¹⁵ Many similar organisations have followed suit, seeking to assist portfolio companies in decarbonisation efforts and focus on assets that make a contribution to the energy transition.

Decarbonisation pathways and associated costs can vary substantially across infrastructure asset classes, according to research from McKinsey and the Global Infrastructure Investor Association (GIIA). Evaluating the required investment, selecting the right pathway and timing of execution is key for owners to protect and enhance the returns they make.¹⁶ However, it is important for asset owners to fund a rapid decarbonisation process to hit key global targets.

By the end of 2019, more than 2,500 investors representing over \$80 trillion in funds signed up to the UN Principles for Responsible Investment (PRI). This represented a commitment to including sustainability factors in the investment process. It is estimated that the green bond market will grow to \$1 trillion in 2021.¹⁷

However, directing this investment into the right areas at a local level is an ongoing issue for the private sector and businesses.

What is the role of sustainable and green finance?

According to Deloitte's work on 'Financing your net zero transition',¹⁸ sustainable finance can provide specific funding to support business' ESG objectives as both banks and investors have recognised the importance of promoting positive changes in ESG metrics.

Green finance can take many different forms, including green bonds, green loans, a green revolving credit facility, green hire purchase, green lease and asset loans, green grants and mechanisms to create market certainty.

A key feature of green finance is the need to be able to verify that a project has produced the environmental benefits set out in its original business case – rather than simply 'greenwashing'.

The GFanz (Glasgow Finance Alliance for Net Zero) is a global coalition of leading financial institutions committed to decarbonising the economy. The organisation has committed over \$130 trillion of private capital to transforming the economy for net zero. These commitments, from over 450 firms across 45 countries, have been credited with being able to deliver the estimated \$100 trillion of finance needed for net zero over the next three decades.

In early October 2022, the London Stock Exchange has become the first major stock exchange to set listing rules for companies that finance carbon reduction projects, as part of efforts to grow the market and make it more transparent. Under the new rules, a fund or company would have to issue a prospectus vetted by the Financial Conduct Authority that gives details of the carbon emission-cutting project it wants to finance.¹⁹

Financial institutions such as Deutsche Bank have also indicated they can finance net zero themselves whilst highlighting the huge demand for sustainability from a variety of investors across the capital structure. Originating equity securities and fixed-income securities is part of Deutsche Bank's goal to raise in excess of €200 billion of sustainable financing and investment by the end of 2022.²⁰

¹⁵ CDPQ (2020) [Investing in the Energy Transition](#)

¹⁶ McKinsey and GIIA (2022) [Investing in Pathways to Decarbonize Infrastructure](#)

¹⁷ Deloitte (2021) [Financing Your Net Zero Transition](#)

¹⁸ Ibid

¹⁹ London Stock Exchange (2022) [Voluntary Carbon Market](#)

²⁰ McKinsey (2022) [Financing Net Zero: Banks and Companies Cooperating on Decarbonization](#)

Innovative financial solutions including de-risking mechanisms such as guarantees, along with supportive government policies, are essential to unlock the larger sums of capital needed to finance the net zero transition. Lauren Pamma, Programme Director at the Coalition for the Decarbonisation of Road Transport (CDRT) emphasised that cross-sector collaboration has been critical to identifying the solutions that will de-risk investment and unlock the capital required and that only the private sector can provide finance at the pace and scale needed to enable the transition to cleaner road transport.²¹

The Green Finance Institute has highlighted that rhetoric from financial institutions when it comes to financing the net zero transition needs to be matched by action. Paying for the net zero transition must not be treated as a separate issue in a silo; instead, financial institutions must embrace wider cultural change and respond to their responsibility to act in greening their operations and contributing towards a net zero future.

Small Medium Enterprises (SMEs) in the UK are responsible for half of the nation's GDP. These SMEs may become the mid-sized corporates and multinationals of the future, and a possibility for financing net zero in the future would be for banks to offer preferential terms and conditions regarding loans to companies ahead of the curve when it comes to reducing emissions. Supply chains and the public must also play a role in making the transition a reality.

Given the immediate and longer-term challenges facing financing and funding net zero, there are likely to be multiple changes impacting the future role of private sector investment in paying for the transition.

The costs of decades-long global economic transformation are still unpredictable to forecast. A huge amount of upfront investment will be required. An estimated additional \$6 to 10 trillion in global investments, both public and private, are needed in the next decade to mitigate climate change according to the International Monetary Fund (IMF). This amounts to a cumulative 6-10% of annual global GDP.²²

Only around £10bn of public and private investment in the UK in 2020 went towards low-carbon projects, but the CCC has calculated that this needs to rise to about £50bn per year by the late 2020s – mostly on transport, renewables and buildings – and stay around that level until 2050.

However, ultimately the savings economies make will also be extensive. By the late 2030s, the CCC has highlighted that extra investment (capital expenditure) will be offset by reductions in day-to-day spending (operational expenditure). Sustainable finance is therefore needed to unlock future decarbonisation to keep the UK and global economies on track for predicted climate targets.

Public sector and government funding

Another option for financing net zero is employing government funding and relying on public sector to drive the transition forwards.

An important finding from the UK-based Coalition for the Energy Efficiency of Buildings (CEEB) – which now has over 370 members – is that local authorities do not need to fund the transition to net zero alone, nor should they be expected to.²³

However, local authorities do need to be empowered and resources sufficiently to play a focal part in the net zero transition.

²¹ Green Finance Institute (2022) [Powering the Drive to Net Zero: Unlocking Public and Private Capital For the UK Battery Sector](#)

²² IMF (2021) [Reaching Net Zero Emissions](#)

²³ Green Finance Institute (2022) [Financing Net Zero: Unlocking Investment Opportunities, Supporting Local Transition](#)

UK councils are collectively facing shortfalls of £3.4 billion in their budgets for 2023-24.²⁴

A separate survey of decision-makers from 50 local authorities in the UK recently found that most have not begun properly delivering their net-zero transition plans on the ground, with funding constraints being the most common barrier to progress.²⁵

Planning delays have also impacted the ability of local authorities to accelerate the net zero transition in their local areas. Strengthening the ability for the infrastructure planning and prioritisation system to get it 'right first time' is vital.

A stronger role for subnational actors is essential to achieve this. So is building the capacity of local governments and piloting new approaches for joint planning and co-investment.

A new report from Innovate UK and the Green Finance Institute – *Mobilising local net zero investments* – provides practical guidelines for local authorities regarding the net-zero funding available but reiterates that private sector funding and new enabling policies are essential.²⁶

The report notes an “urgent need” to consider additional private finance sources to deliver zero outcomes locally, which in turn will enable local authorities to roll out net zero projects that support their communities.

In July 2021, the UK100 argued the case for a new 'Net Zero Local Powers Bill' that would require local authorities to report on their emissions and would provide them with new powers to roll out projects designed to reduce emissions in line with net-zero.²⁷

A Net Zero Local Powers Bill should “permit, oblige and resource relevant levels of authority to undertake climate change action to satisfy the Climate Change Act, meet carbon budgets and deliver an effective pathway to net-zero”. Focus areas include unified emissions reporting and better cross-departmental alignment (less silos) across Whitehall.

If governments took or continue to take limited action to facilitate net zero finance, what else can be done to move things forward?

A 2022 study commissioned by Innovate UK found that 'place-based' carbon reduction measures led by UK cities and towns would produce far better environmental, economic and social results, at much lower cost, than a national 'one size fits all' approach.²⁸ A 'place-based' approach could therefore act as a solution to move net zero forwards if governments continue to take limited action to accelerate net zero finance or fail to provide the answers around how we can pay for the transition.

In a recent UK100 July 2022 webinar which launched a series of 'Turning Point' progress reports relating to net zero,²⁹ more than 55% of UK100 members raise funding, capacity and regulation/policy issues as the biggest barriers to realising local Net Zero ambitions.

The cross-cutting recommendations UK100 makes on behalf of members include calls to:

- Embed net zero decision-making across all government structures

²⁴ Local Government Association (2022) [Council Cost Pressures](#)

²⁵ Edie (2022) [7 in 10 UK Councils Struggling to Finance their Net-Zero Transition](#)

²⁶ Innovate UK, Green Finance Institute (2022) [Mobilising Local Net Zero Investments](#)

²⁷ UK100 (2021) [Net Zero Local Leadership Communiqué: Delivering a Net Zero](#)

²⁸ Innovate UK (2022) [Accelerating Net Zero Delivery](#)

²⁹ UK100 (2022) [Turning Point | Local Net Zero Delivery Progress](#)

- The Government to set a floor, not a ceiling on local ambition
- Combine long-term, non-competitive funding and capacity development and support with a clear strategy for local net zero delivery to enable local authorities to accelerate progress
- Improve the ability of local authorities to access private finance
- Provide more investment in energy efficiency as a priority area for delivery

Therefore, there is a possibility for local government to accelerate action in the absence of a steer from national government – however, cooperation across every level of government is still needed to provide the level of investment required to finance net zero technologies in the longer-term.

Are the public willing to pay for net zero?

According to the Institute for Government,³⁰ broadly, there are three overlapping groups policy makers can look to when thinking about how to distribute costs around net zero:

- **taxpayers**, by funding changes through general taxation
- **consumers**, for instance by regulating to restrict the use of high-carbon options or imposing costs onto energy suppliers, who have traditionally passed these onto bills
- **businesses**, which ultimately means the burden is borne by shareholders, employees and/or consumers of their products.

A May 2022 report for The Economy 2030 Inquiry also identified that it is not realistic to assume that we can rely on the private sector to naturally choose the smoothest and cheapest path to net zero.³¹

The required innovation – which is radical and involves the transformation of entire systems in many cases – will not happen at the necessary scale and pace without incentives, regulation, government spending and participation from civil society and therefore will require some level of public contribution.

In the US, polling from the Pew Research Center in 2021 identified that more than six-in-ten Americans say large businesses and corporations (69%) and the energy industry (62%) are doing too little to address climate change, whilst another poll highlighted that 16% of U.S adults have donated money to an organization that is focused on addressing climate change in the past year.³² This highlights that while there is still a relatively limited appetite in the US for individuals to pay for net zero themselves, that there is nevertheless a willingness to contribute and expect the organisations they patronise to play a part in reducing emissions.

Likewise in Australia, according to a Lowy Institute 2022 poll, most Australians (74%) say “the benefits of taking further action on climate change will outweigh the costs”.³³ However in a poll conducted by research company Resolve Strategic for The Sydney Morning Herald and The Age, when it comes to paying personally, only 40% of voters say they are not willing to pay a personal cost to reduce emissions.³⁴

There is therefore a conflict in public opinion regarding the need for the net zero transition to happen and the role they can directly play in enabling it through personal financial contribution. This has been reflected in polling carried out for Ipsos Mori in the UK, indicating that the public want urgent action to be taken regarding climate change, however, struggle to accept the personal impact of these policies.³⁵

³⁰ Institute for Government (2021) [Paying for Net Zero](#)

³¹ The Economy 2030 Inquiry (2022) [Growing Clean](#)

³² Pew Research Center (2021) [Gen Z, Millennials Stand Out for Climate Change Activism, Social Media Engagement with Issue](#)

³³ Lowy Institute (2022) [Paying the Price: Australians Want Action on Climate Change](#)

³⁴ The Age (2022) [Voters Believe They're Doing Their Bit On Climate But Want Government To Do More](#)

³⁵ Ipsos Mori (2021) [Public Support Majority of Net Zero Policies... Unless There Is a Personal Cost](#)

Increased taxation is cited as a particularly unpopular option. There is a job to for policymakers, industry and decisionmakers to better communicate to the public why these policies may be needed to support them during the energy transition. Net zero policies must be developed that generate wider benefits to people’s health, wellbeing, and financial stability.

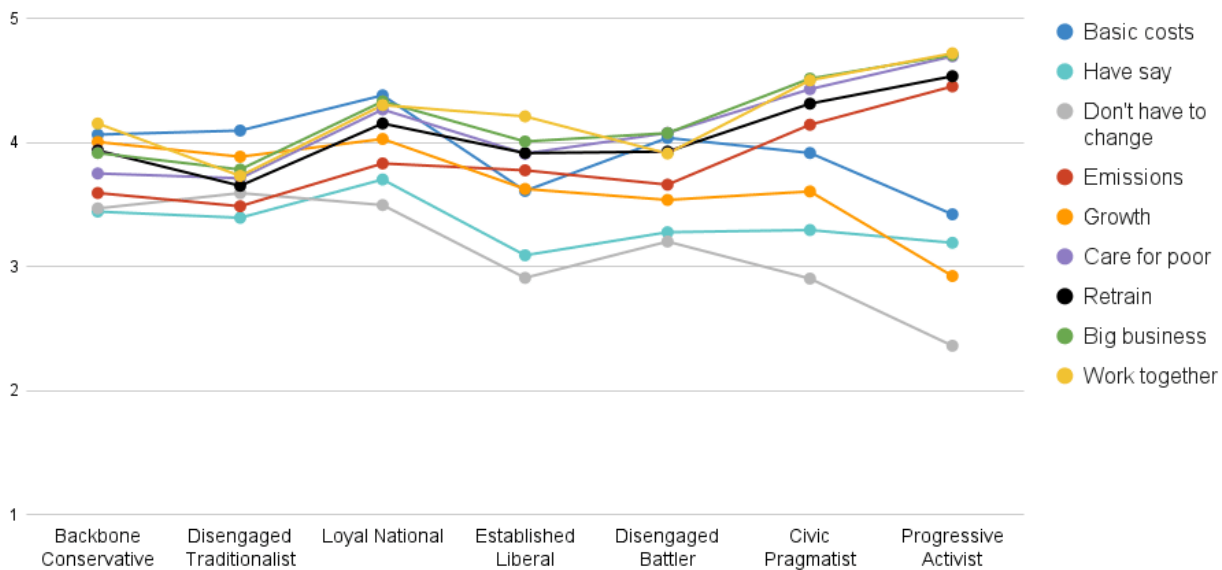
The burden of the responsibility for paying must not rest solely on the public’s shoulders amid rising bills and a cost-of-living crisis.

How can we achieve public buy-in for net zero?

Broadly, as outlined above, polling suggests that the public are supportive of net zero and the wider transition.³⁶

Britain Talks Climate’s segmentation research indicates that although the public is fractured and divided in many ways, climate change is emerging as an issue that has the potential to unite members of the public, regardless of personal/political ideologies.³⁷

Most important factors for net zero policy



Source: Britain Talks Climate Segmentation Research (2021)

Climate Assembly UK was a UK-wide citizens assembly on climate change commissioned by six House of Commons committees.³⁸ It brought together 108 people to consider the question: “How should the UK meet its target of net zero greenhouse gas emissions by 2050?”. Its final report was published in September 2020 and highlighted ten key

³⁶ Copper Consultancy (2021) [Public Attitudes to Net Zero and Infrastructure](#)

³⁷ Britain Talks Climate (2021) [Britain Talks Climate Segmentation Research](#)

³⁸ Climate Assembly UK (2020) [Climate Assembly UK - UK Parliament](#)

recommendations that would be needed to guide a net zero future relating to areas including information, education and fairness.³⁹

Whilst the public therefore back net zero policies, when it comes to paying for net zero, the public will need to be involved in designing policies to help the UK transition to a zero-carbon economy that genuinely works for them. Public engagement around net zero and the different forms it can take are discussed in more detail in this 2021 joint report between the Institute for Government and Involve.⁴⁰

ICE has previously called for the development of a net-zero education and awareness-raising campaign specifically for the built environment. This would ensure that the public would both understand and be able to shape the net zero policies that they will be expected to contribute towards.

³⁹ Climate Assembly UK (2020) [The Path to Net Zero](#)

⁴⁰ Institute for Government (2021) [Public Engagement and Net Zero](#)

How can we ensure that the burden of paying for the transition in the long term does not affect those suffering most from the cost-of-living crisis in the short term?

Multiple factors have exacerbated the cost-of-living crisis that we are currently living through.

Households in the UK are currently facing the biggest decline in real incomes since the mid-1970s.⁴¹ Inflation had reached its highest rate in decades even before the Russian invasion of Ukraine. Wages are stagnating as simultaneously tax contributions are increasing.

However, there is a risk that net zero has been positioned as the subject of the latest 'culture war'. Net zero policies have been cited as contributing to the cost-of-living crisis,⁴² however popular support for net zero remains high.⁴³

It is important for policymakers and government to highlight that net zero must be positioned as a solution to solve future cost of living crises from occurring, by improving our future long-term energy security and rapidly reducing emissions to protect our planet in the longer-term.

There is no escaping the fact that the future investment needed to meet social, environmental and technological challenges will ultimately be funded by consumers. They need the confidence that their money is being spent on the right things in the right way, that they are not being taken advantage of, and that the benefits are being shared with them as well as with investors.

It is vital for the government to outline clear, long-term and strategic policy objectives that allow better alignment between regulatory, industry and policy activity. This would provide regulators, industry and consumers with greater clarity on long-term strategic priorities, providing the context for future price reviews and the investments required both within and outside price control periods.

As highlighted by E3G in a 2021 roundtable, a proactive approach can mitigate the damage of the market failure caused by climate change, bake in future cost savings and spread the benefits of the transition across the whole of the UK.⁴⁴

Whilst the public can and should be expected to contribute towards enabling the transition, as outlined above, those bearing the brunt in the short-term of the cost-of-living crisis must not be expected to be paying the same towards the net zero transition as higher income households with greater financial resilience.

Public support needs to be based on a realistic understanding of the changes that are needed to our infrastructure system. At the same time, policy frameworks themselves need to be designed to benefit the public and protect livelihoods.

Evidence shows that the net zero transition is affordable – however we cannot afford delays and inaction.

⁴¹ Resolution Foundation Living Standards Outlook (2022) [The Living Standards Outlook 2022](#)

⁴² Net Zero Watch (2022) [Green Levies and the Cost of Living Crisis](#)

⁴³ Onward (2022) [Taking the Temperature](#)

⁴⁴ E3G (2021) [A Stitch In Time: Why the UK Needs a Plan to Finance the Transition](#)

How does the UK compare internationally in relation to financing and funding net zero?

Many challenges relating to financing and funding net zero are universal.

For example, specific challenges relating to exposure from the transition and subsequent growth potential in future. However, countries with lower GDP and greater reliance on fossil fuels would need to invest more, relative to GDP, to both reduce emissions and build a low-emissions economy. Global consultancy McKinsey has analysed just under 70 countries examining how they can build a low-emissions economy.⁴⁵

The industry-led, UN-convened Net Zero Banking Alliance brings together a global group of banks, currently representing about 40% of global banking assets, committed to aligning their lending and investment portfolios with net-zero emissions by 2050. The Alliance reinforces, accelerates and supports the implementation of decarbonisation strategies, providing an internationally coherent framework and guidelines in which to operate, supported by peer-learning from pioneering banks. It recognises the vital role of banks in supporting the global transition of the real economy to net-zero emissions.⁴⁶

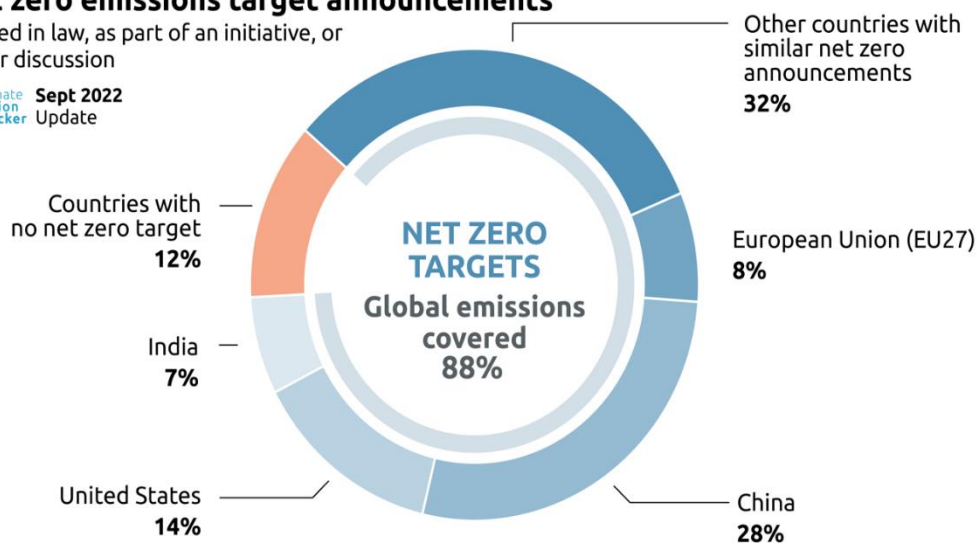
According to research by global bank Morgan Stanley,⁴⁷ European banks have for years been positioning themselves to mobilise the capital required to transform to a Net Zero economy and are therefore better placed than competitors in different continents. However, the same research identified that US investment banks have significantly ramped up their work on decarbonisation to help clients migrate to a Net Zero economy.

The UK, in comparison to European neighbours, is around four years behind when it comes to green finance, according to research conducted by think tank the New Financial.⁴⁸ Despite accelerated progress in Europe, the research identified that the region has still not raised enough green finance to meet a mid-century net zero target.

Net zero emissions target announcements

Agreed in law, as part of an initiative, or under discussion

 **Sept 2022**
Update



Source: *Climate Action Tracker (2022)*⁴⁹

⁴⁵ McKinsey (2022) [How the Net-Zero Transition Would Play Out in Countries and Regions](#)

⁴⁶ UN Environment Programme (2022) [Net-Zero Banking Alliance](#)

⁴⁷ Morgan Stanley (2022) [Why Net Zero is a Net Positive for Banks](#)

⁴⁸ New Financial (2022) [A Reality Check on Green Finance](#)

⁴⁹ Climate Action Tracker (2022) [Climate Action Tracker Net Zero Target Evaluations](#).

The Australian government have committed to investing AUD 20 billion in low emissions technologies over the next decade (under the Technology Investment Roadmap), hoping to unlock AUD 80 billion of private and public investment on green technologies. Five-yearly reviews will assess the progress of the Plan and the technology advancement required to achieve its objectives.⁵⁰ The principles of this plan focus on expanding consumer choice, not introducing additional taxes and

Many countries are at a disadvantage when it comes to financing and funding a Net Zero transition due to their individual financial complexities.

For example, in Vietnam, they have investment in coal that has an economic life up to 40 years and now they have only 11 years, so they need to buy back those assets (as identified by Makhtar Diop, Managing Director, International Finance Corporation).⁵¹ World Bank and Vietnam's Ministries are developing carbon pricing instruments for Vietnam.⁵²

Similarly fossil fuel-based economies would also see substantial spending on physical assets as a share of their GDP: above 15 percent in the Middle East and North Africa, Russia and Ukraine. As PwC have identified, new models to tackle this issue are emerging.⁵³ In one example, the Asian Development Bank has teamed up with a number of investors to buy coal-fired power plants in the Philippines, Vietnam and Indonesia and shut them down over the next 15 years – sooner than their projected end of life, but long enough to allow workers to retrain/reskill and find new jobs.

To deliver transformative outcomes, international governments need to ensure that robust frameworks are in place with long-term infrastructure strategies linked to key national objectives and sustainable funding to accelerate the net zero transition.

About ICE

Established in 1818 and with over 96,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global membership.

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⁵⁰ International Energy Agency (2022) [Net Zero 2050 - Australia's Long-Term Emissions Reduction Plan](#)

⁵¹ World Economic Forum (2022) [Financing Net-Zero: Can Banks and Investors Help Prevent Climate Catastrophe?](#)

⁵² PwC Vietnam (2021) [Code Red - Asia Pacific's Time To Go Green](#)

⁵³ PwC (2022) [Financing the Net Zero Transition](#)