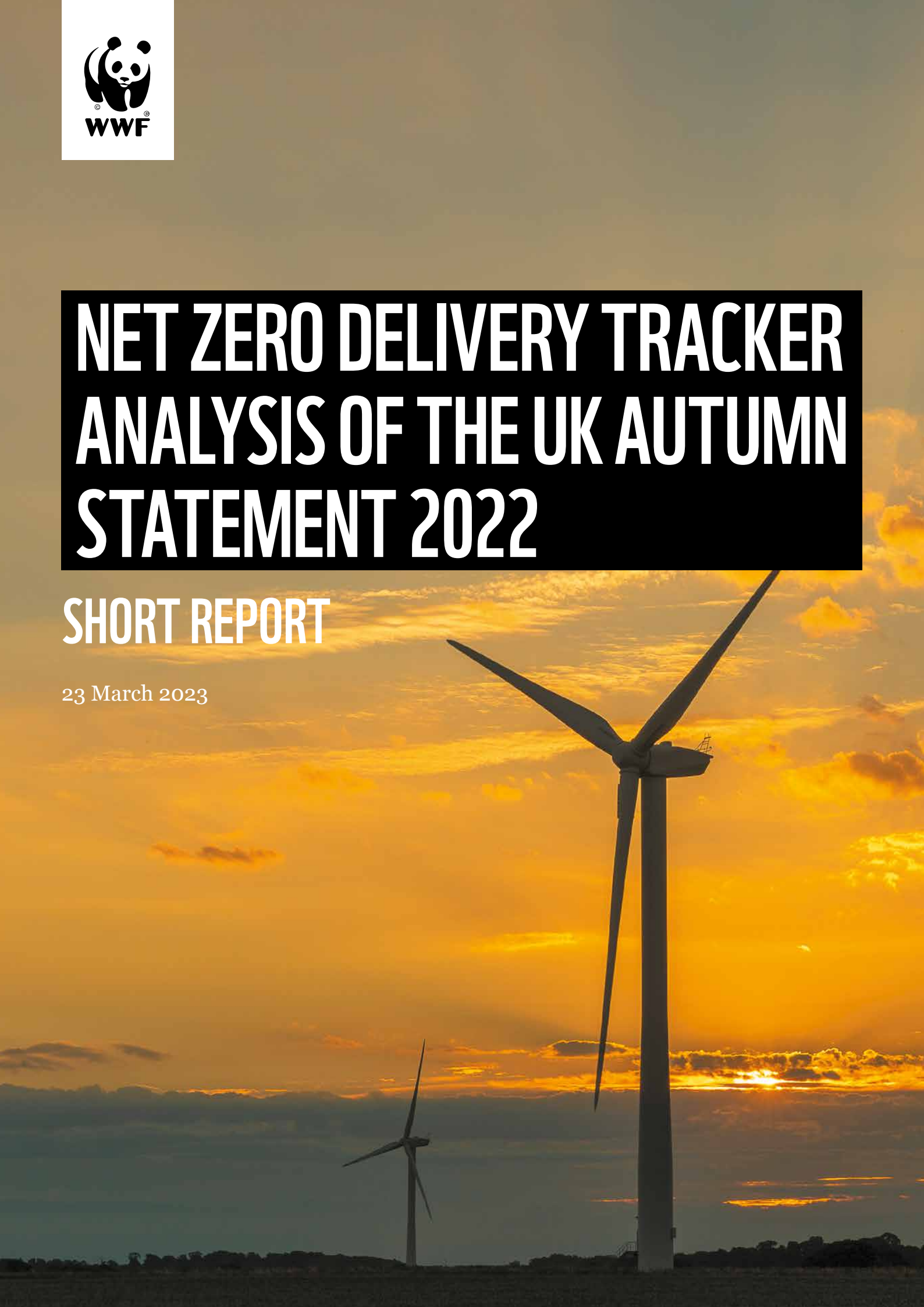




NET ZERO DELIVERY TRACKER ANALYSIS OF THE UK AUTUMN STATEMENT 2022

SHORT REPORT

23 March 2023



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Net Zero Delivery Tracker Analysis of the UK Autumn Statement 2022

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Dr Zachary M. Turk and Prof Ben Groom*

*Turk: Department of Geography and Environment, The London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom (e-mail: z.turk@lse.ac.uk); Groom: Dragon Capital Chair of Biodiversity Economics, Land, Environment, Economics and Policy Institute and Department of Economics, University of Exeter, Rennes Drive, Exeter EX4 4PU, United Kingdom, and Visiting Scholar at the Grantham Research Institute on Climate Change and Environment, London School of Economics and Political Science, Houghton Street, London WC2A 2AE, United Kingdom (e-mail: b.d.groom@exeter.ac.uk)

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1. SUMMARY

OVERVIEW

- HM Treasury should adopt a Net Zero Delivery Tracker (NZDT) to ensure that each fiscal event is analysed to understand its environmental impact and if it aligns with the net zero target.
- WWF-UK have applied the NZDT framework to the UK Autumn Statement 2022. It finds that the Autumn Statement will do little to help the UK move towards a net zero-aligned emissions pathway.

WHAT IS A NET ZERO DELIVERY TRACKER AND WHY DO WE NEED IT?

- The NZDT is WWF-UK's proposed framework to enable HM Treasury to analyse the contents of UK fiscal events (Budgets, Statements, and Spending Reviews) before they are published to assess their climate impact. It consists of two elements:
 - A budget tagging tool, which tags fiscal policies on whether they have a positive, negative, or neutral impact on several environmental criteria.
 - An emissions modelling exercise, which estimates the impact on greenhouse gas emissions of individual policy decisions and the overall fiscal package.
- There are huge economic advantages in a fast transition to a net zero economy. As the recently-published [Independent Review of Net Zero](#) shows, benefits include significant growth potential for UK business and financial institutions, massive opportunities for growth in high-quality jobs, and increased productive capacity and co-benefits across the economy.
- To seize these growth opportunities, strategic and efficient public investment will be needed. The Office for Budget Responsibility calculates that government spending accounts for almost half of UK national income, so it is essential that fiscal policy and public investment are aligned with net zero.
- Most of the investment for net zero, though, will come from the private sector. Government needs to provide clear policy signals and attractive incentives to unlock this investment, based on rigorous analysis of financial flows and an understanding of the impact of public tax and spending decisions.
- Formally incorporating the NZDT into government analyses would help HM Treasury to seize these opportunities by providing valuable data on if a fiscal event will help the UK get on track for net zero or push us further off course.

KEY FINDINGS OF THIS REPORT

- The UK Autumn Statement 2022 is expected to result in an increase in UK emissions of 47 million tons of CO₂ equivalent (Mt CO₂e) between 2022 and 2050 and will do little to help the UK move towards a net zero-aligned emissions pathway.
- Fiscal policies remain far from sufficient to satisfy the UK Government's net zero commitment. Without each fiscal event resulting in substantially decreased national emissions, it will be extremely challenging to meet the Climate Change Committee's (CCC) Balanced Net Zero Pathway or any credible alternative pathway.
- Greening 'neutral' tax and spending policies to crowd in private investment remains an unaddressed priority – this is a huge missed opportunity to turbocharge the transition.
- While WWF-UK supports the Energy Price Guarantee and Energy Bill Relief Scheme, these line items were responsible for driving up emissions. This highlights the need to tackle the root causes of soaring energy bills, including insulating homes and reducing the UK's dependence on imported gas through accelerated rollout of renewables and heat pumps. Action on these issues will permanently reduce energy bills and carbon emissions.
- The outputs of each application of the NZDT should be integrated into the net zero financial flow element of a Net Zero Investment Plan, detailed in this report, which the Government should also commit to introducing.

2. TACKLING CLIMATE CHANGE

THE ECONOMIC OPPORTUNITY OF THE 21ST CENTURY

The impacts of the climate emergency are increasing and being felt closer to home than ever before. Catastrophic flooding incidents in the UK and wildfires in Europe are becoming more frequent, while the cost of importing expensive, polluting fossil fuels threatens the UK's energy security and has left households facing unaffordable energy bills. The total cost to the UK of climate change damages is currently estimated at 1.1% of GDP per year, increasing to 3.3% by 2050 (*Rising et al., 2022*). Delaying action by ten years will double the amount of investment needed to reach the same target, while UK GDP would be five times lower in 2050 if no action on climate were taken, compared to early action to achieve net zero (*Bank of England, 2021*).

Global climate change is not the only environmental challenge facing the UK, either – nature is in freefall as biodiversity continues to decline (*House of Commons Environmental Audit Committee, 2021*). Urgent action is needed not just to limit global warming to 1.5°C, but to address several other environmental issues which are also worsened by global climate change, such as biodiversity loss.

Net zero, however, is also the biggest economic opportunity of the 21st century, as acknowledged in Chris Skidmore's Independent Net Zero Review. By acting early and decisively, the government can ensure that the UK leads the global race to net zero and deliver high-skilled jobs and robust growth across the country. The benefits of the transition vastly outweigh the costs, from increasing the UK's energy security and reducing household energy bills to unlocking billions of pounds of business opportunities. Benefits include:

- **Significant growth potential for UK business and financial institutions.** Supplying the goods and services to enable the global net zero transition is estimated to be worth £1 trillion to UK businesses by 2030 (*McKinsey Sustainability, 2021*). UK low-carbon financial services could generate export opportunities of up to £7.5bn per year in 2030, rising to £17bn per year by 2050 (*Ricardo Energy & Environment, 2017*).
- **Net zero investments will finance themselves.** The economic multipliers for clean energy investments are 2.2 to 2.5 times larger than for fossil fuels (*IMF Working Paper, 2021*). The transition to a net zero economy could boost economic growth by 2-3% over the period from now to 2050 (*Cambridge Econometrics, 2020*).
- **Foster the growth of a thriving workforce.** For example, investment to meet the growing demand for renewable energy could create 1.7 million new green jobs by 2030 – half of which will be in the Midlands, the North, and Scotland (*Onward, 2021*).
- **Net zero investment will raise productive capacity and deliver co-benefits across the economy.** These will occur through reducing the cost of energy, and increasing efficiency in transport, energy production, and resource use. For example, energy efficiency improvements and low-carbon technologies can reduce household bills by over £1,600 per year (*WWF-UK & ScottishPower, 2022*).

3. WHAT IS THE NET ZERO DELIVERY TRACKER AND WHY DO WE NEED IT?

To seize the economic opportunity of net zero and deliver the benefits outlined above, sustained and strategic investment will be needed. In the current financial climate, however, it is vital that public investment is carefully targeted and based on excellent data and strategic planning. Additionally, it is important to ensure that it leverages in the maximum amount of private capital possible, given that the majority of investment for net zero will come from the private sector. To unlock this investment, government needs to send clear, stable policy signals to the market, based on rigorous analysis of financial flows and an understanding of the environmental impacts of public tax and spending decisions.

As government spending accounts for almost half of UK national income (*OBR, 2022*), it is essential that fiscal policy is aligned with net zero. At present, however, government lacks sufficient tools to assess whether fiscal events (Budgets, Statements, and Spending Reviews) are placing the nation on track to net zero emissions or taking us in the opposite direction. As HM Treasury has noted, “there is no internationally adopted methodology for assessing and reporting on the climate change impacts of government spending in aggregate... nor taxation” (*HM Treasury, 2021*). This means that, while net zero became a legal target in 2019, it is difficult to determine if public tax and spending is supporting the transition or not.

WWF-UK is committed to helping the UK achieve our legally binding net zero target in an effective, just, and efficient manner. We have guided the development of the Net Zero Delivery Tracker framework as a means of assessing and reporting the impacts of fiscal events on the UK’s progress towards its climate and nature goals.

The NZDT consists of two elements:

- **A budget tagging tool, which tags fiscal policies on whether they have a positive, negative, or neutral impact on several environmental indicators and shows how much public investment is flowing towards these areas in the fiscal event.**
- **An emissions modelling exercise, which estimates the impact on greenhouse gas emissions of individual policy decisions, and, crucially, of the fiscal event as a whole. In combination, the budget tagging and emissions modelling components help close the methodological gap, providing a picture of whether fiscal policy is supporting the net zero transition.**

An example of the NZDT framework, applied to the Autumn 2021 Budget and Comprehensive Spending Review, [can be found here](#).

The Net Zero Delivery Tracker can help ensure that public spending is targeted, strategic, and delivers maximum private investment. We recommend the NZDT be adopted by government to track progress toward the net zero target. Formally incorporating it into government analyses would help HM Treasury to:

- Map the public financial flows being directed to key environmental objectives.
- Estimate the overall emissions impact of the fiscal event.
- Assess if the fiscal event is likely to help the UK get on track for net zero or push us further off course.

The results of the analysis could also feed into existing formal mechanisms and bodies for ensuring that net zero and other environmental targets are met, including the Climate Change Committee and the Environmental Audit Committee.

HM Treasury's recent analysis of the 2021 Budget and Comprehensive Spending Review (CSR) is a promising first step in building this vital analytical capability. WWF-UK welcomes this progress and looks forward to working with government to further develop this analysis, particularly with respect to modelling the emissions impact of fiscal events. Crucially, however, this analysis was conducted after the Budget and CSR. WWF-UK is calling on the government to introduce a NZDT and apply it to all tax and spending decisions in a fiscal event **before it is presented** to Parliament, to enable adjustments to be made. The findings outlined below demonstrate that the Autumn Statement 2022 contained missed opportunities to leverage in private investment for the transition by attaching green conditionality to policies. By conducting analysis before the Statement was presented, government could have made adjustments to seize these opportunities and grow the UK economy, while still delivering the goals of the tax and spending commitments made.

Finally, the outputs of each application of the NZDT should be integrated into the net zero financial flow element of a Net Zero Investment Plan, which Government should also commit to introducing. The Net Zero Investment Plan should consist of independent analysis of net zero financial flows, together with a regularly updated government plan setting out actions, including policy and regulatory changes and strategic investment, designed to leverage in private investment to fill any investment gaps. This could result in a rapid and dynamic feedback loop of information and action between policymakers and markets, boosting investor confidence and minimising net zero transition costs.



3. RESULTS FROM APPLYING THE NZDT TO THE AUTUMN STATEMENT 2022

This report presents the third application of the WWF-UK's NZDT framework, this time to the Autumn Statement 2022. This follows previous applications to the March 2021 Budget, and Autumn 2021 Budget and Comprehensive Spending Review (CSR).

The expected impact of the Autumn Statement 2022 is to drive an increase in UK emissions by 47 million tons of CO₂ equivalent (Mt CO₂e) between 2022 and 2050. The main driver of emissions is a handful of policies focussed on the cost of living and energy crisis, with ten line items resulting in a net 43 Mt CO₂e of emissions. The five largest emission-increasing items alone result in 111 Mt CO₂e, which is partially offset by 65 Mt CO₂e in reductions from the five largest emission-reducing items.

The results indicate that this fiscal event will do little to help the UK move towards a net zero-aligned emissions pathway. Some line items are likely to lead to emissions reductions, such as investments in electric vehicle infrastructure and the Energy Profits Levy on the windfall profits of oil and gas companies. These positive policies are overshadowed, however, by policies that drive up emissions, such as imposing the Electricity Generator Levy on low-carbon generation on markedly unfavourable terms, and reducing research and development (R&D) tax reliefs.

Two of the main line items responsible for driving up emissions – the Energy Price Guarantee (EPG) and the Energy Bill Relief Scheme (EBRS) – are policies that WWF-UK supports, so are worth discussing in more detail. These policies are essential in the short-term to protect consumers and businesses but do not tackle the root cause of soaring energy bills – the UK's dependence on imported fossil fuels, particularly gas. It is therefore essential that government supplement them with policies to help insulate UK homes and reduce the nation's dependence on fossil fuels for power generation and heating by accelerating deployment of renewables and heat pumps. Action on these issues will permanently reduce energy bills and carbon emissions, as well as saving the taxpayer money.

THE EXPECTED IMPACT OF THE AUTUMN STATEMENT 2022 IS TO DRIVE AN INCREASE IN UK EMISSIONS BY 47 MILLION TONS OF CO₂ EQUIVALENT (MT CO₂E) BETWEEN 2022 AND 2050

These policies also highlight an important methodological aspect of NZDT analysis - it assesses the impact of line items in comparison to a world without them, without taking wider context into account. Therefore, while the NZDT is an extremely useful tool for assessing the impact of tax and spending decisions, the context of those decisions is also important to consider.

The EPG and EBRS were put in place to offset increased energy prices, caused largely by Russia's illegal invasion of Ukraine. The emissions implications of these policies are highly dependent upon the baseline against which they are assessed. Because the NZDT methodology compares line items to a world without them, they are shown to increase emissions, as without them energy consumption by households and businesses would have fallen, due to high prices. This fall in consumption have been socially undesirable, however, as it would mostly have been due to energy rationing, rather than improved energy efficiency.

Even in emissions terms, the EPG and EBRS are only assessed as increasing emissions because they are compared against a world without the line item, rather than against a world without the issue – the energy cost price spike - and the line item seeking to address it. This, however, is a debate that extends beyond the scope of the NZDT and cannot be fully resolved here. It is highlighted to emphasise the importance of considering the results of the analysis in context when deciding their policy implications.

As the NZDT analysis is confined to assessing the impact of line items compared to a world without them, the two energy relief schemes are estimated to result in 53 million tons of CO₂ equivalent (Mt CO₂e) between 2022 and 2050. This figure includes an assumption of continued energy sector decarbonisation; resulting emissions could be modestly smaller if the energy sector decarbonises faster than expected. The emissions associated with these policies demonstrate that while direct fiscal support is essential in the short-term, it does little to address the root cause of energy bill increases - the soaring price of polluting fossil fuels, whose price is set by global markets and therefore susceptible to international shocks. This illustrates that policy interventions to address urgent issues are likely to occur in many fiscal events, but it is essential that they are attached to medium-term plans to mitigate their carbon implications, enabling the UK to stay on track for net zero.

Even setting aside policy line items that are in response to crises, remaining fiscal policies are far from sufficient to satisfy the UK Government's legally binding net zero commitment. Based on the CCC's balanced Net Zero Pathway, every fiscal event needs to result in substantially decreased national emissions. The NZDT also assesses the alignment of the Statement against five other environmental metrics, beyond greenhouse gas emissions, through a budget tagging exercise. We again find, as in Table 1, that the Autumn Statement 2022 works against environmental protection. That is, each metric has an aggregate unfavourable score. Additionally, even when emissions modelling suggests that line items result in fewer emissions, these reductions are often not the primary purpose of tax or spending decision, but occur as an indirect impact through reduced household, business, and community spending power.

Table 1. Autumn Statement 2022 Tagging Summary

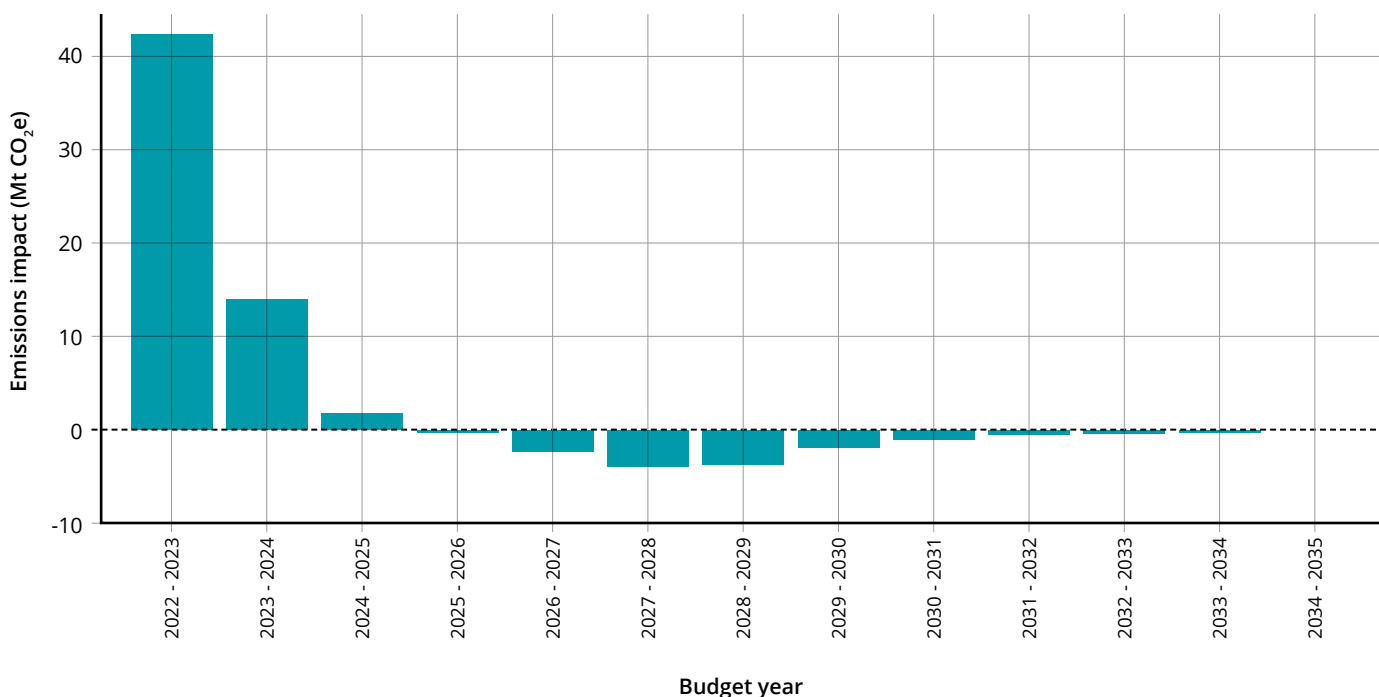
	Budget tag	Adaptation	Mitigation	Biodiversity	Circular economy	Water management	Air quality
Number of relevant fiscal decisions	P2	0	3	0	0	0	1
	P1	1	4	4	0	0	5
	Z	62	51	58	64	65	52
	N1	3	6	5	3	2	8
	N2	1	3	0	0	0	1
Absolute value of relevant fiscal decisions (£ billions)	P2	0	38.8	0	0	0	0
	P1	0.3	0.6	21.3	0	0	39.2
	Z	359.8	300.3	368.2	415.2	418.0	300.4
	N1	58.2	65.5	32.7	7.1	4.3	82.6
	N2	4.0	17.1	0	0	0	0

Notes: Results of qualitative assessment and budget tagging of the Autumn Statement 2022. Number of relevant fiscal decisions is a count of the number of line items that fall in the category from P2 (strong positive progress towards environmental outcomes) through Z (neutral) to N2 (strong negative progress against environmental outcomes).

While emissions reductions are welcome, it is troubling that a substantial share of reductions occur through reduced household disposable income and business profits. Accelerating the transition to clean energy will enable further decoupling of emissions from economic activity, enabling the UK to achieve greater prosperity and reduced emissions simultaneously. WWF-UK would encourage government to pursue strategic investments and provide clear signals to the market about its environmental intentions. Green conditionality would encourage a transition that achieves our climate goals while delivering robust growth and prosperity across the country. For example, public spending line items (10-16) could have included directives that spending comply with a set of net zero and other environmental standards. Additionally, we note that the Energy Profits Levy (22) impacting profits from oil and gas exploration and production comes with a decarbonisation investment allowance. Yet, renewable generators impacted by the Electricity Generator Levy (24) receive no similar allowance. The failure to attach green conditionality, such as decarbonisation investment allowances, to more decisions represents a missed opportunity to accelerate the net zero transition.

Figure 1 presents the expected emissions attributable to the Autumn Statement 2022 on an annual basis. Due to policies to address the cost of living and energy crises, the Statement drives large near-term emissions increases. In later years, however, the policies announced drive some emissions reductions. We use the NZDT to assess the expected emissions result out to the 2050 net zero target year. Given that, from around 2035, the Autumn Statement is expected to contribute only slightly to total emissions, Figure 1 focusses on the emissions impacts until then.

Figure 1. Total Emissions Impact of the Autumn Statement 2022



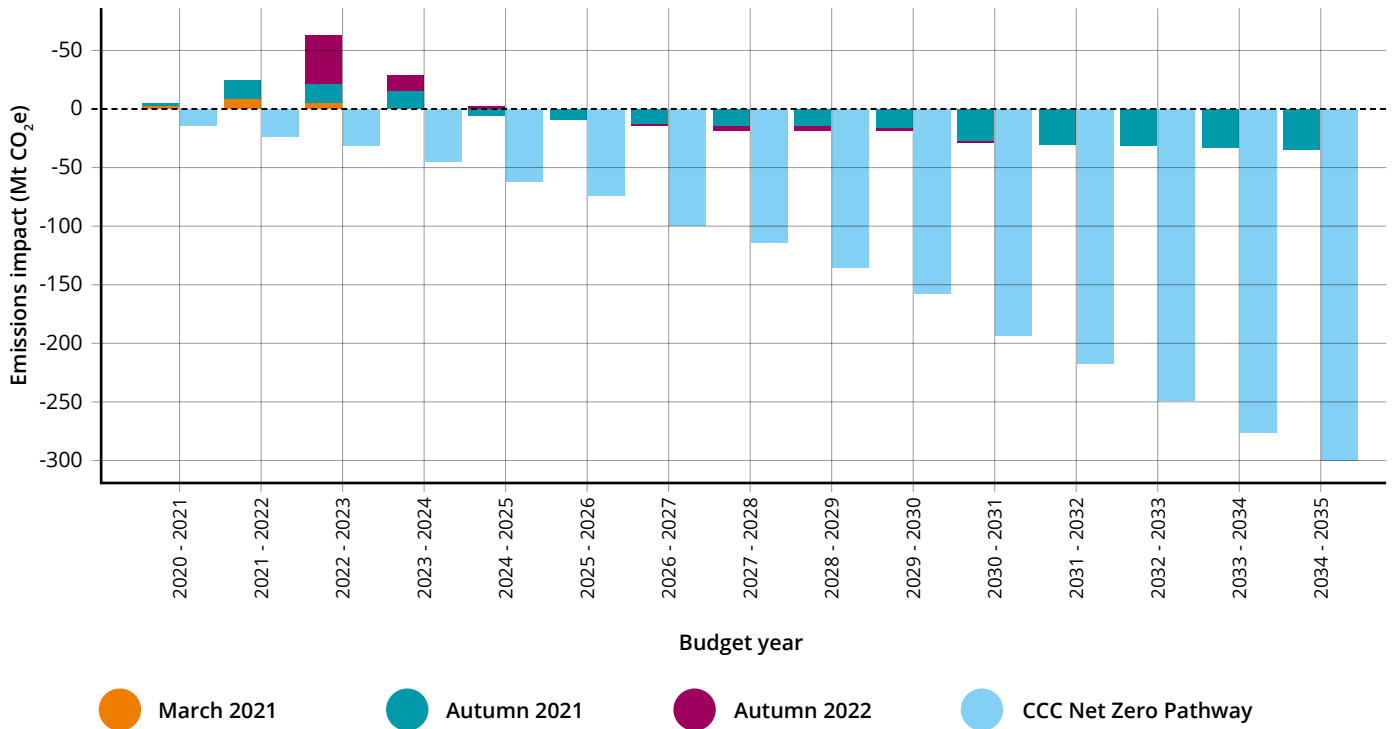
Notes: Emissions impact of the Autumn Statement 2022 up to Budget year 2034-2035.

The Autumn Statement 2022 is also put into context by comparing it against the CCC's Balanced Net Zero Pathway in Figure 2. As each fiscal event either contributes or hinders progress toward net zero, we also combine the impact of the Autumn Statement 2022 with the results from prior NZDT applications on the March 2021 Budget and Autumn 2021 Budget and CSR¹. Clearly, each fiscal event analysed has resulted in greater near-term net emissions in

¹ Subsequent budgets note when they have reversed prior budget decisions. This allows the adding up of a series of fiscal event results without having to re-calculate past results. A NZDT analysis was not conducted on the March 2022 Budget, but we encourage the undertaking of such an analysis.

response to the recent series of national crises. Long-term commitments – if upheld – suggest the offsetting of some near-term emissions in later years. However, even if all commitments modelled to date are kept, public tax and spending packages are not currently doing nearly enough to get the UK on track for net zero..

Figure 2. Total Impact of Fiscal Events Modelled by the NZDT versus Net Zero Pathway



Notes: Emissions impact of the March 2021 Budget, Autumn 2021 Budget and CSR, and Autumn 2022 Statement up to budget year 2034-2035 versus the CCC's Balanced Net Zero Pathway (CCC, 2021).



5. CONCLUSIONS AND RECOMMENDATIONS

The Autumn Statement 2022 did little to put the UK on track for net zero. The Statement's focus on responding to the cost of living and energy crises – as well as demonstrating the UK's fiscal probity – meant that it contained few investments that will permanently, substantially reduce emissions. Rather, several of the policies will markedly drive up emissions in the short-term, although some of these could be partially offset by countervailing policies. An example of this should be the Energy Price Guarantee being partially offset by the Energy Profits Levy and its extension. Unfortunately, the Levy's investment allowances, which are not all focused on decarbonisation, mean that the resulting emissions reductions will be lower – and less certain – than they otherwise would be. There is also deep uncertainty around the extent to which emission increases and their resultant damage can be offset by environmentally positive spending in the long-term.

Results from the next application of the NZDT could be markedly different. Many of the environmentally negative policies in this Statement are relatively short-term measures. Future fiscal events should focus on moving the UK away from a major cause of the cost of living and energy crises – our dependence on volatile and expensive fossil fuels. Investments to accelerate renewable energy buildout, electrify transport, insulate homes and decarbonise their heating, and ensure zero-carbon security of supply would help shield the UK from future crises. Such actions would also reduce household and business bills, increase energy security, and reduce carbon emissions. If government were to take decisive action in these areas through a combination of strategic investments and clear policy signals to private sector actors, the results of the next applications of the NZDT could be markedly more positive.

Greening 'neutral' tax and spending policies to leverage private investment remains an unaddressed priority. As in prior NZDT results, most policies within this Statement are tagged as neutral across all six selected environmental indicators. It is essential that government seek to reduce the emissions implications of negatively tagged items in the Statement, but equally important that they begin attaching green conditionality to as many neutral line items as possible. Neutral fiscal events will not get the UK on track for net zero and all policies should be considered as potential means to support the transition. This means ensuring that line items send clear signals to the market, unlocking private financial flows for key sectors to make the investments needed to reach net zero.

The ongoing decoupling of the economy from emissions is having a substantial impact. Without this decoupling, the carbon impact of the Autumn Statement 2022 would have been far worse. Investments and policies to accelerate this decoupling are likely to have large benefits. These efforts should focus on decarbonising the UK's energy supply, but also increasing household and business energy efficiency. Greening the UK's energy supply ultimately impacts emissions intensity factors across the economy, so should be a key focus of policy.

GREENING 'NEUTRAL' TAX AND SPENDING POLICIES TO LEVERAGE PRIVATE INVESTMENT REMAINS AN UNADDRESSED PRIORITY

Emissions leakage beyond the UK's borders is a substantial issue. Climate change is a global problem and cannot be tackled in isolation – national policies therefore need to account for emissions leakage. This is not the case at present, meaning that substantial emissions driven by budget expenditures eventually leak to outside the UK through the foreign share of spending and investment activities. Emissions embodied in imports are also effectively unregulated at present. Detailed emissions leakage accounting, coupled with carbon border adjustments and similar methods to encourage foreign entities to reduce emissions, could result in substantial reductions on a global scale. It is essential that the UK is engaged and active in this developing policy space.

Implementing the NZDT is key to an orderly, cost-effective transition to net zero. Government should commit to applying the NZDT to all fiscal events in advance of their publication, in order to reach net zero in an efficient manner, maximising green jobs and growth and leveraging private investment. Without analysing financial flows to net zero and the emissions implications of fiscal events, tracking progress will be impossible. The net zero transition – as well as efforts to improve other environmental indicators – will be more expensive and disorderly without careful monitoring and the UK will miss out on opportunities to be a leader in the industries that will underpin future prosperity.

WHAT SHOULD THE UK GOVERNMENT DO NOW?

The Government should commit to introducing a NZDT and applying it at each fiscal event, in sufficient time for adjustments to be made based the analysis, if needed. Introducing the NZDT will help government ensure that strategic public investment helps drive the UK towards net zero in a cost-effective and efficient manner, while playing an important role in monitoring progress and providing feedback during policy development. We suggest the process is led by HM Treasury, in coordination with the CCC, Office for Budget Responsibility (OBR), and possibly Parliament's Environmental Audit Committee. Further, we suggest that at each fiscal event:

- **Budget tagging is used to check the alignment of spending and taxation policies against a range of climate and environmental indicators.**
- **Emissions modelling is used to estimate both the carbon emissions impact attributable to each line item and the aggregate impact of the fiscal event.**
- **The full results of the NZDT analysis are published, including an assessment of whether the overall emissions impact is compliant with a credible pathway to net zero, and a summary of how the analysis was used to inform the fiscal decisions made in the fiscal event.**

Alongside the NZDT, Government should introduce a Net Zero Investment Plan, including independent tracking of net zero financial flows, which the NZDT analysis would feed into. To do this, Government should commit to:

- **Empowering an independent body, such as the OBR or the CCC to analyse net zero financial flows on an on-going basis and recommend actions that the Government could take to tackle market barriers and leverage the private investment needed to meet the UK's climate targets.**
- **Producing a Net Zero Investment Plan, which sets out the actions, including policy and regulatory change and strategic investment, that government will take to leverage in private investment to fill any investment gap. This Plan should be regularly updated.**

The NZDT and Net Zero Investment Plan would be complementary, helping ensure that public and private investment work in harmony to unlock the benefits of net zero for the UK.

WHAT CAN INDIVIDUALS DO TO HELP?

The UK Government has a legal and moral obligation to deliver net zero, which will support limiting global warming to 1.5°C and help safeguard our planet for future generations. Tackling climate change can also help protect nature, improve biodiversity, and improve air and water quality. By focusing public spending on harnessing our island's strengths, the Government can build green industries to be proud of, creating good jobs and prosperity across the UK.

Please consider adding your voice to WWF-UK's campaign and write to your local MP, asking them to support adoption of the Net Zero Delivery Tracker and the Net Zero Investment Plan by the Government.



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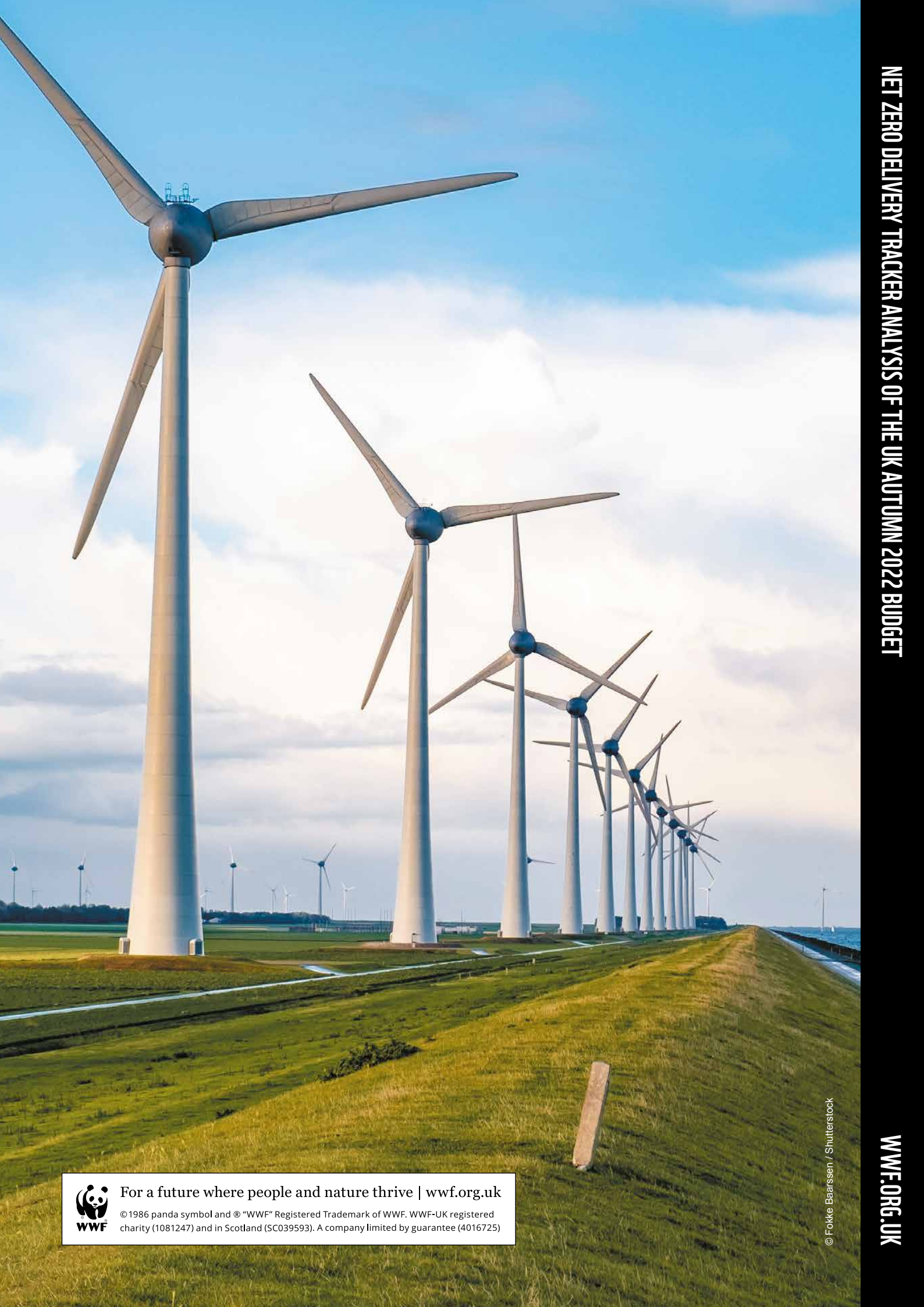
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