Grace on Fossil Fuel Industry Ties

A report into the impacts of implementing the Grace on fossil fuel industry ties on Cambridge University's mission.

Nigel Topping
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> "You probably could do better at telling governments and foundations about the importance of your work – if your scientific training was like mine, you were taught to be too modest, too careful. That training is fine for scientific presentations, but it has to be shed at fundraising time. Most of your competitors for funds and political attention do not bind themselves to the same standards of .... modesty as you do."
>
> *-Donella H. Meadows, A Reaction from a Multitude*[1]

[1] Meadows 1986

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the prime mechanism for understanding the nuances addressed in the report. Whilst often robust, I found these conversations to be always respectful and focussed on trying to aid understanding and lead to better decisions. Through these 32 interviews and two town halls (with approximately 200 participants) I was able to see the many ways in which the University is delivering excellence in teaching and research into climate solutions, and to appreciate the spirit of frank yet respectful exchange prevalent at Cambridge and so critical for our collective and individual ability to navigate disruptive change.

Interviewees included: Aga Iwasiewicz-Wabnig, Alison Traub, Amelia Jabry, Andy Parker, Andy Woods, Anna Philpott, Anne Ferguson-Smith, Anthony Freeling, Anthony Odgers, Bhaskar Vira, Bogdan Rajkov, Catherine Hasted, Charlotte Kukowski, Chris Willis Pickup, Clare Shine, Claire Barlow, David Cardwell, David Cebon, David Newbery, David Parsons, Ed Bullmore, Eliot Whittington, Elizabeth Ann Walsh, Ellen Quigley, Emily Shuckburgh, Emma Rampton, Ethan D. Aines, Gordana Najdanovic, Ian Leslie, James Cole, James Elliott, James Helm, James Murray, Jason Scott Warren, Jethro Akroyd, Joanna Craigwood, John Aston, John Dennis, Jordan Ward Williams, Jocelyn Wyburd, Kamal Munir, Karen Kennedy, Lata Sahonta, Laura Diaz Anadon, Laura Lock, Laura Torrente Murciano, Lara Oyesanya, Lindsay Hooper, Louise Atkins, Luke Kemp, Lucy Delap, Lucy Tweed, Lynn Gladden, Madeleine Atkins, Mark Lewisohn, Matthew Agarwala, Michael Pollitt, Natanael Otavio Faveo Bolson, Nigel Peake, Patrick Maxwell, Paul Dupree, Paul Ritchie, Peter Hedges, Regina Sachers, Richard Friend, Richard Harrison, Rhys Morgan, Robert Miller, Shaun D Fitzgerald, Shafiq Ahmed, Sian Dutton, SJ Beard, Stuart Clarke, Tim Harper, Zak Coleman.

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Executive Summary

The University has recognised the urgency of the climate emergency and taken action to demonstrate leadership. This includes decisions to divest from fossil fuels in the endowment, commit to science-based targets, launch Cambridge Zero and align sources of funding with the University's own ambition.

This **report has been commissioned in response to a Grace** calling on the University to cease collaboration of all forms with companies carrying out or facilitating exploration for new fossil fuel reserves, building new fossil fuel infrastructure or retaining membership with trade bodies lobbying against climate policy.

The report reviews the internal and external contexts of the climate crisis and the University's role in teaching and research and **makes recommendations for an amended form of the Grace** to mitigate risks and pursue opportunities consistent with its charitable mission.

The **Paris Agreement** concluded at COP21 defined international collective ambition and laid out the **architecture for action** along three main tracks - mitigation, adaptation and resilience, and climate finance.

Progress to date has been woefully slow in all three tracks - emissions continue to rise, extreme weather events increase in frequency and severity faster than communities can adapt and international finance flows need to increase by a factor of five by 2030.

The **technologies needed to transition to a net zero energy system are largely understood** and pathways exist in all sectors. Renewable energy generation and battery costs have declined dramatically and the **tipping point of cost parity has now been passed in electricity systems and EVs**. These technologies are now being deployed exponentially at a rate which is on track or ahead of what is needed to reach net zero by 2050.

In other sectors clean technology options remain costlier than current high-emission options so **the focus is on driving deployment up and costs down to reach the cost tipping** point this decade. Two keystone technologies are particularly important - **green hydrogen and alternative proteins**. The Breakthrough Agenda, launched at COP26, is an international collaborative initiative to drive progress in many of these sectors.

Progress in adaptation and resilience has been even slower. The burden of climate change falls disproportionately on those who have done the least to cause it, particularly citizens of emerging and developing economies. The Sharm el Sheikh Adaptation Agenda, launched at COP27, provides a first practical architecture for the deployment of solutions at scale.

Climate finance lags way behind the levels necessary to invest in the transition to a resilient net-zero future. After years of excessive focus on one important yet small part of the solution [the $100bn per annum promised by rich countries], **COP26 and COP27 produced** a set of initiatives which now have created a **much clearer roadmap of reforms** across public and private, international and domestic finance **needed to deliver the $2.4tr per annum by 2030** in emerging and developing economies, excluding China.

The University receives relatively small amounts of funding from industrial partners, amounting to 5.1% of all research/philanthropy funding. At an average of £3.3m per year over the last 6 years, **fossil fuel funding amounts to 0.4% of research/philanthropy funding and 0.1% of total University income**.

The University has a broad range of teaching and world-class research contributing to addressing the climate crisis. **Recommendation 1 is to focus on the opportunity for a major fundraising push to bolster the University's position as a global leader in tackling the climate crisis.**

CBELA reviews detailed due diligence in deciding whether or not to accept funding from fossil fuel companies. **Currently BP and Shell are rated amber, even though due diligence finds that no fossil fuel companies are aligned with the University's level of ambition.**

The design of the CBELA decision-making process lacks clarity and transparency. **Recommendation 2 is to significantly simplify the CBELA process by referring to credible third-party benchmarks**, whilst retaining discretion for exceptional circumstances.

Recommendation 2 suggests application of the SBTi definition of a fossil fuel company. **Wholly or partially-owned subsidiaries of fossil fuel companies should be considered on their own merits**, so that if they are focussed on clean technology they should be seen as valid funding partners.

The Grace as written would have serious negative consequences for academic freedom and freedom of speech, by censoring who academics are allowed to work with. **Recommendation 3 limits the application of the Grace to research/philanthropic funding only** and does not extend restrictions to other forms of collaboration.

The Grace as written extends the consideration of climate alignment to many more companies. **Recommendation 4 retains the narrow scope of** fossil fuel companies for **the CBELA process whilst suggesting a timely extension of alignment activities to all companies** according to a plan to be produced within 18 months.

Introduction

Cambridge position on the climate crisis, its ambitious role in addressing the crisis, and its stance towards accepting funding from sources incompatible with its best interests are laid out clearly in the University Council's [the Council] guidance to the Committee on Benefactions and External and Legal Affairs [CBELA] regarding climate change as follows [bold in original]:

1. **The University recognises that climate change is an existential threat**. In line with its mission, to contribute to society through the pursuit of education, learning and research at the highest international level of excellence, the University seeks to play a critical role in addressing this challenge.

2. **The University has demonstrated its own commitment through the establishment of the Cambridge Zero Initiative and its adoption of science-based targets for carbon reduction within its own operations**. But, if the University's long-term interests are to be best served and its standing at the forefront of climate change mitigation and adaptation is to be maintained, the University must also reflect its commitment in its approach to donations and other external funding.

3. Accordingly, the Council of the University has agreed that it **will not accept funding from sources where to do so would be incompatible with its best interests**, having regard to its commitment to address climate change through a transition to a zero-carbon world. To do otherwise would risk the reputation of the University and might damage the University's ability to fulfil its mission[2]."

The climate crisis is existential, urgent and deteriorating, yet there still remains hope as the set of solutions becomes clearer, key technologies are adopted exponentially and institutional leadership finally rises to the challenge. As stated above, the University has taken a clear leadership position on the crisis and the role it plays in contributing to society's response by delivering world class teaching and research.

The science is ever clearer, the impacts more and more visible. The pressure for action from citizens, governments, investors, companies and civil society grows inexorably and will not relent until institutions truly align their plans with the speed and scale of solutions needed. That pressure is rapidly being converted into regulations meaning that all institutions will likely be required to comply with the needed ambition before the end of this decade.

[2] Cambridge University Reporter No. 6590, p15

And so the time for leadership is now. Those who claim leadership but act with timidity or equanimity will be labelled hypocrites, suffer reputational damage, and end up aligning with agreed norms in a small number of years anyway. Those who grasp the nettle and act consistently with their leadership message will reap the reputational benefit which will last for years to come. It is for these reasons that the University's best interests will be served through a clear and world-leading response to the climate crisis.

In July 2022, 84 members of the Regent House submitted a Grace[3] [the Grace] to the Cambridge University Council [the Council], as follows.

The Regent House asks the Council to agree that the University of Cambridge will not accept research funding or allow sponsorship or other collaborations with companies if they meet one or more of the following criteria:

- They are constructing, or facilitating the construction of, new fossil fuel infrastructure.
- They are engaged in exploring, or facilitating the exploration of, new fossil fuel reserves.
- They retain membership with trade associations engaged in political lobbying against science-based climate legislation.

The Council should instruct the University's Development and Alumni Relations department, CUDAR, to conduct fundraising and development activities in order to replace funding which has traditionally been derived from companies which meet these criteria.

In October 2022, the Council agreed to commission an independent study to: "analyse the likely impact of the proposals in the Grace on the University's research and teaching activities, including its ability to deliver solutions which contribute to the energy transition, and on academic freedom and freedom of speech within the University, as well as the feasibility of replacing any funding affected through fundraising and development activities."[4]

This report, authored by Nigel Topping, UN Climate Change High Level Champion, COP26, was commissioned by the Council in February 2023.

The Grace challenges the effectiveness of the CBELA process in implementing University policy so much of this report looks at the background to and practice of this process and at the challenge and suggested changes implied by the Grace. There are three categories of responses to the climate crisis; mitigation, adaptation and resilience, and finance (including loss and damage) and all three are covered in the report. However, given the focus on University relationships with fossil fuel companies, this report has a bias towards mitigation.

[3] A Grace is a formal proposal which is placed before the Regent House (or the Senate), sanctioned by the Council and published in the Reporter.
[4] Cambridge University Reporter No. 6673, p84

As well as looking into the impact the Grace would have if implemented both in the current form and with a series of possible amendments, the report also looks at the issues and opportunities around fundraising for climate research at the University.

The report is based on two extensive background papers, many interviews, and two 'town hall' meetings open to all University staff. The first paper covered the external context and forms the basis of section 1. The second looked at the internal context and forms the basis of section 2.

More than thirty interviews as well as two town-halls allowed the author to engage with approximately 200 members of the University community. Interviewees included representatives of the originators of the Grace, the senior leadership team of the University, leadership of all schools, representatives of the most affected departments, student representatives from both undergraduate and postgraduate organisations, University staff from Cambridge University Development and Alumni Relationships [CUDAR], CBELA, the Advisory Group on Research Practices [AGRP], the Strategic Partnerships Office [SPO] and the University's legal advisors. The two town hall meetings were open to all members of the University community.

All conversations followed a consistent approach, starting with an exploration of what the University's mission means in the context of the climate crisis, looking at what the University is doing now and could do better to play its role in accelerating solutions, and then an examination of the impact of implementing the Grace as written or with various possible amendments to avoid negative consequences.

The structure of the report, reflecting the issued terms of reference, is as follows:

Section 1 - External context

This section surveys the state of the climate system against the goals of the Paris Agreement, particularly the target to get to Net-zero emissions by 2050 [NZ2050] and the state of momentum of deployment of solutions, with a particular focus on mitigation, especially the energy transition, as it is fossil fuel companies that are at the heart of the Grace. We include a brief assessment of the investments needed in fossil fuel infrastructure in a net zero transition and of the role of fossil fuel companies in that transition. We conclude with a forward view in terms of what needs to be done to get back on track and the role of the University in that. A clear distinction is made between the level of progress to date (bad news) versus the level of momentum now (much more encouraging).

Section 2 - Internal Context

This section looks at the history of the University's engagement with fossil fuel companies, the levels of funding from companies affected by the Grace in the context of overall University funding. We review the processes for deciding if both sources and uses

of funds are in line with the University policy on funding in the context of its policy regarding the climate crisis. This includes a summary of the credible third-party sources of analysis on company alignment with NZ2050 used in due diligence. Finally we include a brief survey on the breadth of teaching and research on climate solutions being carried out at the University.

Section 3 - Impact of the Grace on the University - Risk and opportunities

In this section we assess risks and opportunities across the University's ability to deliver on its mission, its reputation and its ability to attract and retain talent. Across these 3 broad categories we look at the impact on teaching, research, contribution to progress, funding, and academic freedom and freedom of speech. We consider these risks and opportunities in three scenarios - business as usual, implementation of the Grace as written, and implementation of the Grace amended by this report's recommendations.

Section 4 - Conclusions and recommendations

In this final section, recommendations are made covering both the University's approach to fundraising for climate research, and on adjustments to the Grace as written. The recommendations seek to enhance the University's ability to deliver its mission whilst enhancing its reputation and protecting academic freedom and freedom of speech.

Section 1
External Context

In this section we look at the state of the climate system today compared to the Paris Agreement [PA] goals and assess progress in developing and implementing solutions in the areas of mitigation, adaptation and resilience, and finance. We then summarise the teaching and research agenda needed to support an accelerated energy transition and the different ways in which universities can collaborate with industry. Finally we review the role of fossil fuel companies in the transition, particularly the requisite levels of ongoing capital investment [CapEx] in maintaining current production and in exploring for new fossil fuel reserves as this is one of the key criteria suggested by the Grace.

1.1 State of the climate system compared to the Paris Agreement goals

The climate crisis is existential and worsening. The development and deployment of solutions at the requisite scale is urgent and among the most challenging and exciting areas to be working on today.

The COP21 Paris Agreement [PA] in 2015 set a goal of limiting temperature rise to 1.5^{0}C this century. At COP26 in Glasgow a strong convergence towards NZ2050 ambition emerged among nations, cities, businesses and financial institutions. The University's NZ2048 commitment [with ambition of NZ2038] is consistent with this international movement.

The PA establishes a trifold architecture of action - Mitigation [decarbonising the global economy to eliminate net emissions of greenhouse gases, reaching net zero by mid century], adaptation and resilience [addressing the vulnerabilities to the impact of climate change already triggered by our slow response, and affecting 4 bn people, particularly those poorest and least responsible for causing the crisis] and finance [mobilising $4-6tr per annum by 2030, including finance for loss and damage, the cost of impacts to which communities are not able to adapt].

Progress to date on all three agendas has been woefully inadequate. Global emissions continue to rise, impacts are increasing faster than communities can adapt, and global financial flows need to increase by a factor of 5 this decade. However, there has been a rapid increase in ambition in the last few years, as well as significant progress in many

areas of needed technology such that there still remains a small window of opportunity to succeed in delivering on the promise of Paris. This is the task before us this decade, and the University is uniquely placed to contribute to the solutions in all areas due to the breadth and depth of its research expertise and its role as a leading University worldwide.

Scientific understanding of the extent of human suffering and economic damage at different levels of temperature increase has evolved considerably in the last ten years. In 2014 the Intergovernmental Panel on Climate Change [IPCC] reported that the danger zone [the temperature at which risks for the listed 'reasons for concern' moves to high and very high] for most high risk outcomes lay in the range 2-5^{0}C whereas by 2023 they assessed the danger zone to be much lower, 1-3^{0}C. A recent Nature paper by the Earth Commission goes further and puts the safe boundary at 1^{0}C[5].

The global surface temperature has increased steadily since 1900, and is now around 1.1ºC higher than pre-industrial times. The world is now warmer than it has been in at least the last 100,000 years. The warming is caused by greenhouse gas (GHG) emissions from human activity, primarily CO_2 (74%) and methane (17%). The World Meteorological Organisation [WMO] recently reported that we will likely breach the 1.5^{0}C limit at least temporarily within the next 5 years.

GHG emissions currently stand at 59 $GtCO_2e$ per year[6], around 42 $GtCO_2e$ of which are caused by the use of fossil fuels, including around 4 $GtCO_2e$ of fugitive methane emissions from fossil fuel supply chains. CO_2e emissions from oil, coal, and gas have been growing slowly but steadily, at around 3% per year since 1850, from 0.1 $GtCO_2e$ per year in 1850 to around 38 $GtCO_2e$ per year today. Very recently though, this long term growth trend has weakened, and fossil CO_2e emissions growth over the last decade has been around 0.5% per year.

Adverse effects of human-caused climate change are now well known, and while they are already widely felt, they will intensify greatly in years to come, at a pace and scale dictated by the trajectory of future GHG emissions. Effects include: increases in droughts, flooding, storms, fire, glacial melting, sea level rise, ocean acidification, extreme heat; and the resulting losses and damages to terrestrial, freshwater, coastal, and ocean ecosystems, food production, water availability, human health and well-being, settlements, infrastructure, and economic activity.

Perhaps of even greater significance than the direct impacts of a warmer climate, rising global temperatures increase the risk that certain physical tipping points will be reached, triggering abrupt and irreversible impacts in the climate system. These include the collapse of ice sheets, loss of sea ice and glaciers, significant sea level rise, thawing permafrost, species extinction, and the dieback or die off of forests and coral reefs.

[5] Rockstrom et al 2023

[6] Different GHGs have different warming impacts on climate. To account for these differences, quantities of gases are given in terms of carbon dioxide equivalent (CO_2e) values. The CO_2e quantity of any gas is equal to the quantity of CO_2 that would result in an equivalent amount of warming over a given time scale (often 100 years). Total GHG emissions are then the sum of all CO_2e values of all GHGs.

Crossing any of these tipping points may generate positive feedback effects, triggering runaway damage to the climate system. It is now thought that up to 15 such tipping elements may now be active, and one tipping point may already have been crossed[7].

Next we look at the state of progress in implementing solutions in the three areas of mitigation, adaptation and resilience, and climate finance.

1.1.1 Mitigation

Based on scientific modelling of the global climate system, it is now believed that for a 50% chance of limiting global warming to 1.5ºC, GHG emissions must fall by around 43% by 2030 compared to 2019 levels[8]. The Tyndall Centre estimates this means production reductions of around 3-4% oil and gas production per year[9].

The broad technological outline of a comprehensive transition to net-zero emissions is understood[10]. This is due to recent and dramatic cost reductions in a few low-carbon energy technologies [specifically renewable energy generation and battery storage, key for electrical vehicles [EVs]] and expectations that other key technologies [particularly green hydrogen and alternatives to intensively farmed animal protein] will follow this pattern. Here we look briefly at 4 elements of the transition; power and road transport, heavy industry, nuclear and carbon dioxide removal [CDR], and food and land use change. As well as the technology itself, key factors that will enable or undermine change in these elements include social and behavioural trends (and the cultural contexts that shape them), wider technological change, finance , political economy and business models.

1.1.1.1 Power and land transport

As new technologies are produced in ever larger quantities, the cost of production falls in a predictable way. This learning effect [also known as Wright's Law[11]] has, over the last decade, seen dramatic cost reductions [Photovoltaic [PV] 88%, onshore wind 68%, offshore wind 60%] in power generation in parallel with roughly exponentially increasing deployment. Solar and wind are now the cheapest sources of electricity in most places on the planet. The prices of batteries and EV battery packs also fell, by 69% and 90% respectively over the same period, and it is now cheaper to buy and run an EV

[7] McKay et al. 2022
[8] IPCC, 2023 p25
[9] Kalverley et al 2022
[10] Way et al. 2022
[11] Wright's law, also known as learning-by-doing, or the experience curve, refers to the empirical observation that for some technologies (but not all), each doubling of cumulative production is associated with roughly a constant percentage decline in costs. These cost reductions come about due to learning, innovation and technological advancements across a technology's entire supply chain. The resulting emergent trends are remarkably robust over multi-decadal time scales.

than a petrol or diesel vehicle [on a Total Cost of Ownership basis][12]. These cost advantages are only likely to increase in future, due to further innovation.

The challenge here will be to continue to scale exponentially. This will require ongoing technology development [e.g. in battery and heat pump technology] but increasingly will include finance, policy, infrastructure and public acceptance. Current indicators are positive that these sectors are ahead of target for a NZ2050 trajectory[13].

1.1.1.2 Heavy industry

The transition is at an earlier stage for a group of heavy emitting industrial sectors such as steel, cement, chemicals, aluminium, heavy trucks, shipping and aviation. The attributes of these sectors mean they are less amenable to electrification but again, clear pathways exist driven by increasingly mature public and private international collaboration. The focus in these sectors is more on early stage investments [zero-carbon ships, green hydrogen, green steel, sustainable aviation fuel production etc]. Green hydrogen is a key enabling technology across multiple sectors. International collaborations have identified clear short-term cost, procurement, policy, investment and deployment targets.

1.1.1.3 CDR and Nuclear

All net zero scenarios see an important role for CDR. This may be through carbon capture and geological storage [CCS] or through a whole range of technologies being developed [including combinations of usage and storage in: chemicals, fuels, microalgae, enhanced weathering, land management and soil sequestration or biochar, forestry, and building materials such as concrete]. It should be noted that geological CCS shows little evidence of a learning effect, and despite the decades long promise from the fossil fuel sector that this is the silver bullet solution, costs have not come down and deployment remains very low. In 2021, 81% of carbon captured had been used for enhanced oil recovery[14] and beyond this use case the economics of adding a cost to already uncompetitive processes do not look promising. It would be an unwise strategy to rely only on breakthroughs in this one method of CDR alone, hence increasingly a broad portfolio of technologies for CDR is being pursued.

Similarly large scale nuclear has not shown any learning effect. So the challenges here are how to develop scalable solutions that will decline in cost as volumes increase which is why most current research and development currently focuses on small modular reactors. Technology development, enabling policies and public acceptance all represent considerable challenges.

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[12] The Total Cost of Ownership (TCO) is a cost metric that reflects the total lifetime costs associated with owning and operating a vehicle. It includes the cost of buying a vehicle, fuel or electricity costs, and maintenance costs. Many EVs are now cheaper than equivalent class Internal Combustion Engine Vehicles (ICEVs) on a TCO basis, primarily because higher upfront costs are more than offset by lower running costs, due to much higher energy efficiency than petrol and diesel vehicles.

[13] IEA 2023

[14] Freites et al 2021

1.1.1.4 Food and land

Approximately a quarter of all emissions result from agriculture, deforestation and land use change. Solutions exist and have the potential to contribute more in the short term than some of the technology-driven areas of the economy. Ending deforestation is a huge focus and political challenge, likely to be unlocked only when significant payment for standing forests starts to flow from global north to global south as a result of effective markets in carbon credits [key to Amazon, Congo Basin and Indonesian tropical forest conservation and restoration], with the meaningful participation of indigenous peoples. Other challenges include the development of innovative finance for debt for nature swaps, technical developments for soil, forest and ocean sequestration techniques and the monitoring thereof, and methodologies and finance structures to support large scale landscape restoration [eg as emerging through the AFR100 initiative in Africa]. Whilst many of the aspects of the solutions in this area may not be amenable to exponential change, there is one technology which does show huge promise - alternative proteins. Both lab-based meat and the use of vegetable proteins to replace intensively farmed [and extremely environmentally destructive] meat show the potential for rapid cost reduction as deployment grows[15].

1.1.2 Adaptation and Resilience

Most international attention and most climate finance has been focussed on the immense challenge of how to decarbonise the global economy. Progress on adaptation and resilience has been even slower and made even harder and more important by the lack of progress on mitigation. The impacts on humanity, particularly those most vulnerable and who have done the least to contribute to the crises, will be far-reaching and global. Increasingly severe extreme weather events - fires, floods, droughts, hurricanes, heat waves - are a staple of global news. The politics of adaptation and resilience have only become more polarised as the global south despairs at the lack of progress on this issue and the lack of support from the wealthy countries of the world.

The Global Commission on Adaptation lays out the challenge -

"Consider:

- Without adaptation, climate change may depress growth in global agriculture yields up to 30 percent by 2050. The 500m small farms around the world will be most affected.
- The number of people who may lack sufficient water, at least one month per year, will soar from 3.6bn today to more than 5bn by 2050.
- Rising seas and greater storm surges could force hundreds of millions of people in coastal cities from their homes, with a total cost to coastal urban areas of more than $1tr each year by 2050.

[15] Tubb et al 2019

- Climate change could push more than 100 m people within developing countries below the poverty line by 2030[16]."

Beyond the often abstract talk in negotiating chambers, some progress has been made in recent years in creating a more action-focussed agenda to tackle the need to build resilience for around 4bn of the worst affected. At COP27 in Egypt, the Sharm el Sheikh Adaptation Agenda was launched with specific, actionable goals for 2030 across the areas of:

- Resilient food and agriculture systems
- Resilient water and natural systems
- Resilient human settlement systems
- Resilient coastal and ocean systems
- Resilient infrastructure systems
- Planning
- Finance

The action agenda lays out 30 goals in areas as specific as the number of hectares of mangrove restoration, the number of clean cookstoves deployed, provision of clean electricity, and the roll out of early warning systems. Each target is being worked on by a coalition of civil society organisations, governments and companies. Whilst progress is still at an early stage and the targets are very ambitious, we do at least now have a more pragmatic framework for action, and one which will allow universities to identify specific areas where their research, teaching and policy influence can play a key role.

1.1.3 Climate Finance

Vast amounts of finance are needed to tackle the climate crisis. Unfortunately the majority of political and civil society attention has been spent on one small part of the problem and this has delayed progress, the still unmet 2009 promise by wealthy countries to provide $100bn in climate finance to emerging and developing countries per year by 2020.

However, recent years have seen refreshing attempts to understand and drive the full scale of changes necessary to deliver a 'transformation in climate finance' as described in the COP27 decision text. Three initiatives in particular have helped clarify the needed reform agenda - the Glasgow Financial Alliance for Net Zero [GFANZ], The Bridgetown Agenda and the Finance for Climate Action paper commissioned for COP27.

GFANZ was launched at COP26 by the UN Climate Change High Level Champions and Mark Carney. This alliance now consists of over 500 banks, asset owners, asset managers, insurers and other finance sector entities, who together are managing over $15tr in assets under management. GFANZ aims to unlock the changes needed to finance the transition and has been particularly active in putting together Just Energy Transition Plans (JETPs) in South Africa, Indonesia, and Vietnam. This involves pulling together

[16] Global Commission on Adaptation 2019, p3

groups of private finance institutions to work with multilateral development banks and host governments to work out the mechanisms and the transactions needed to rapidly ramp up renewable energy systems, to prevent the build of new coal power plants and to retire early those that already exist. The vast majority of GFANZ members now have published and verified science-based targets [e.g. banks have committed to around 60% reduction in financed emissions in the power sector and 30% in the oil and gas sector]. This is of course not without criticism and controversy but represents a sea-change in commitment and momentum from this sector compared to pre COP26.

The Bridgetown Agenda was launched by Barbados Prime Minister Mia Mottley, after collaborating with many influential economists and governments around the world. It lays out a reform agenda for multilateral climate finance, to significantly increase the amounts available, to reduce the cost of capital, to address the need for debt restructuring and provide debt payment relief to vulnerable countries when costly climate impacts strike.

Rather than the inadequate 'front of pipe' $100bn approach, the **Finance for Climate Action** report, authored by Nick Stern and Vera Songwe, takes an engineering approach to the problem and provides clarity on the total amount of capital required in emerging and developing markets, excluding China. This amounts to $2.4tr per year by 2030, a 5x increase in current levels, to address needs across three areas: energy and industry decarbonisation; adaptation, resilience and loss and damage; and agriculture and nature.

To reach these levels a transformation is required across all elements of the international financial architecture including multilateral development banks [MDBs] [more finance but crucially much more leverage of private sector], the private sector [60-70% of total finance], domestic resource mobilisation [sovereign governments and local private markets] and international sources [bi- and multilateral public finance plus international private finance].

The agenda for change laid out by these three initiatives is now gathering political and private momentum. Thus, despite slow progress to date, the solution landscape is now much clearer and has many more actors from across public and private, north and south, working on solutions. University skills in economics [particularly development economics], law and policy will have major contributions to play but perhaps the most important resource to deploy will be the structured finance skills present in the business school.

1.2 A teaching and research agenda to accelerate the transition

One useful way of framing an accelerated energy transition and the requisite teaching and research agenda is by focussing on key technologies and looking at the historical evidence of the way new technologies are adopted. This typically follows an 'S-curve' pattern, whereby technology adoption is very slow at first but eventually grows exponentially once a cost-parity tipping point is reached. The dynamics of this are well understood - the learning effect mentioned earlier plus diffusion theory once the new

technology passes a tipping point and becomes the cheaper option. Of course exponential growth eventually plateaus as market saturation approaches, hence an S-curve rather than ongoing exponential growth. Examples from history abound, including the transitions from horses to cars, valves to transistors, analogue to digital photography. This is helpful for researchers and policymakers alike because by focussing on a small number of key technologies and their tipping points we can drive rapid transitions.

For the energy transition those key technologies are renewable power generation (key to decarbonising electricity and electrifying many other areas of the economy), battery storage (key to driving the electrification of land transport via EVs and stabilising power grids), green hydrogen (to decarbonising many heavy industry sectors across steel, ammonia, shipping and aviation) and alternative proteins (eliminating much of the very damaging intensive animal agriculture).

Green hydrogen and alternative proteins have yet to pass their cost tipping points, although rapidly increasing levels of investment are bringing costs down and most estimates suggest cost parity will be reached this decade leading to mass diffusion in the 2030s. Production of electrolyzers [the key technology for green hydrogen production] has been growing on average at 76% since 2002 and the US Department of Energy recently launched its first 'Energy Earthshot', with the aim of reaching $1 per kg of green hydrogen within a decade, a clear example of policy focussed on reaching a cost tipping point[17]. Think Tank RethinkX predicts *'the cost of modern foods and other precision fermentation products will be at least 50% and as much as 80% lower than the animal products they replace.[18]'*

Clean electricity, and EVs [driven by battery cost reduction] have already passed their cost tipping points as is now evidenced in their continued exponential growth. Solar PV deployment has been growing on average at 38% per year since 1976; and wind energy at 22% since 1984. Global EV sales grew by over 60% in 2022, including growth of approximately 200% in India and southeast Asia, and 100% in China and Japan. If these growth rates were to continue then the NZ2050 deployment targets would be met 10 to 15 years early. This requires ongoing innovations [e.g in battery materials science to continue to drive costs down], but increasingly the barriers to diffusion become systemic, such as grid connectivity, materials supply chains, and skills availability as exponential growth stretches the capability of all system actors to keep up.

Several recent reports have focused on identifying tipping points by sector, and likely cascades of tipping points that will accelerate the net-zero transition[19].

Thus a brief summary of the main areas requiring research to accelerate to the pace and scale required would include 5 technology focus areas:

[17] USDofE 2021
[18] Tubb et al 2019
[19] Systemiq et al 2023. IEA et al 2022

1. **Continue exponential growth of renewable energy.** Continued cost reductions in wind and solar production, strengthening of the grid, electrification of heat, improvements in energy storage, interconnectors and demand response management.
2. **Continue exponential growth of EV adoption.** Rapidly scale up EVs and charging networks. This will require ongoing improvements in battery technology and considerations of the new politics of raw materials.
3. **Achieve cost tipping point for green hydrogen** to facilitate the decarbonisation of ammonia, steel, aviation and shipping fuel.
4. **Achieve cost tipping point for alternative proteins**, both lab-grown and vegetable. Requires technological development as well as behavioural change to grow adoption.
5. **Develop a portfolio of carbon dioxide removal technologies.**

And further areas with a social, policy, or behavioural focus:

6. **Expand solutions for agriculture and nature**. Eliminate deforestation, extend areas under conservation, develop finance mechanisms for land restoration and conservation, improve agricultural techniques to extend areas under regenerative management.
7. **Strengthen policies, institutions, governance, and metrics**. Strengthen the institutional capacity, help policy makers, financiers, industrialists all understand and play their role in driving exponential change.
8. **Scale up climate finance.** Innovate blended finance solutions to deliver requisite levels of climate finance from all sources, especially in middle and low income countries. Innovate new solutions to loss and damage finance, drawing heavily on and collaborating with the insurance industry to develop more innovative risk pooling and risk reduction approaches.
9. **Increase public engagement and awareness of the benefits of a rapid transition.** Effectively engage with citizens to build better solutions pathways and to communicate the low costs of modern clean energy technologies, their climate and other benefits, and the practical achievability of a smooth, low cost net-zero transition in support of rapid adoption.

1.3 The role of universities in delivering solutions

University training and research is a key part of the knowledge creation process around climate change. It is also essential for developing new technologies for mitigation and adaptation, modelling scenarios and policies, and many other aspects of addressing climate change. Without universities much of this work would not happen.

National research laboratories, government agencies, meteorological institutes, and other specialist organisations also play important roles, often in collaboration with universities. Private businesses are well equipped to undertake technology R&D and commercialisation work, but are less suited to carry out and disseminate public goods research.

There will always be a need for fundamental research which may or may not lead to commercial application, but as soon as policy makers and markets are clear of the need to reach a commercial tipping point in a given technology, the needs for universities to collaborate with business are greater. This may be through helping to spin out start-up businesses to commercialise innovations from the lab, to collaborate with networks of businesses working pre-competitively to establish optimal development pathways, or to work with existing industrial companies to develop robust and competitive processes that can scale.

There are of course a wide range of possible models of collaboration which universities deploy - working together with other universities and business in particular. For the purposes of the assessment of the Grace we use the following typology.

- **Headline funding of major new institutional capacity** - a chair, building, department. Endowment funding for the long term, with little or no interference in research agenda setting [eg Energy Flows institute].
- **Majority funding of specific research** - sole or majority funding from one business partner or individual for the purposes of an agreed area of research of interest to the company. Usually the company will be a close technical collaborator as well. [eg CCS funding].
- **Collaborative research programs** - many businesses contribute expertise and/or relatively smaller amounts of funding and work together with academics on an area of mutual interest [eg Aviation Impact Accelerator, CISL collaborations].
- **Non-funded technical collaborations** not involving the provision of funding but with technical input in terms of data and insights from real economy applications.

1.4 The role of fossil fuel companies in the transition

It is worth noting that the vast majority of the innovation and technological progress on which current climate mitigation pathways are based, has occurred *outside* the ecosystem of incumbent fossil fuel industries, despite their vast capabilities for impactful energy research and development. The main technology options proposed or supported by the fossil fuel industry over the years – CCS, advanced biofuels, and hydrogen cars, for example – have not progressed significantly either in terms of deployment or cost, and do not appear to be much closer to providing large scale solutions than they were in the past. Furthermore, instances where fossil fuel companies have meaningfully contributed to the development of the low-carbon technologies that have undergone rapid progress are hard to find. In terms of capital spend on accelerating the transition, the new generation of clean energy majors [companies such as Enel, Orsted, NextEra Energy, Iberdrola, Envision] are spending significant multiples of the investments into the energy transition of even the most ambitious oil and gas companies. Recent research by Bloomberg New Energy Finance concluded:

Every $1 billion invested in the energy transition is certainly welcome, but oil major dollars have not, to date, moved the needle much. Clean-energy investment trends would look largely the same if oil majors were not investing at all.[20]

Of course the world will need fossil fuels for some time, albeit in decreasing volumes, with the declines in coal leading the way, quickly followed by oil as ground transport decarbonises and lastly by gas as heat is decarbonised.

Investment in the fossil fuel sector can be divided into two types: 1) upstream investment related to new, long-lived projects, 2) investment required for maintaining the output of existing projects. Both the International Energy Agency [IEA] and the IPCC are clear that the first type of investment will not be necessary in a rapid transition to net-zero. Specifically, in the IEA NZ2050 Scenario[21], all demand will be met "*without approving the development of any new long lead-time upstream conventional oil and gas projects and without any new coal mines or coal mine lifetime extensions worldwide*"[22].

In this scenario, fossil fuel investments are still required but they decrease to $450bn by 2030, none of which would go towards new long-lived upstream projects, but would be exclusively for maintaining operations. Thus when assessing whether or not fossil fuel company CapEx plans are in line with NZ2050, it is crucial to make this distinction [as the Grace implies] between CapEx for new reserves inconsistent with NZ2050 and CapEx to maintain production needed even during the rapid transition.

[20] Bloomberg 2023

[21] One of the three global energy system scenarios presented in the IEA's World Energy Outlook (WEO) 2022 is the Net Zero Emissions by 2050 (NZE) Scenario. It simulates what could happen if observed renewable energy cost declines are coupled with new policies to facilitate low carbon technology deployment, and to incentivise emissions reductions. It features a rapid expansion of solar and wind electricity, EVs, electrolysers, heat pumps, Carbon Capture, Utilisation, and Storage (CCUS), and the introduction of new efficiency measures to save energy across the economy.

[22] IEA WEO 2022, p134

Section 2
Internal Context

This section reviews the history of the University's engagement with fossil fuel companies from the discussion about divestment of the endowment to the current Grace and then summarises the levels of funding currently being received from fossil fuel companies in the context of overall University funding. We then examine the functioning and efficacy of current University processes and review third party sources of analysis used in due diligence. Finally we sketch the current and evolving landscape of teaching and research at the University relevant to the climate crisis.

2.1 Cambridge University history of engagement with fossil fuel companies

The University has been grappling with the question of ties to the fossil fuel industry for many years.

In January 2017, the Council received a Grace calling for the University to divest its endowment from "companies whose business is wholly or substantially concerned with the extraction of fossil fuels".[23] In response, the Council established a Divestment Working Group, chaired by Professor Dame Athene Donald, which recommended that "the University adopts a position of considered divestment, within a positive investment strategy and active engagement with investment managers, policy-makers and relevant sectors of industry."[24]

In March 2019, acknowledging the need for a "*broader consideration of the issues*" the Council responded to the requests set out under a second Grace, agreeing to commission a report looking into the advantages and disadvantages of a policy of divestment from fossil fuels [Divestment Report].[25]

The Divestment Report found that while there had been some moves towards long-term climate change targets from large oil and gas companies, there had been limited action in the short term that would enable firms to deliver on the ambition of such statements.

[23] CU Reporter No. 6544 p489
[24] Cambridge University 2018
[25] CU Reporter No. 6543 p455

The Council welcomed the report and shortly afterwards the University announced a series of new commitments on climate change,[26] including:

- Divestment from all direct and indirect investments in fossil fuels by 2030
- Achieve net-zero emissions across its entire investment portfolio by 2038

In light of these commitments, the University began a review of its banking relationships. Since 2020, the University and Colleges have been coordinating to engage with major banks as critical providers of new capital for fossil fuel expansion. This project has resulted in some modest concessions thus far. One major global bank included methane in their methodology and now reports on its absolute emissions. The project also contributed to a significant increase in shareholder support for a resolution filed at HSBC. A key learning identified by the participants was the potential impact that can be generated through deploying academic research and voice as a well-known and respected institution.

In 2018, the Council established CBELA [but note this was predated by ACBELA and the 'Executive Committee of the Council' going back to at least 1997], which scrutinises reputational risks arising from external sources of funds for philanthropic purposes and, more recently, research collaborations. CBELA is chaired by the Vice Chancellor and includes five other members of the council, including one student member.[27] CBELA reviews all proposed fossil fuel company funding for alignment with the University policy. This process is described and reviewed in section 2.3.

The University also has a process to evaluate the research topic of proposed research partnerships with fossil fuel companies, called the Advisory Group on Research Purpose [AGRP]. This process is described and reviewed in section 2.3.

In July 2019, Cambridge became the first University in the world to adopt a Science-Based Target - to achieve absolute zero emissions across scopes[28] 1-2 by 2048, with an aspiration to reach this goal by 2038[29]. In addition there is active work being undertaken to set science-based targets for the most significant scope 3 emissions.

In November 2019, the University launched Cambridge Zero,[30] a hub and umbrella initiative working to catalyse and support collaborative and interdisciplinary climate-related research projects and collaborations across the University, as well as facilitating partnerships between researchers and external partners. Importantly, Cambridge Zero 'is not just about developing greener technologies or a zero-carbon University' but is 'harnessing the full range and breadth of the Collegiate University's

[26] Cambridge University 2020
[27] CBELA 2023
[28] Scope 1 GHG emissions are emissions from sources that an organisation owns or directly controls (for example, when burning fuel in a boiler). Scope 2 emissions are emissions that an organisation causes indirectly as a result of the energy it buys (for example, when buying electricity from a gas-fired power station). Scope 3 emissions are all the emissions that an organisation causes indirectly as a result of all activity both up and down its value chain (for example, the emissions created in the manufacture of products it buys, or in the use of products it sells).
[29] ESGN 2019
[30] Cambridge Zero 2023 [1]

capabilities, both in the UK and globally, to develop solutions that work for our lives, our society and our economy.' It identifies 62 distinct climate and sustainability-focused research groups and institutes at Cambridge in an non-exhaustive list. Recently Cambridge University Development and Alumni Relations [CUDAR] has established a dedicated fundraising effort for philanthropy on climate related topics.

In July 2022, 84 members of the Regent House submitted a Grace[31] (the subject of this report) to the Council, as follows:

"The Regent House asks the Council to agree that the University of Cambridge will not accept research funding or allow sponsorship or other collaborations with companies if they meet one or more of the following criteria:

- They are constructing, or facilitating the construction of, new fossil fuel infrastructure.
- They are engaged in exploring, or facilitating the exploration of, new fossil fuel reserves.
- They retain memberships with trade associations engaged in political lobbying against science-based climate legislation.

The Council should also instruct the University's Development and Alumni Relations department, CUDAR, to conduct fundraising and development activities in order to replace funding which has traditionally been derived from companies which meet these criteria."[32]

The criteria identified by the Grace echo the recent findings of the IEA's NZE scenario that state that existing fossil fuel reserves will exceed a 1.5°C and even a 2°C carbon budget, so that energy demand in a NZ2050 scenario will be met 'without approving the development of any new long lead-time upstream conventional oil and gas projects' as explained in section 1.

2.2 Fossil fuel industry funding in context

The University's total income was £2,219m in 2021/22. This included £862m from funding body grants (research), research grants and contracts and philanthropic sources, the remainder coming from teaching income and other business activities not considered in this report.

[31] A Grace is a formal proposal which is placed before the Regent House (or the Senate), sanctioned by the Council and published in the *Reporter*.
[32] CU Reporter No 6666, p640

This research/philanthropic funding is made up as follows:

Income from funding body grants for research[33]	£144m
Income from research grants and contracts[34]	£552m
Income from philanthropic sources	£166m
Total research and philanthropy funding	**£862m**

Companies can make either financial contributions to research or philanthropic donations. These financial contributions are tracked at the University level, through the University's finance system. Research funding is usually associated with a specific piece of research, such as a project or research centre. Philanthropic donations are less prescriptive - while they can be directed to a specific recipient, they cannot prescribe in detail how the money should be spent.

Individual researchers and research teams can also undertake consultancies directly with companies. Cambridge affiliated consultancies are conducted through Cambridge University Technical Service (CUTS), a University branded consultancy and subsidiary of Cambridge Enterprise Limited, a wholly-owned University research seed venture fund. Academics and researchers can also carry out consultancies in a private capacity (not using the Cambridge brand), which are not monitored at the University level.

The data for this study will focus solely on industry collaborations at the University of Cambridge; industry partnerships and collaborations with Cambridge Colleges and private consultancies with individual researchers are not included, as they are not tracked at the University level.

Overall income from industry was £44m for 2021/22, representing 5.1% of income from research grants/philanthropy, and 2.0% of total income.

The main, publicly available, source of information on funding from fossil fuel companies at the University is the Energy Sector Partnerships page.[35] This includes disclosures of research funding and philanthropic donations from companies with major fossil fuel activities that have contributed more than £1m in funding over the last three academic years. This page aims to capture the major sources of fossil fuel sector funding at the University.

Ranges are given for awards, and it covers data from mid-2016. It finds that the only two companies that meet the £1m threshold are BP and Shell who have given £19.7m to the

[33] Here we only consider the 'Recurrent grants: research' element of the full income from the Office for Students. Recurrent grants for teaching, museum funding, and other revenue grants are not considered.
[34] Including income from Research Councils, UK-based Charities, the European Commission, UK Industry, the UK Government, and other bodies
[35] Cambridge University 2023

University in research funding and philanthropic donations in the six years 2016/17 to 2021-22, or an average of £3.3m pa. This represents approximately 0.4% of 2021-22 research/philanthropy funding and 0.1% of total income.

For comparison, this is significantly lower than the materiality threshold of £19m used in compiling the University's annual report and accounts[36].

Fossil fuel funding is also relatively small compared with other fundraising initiatives. For example, Arcadia recently awarded £23m for a project led by the Cambridge Conservation Initiative on landscape restoration[37] and the Victor Phillip Dahdaleh Heart and Lung Research Institute has recently received a £16m gift from Canadian entrepreneur Dr Victor Dahdaleh.[38] In 2022 alone, philanthropic gifts for sustainability-related issues totalled over £67m.

If the University stopped accepting new fossil fuel sector funding, it would be unlikely that any faculty positions would be directly jeopardised, due to the diversified structure of the funding sources for academic positions. There would, however, likely be a more significant effect on post-doc positions and funding for PhD students, who are more often funded from a single funding source. As well as imposing general duties on the University to uphold free speech and academic freedom, the legal framework also provides protection for individuals' right to such freedoms and potential penalties (e.g. legal claims or regulatory action) for violating them. As such, it is important to consider the impact of the Grace on individuals' rights.

2.3 University processes for managing reputational risk of fossil fuel company engagement and external sources of due diligence analysis

At the time of the announcement of the divestment strategy in October 2020 and the University goal of absolute zero scope 1 and 2 emissions by 2038, a clear public statement was issued about alignment of funding with ambition;

> The University also announces that all research funding and other donations will from now on be scrutinised to ensure that the donor can demonstrate compatibility with the University's objectives on cutting greenhouse gas emissions before any funding is accepted[39].

The University has put in place clear policies and processes to implement this commitment and therefore to manage the reputational and other risks of accepting funding from fossil fuel sources, consistent with the University's legal and regulatory position as a teaching and research charity. Here we look at the details of these processes and assess their effectiveness in delivering their stated goals.

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[36] 'Materiality threshold' is the benchmark used to obtain reasonable assurance that an audit does not detect any material misstatement that can significantly impact the usability of financial statements

[37] Cambridge Philanthropy 2023

[38] Cambridge Philanthropy 2022

[39] Cambridge University 2020

> One process addresses alignment of sources of funds with the goal of ensuring they come from companies with climate ambition aligned with the University's [as part of an assessment of the reputational risk in the contest of the best interest of the University] - this is the CBELA process.

A separate process targets the alignment of uses of funds, which aims to ensure funds are only accepted which go towards solutions to the climate crisis and not towards research which might exacerbate the problem - this is the AGRP process which is not a decision making process but provides recommendations to CBELA for final decisions.

The Grace effectively calls into question the rigour of the CBELA process given the University's stated ambition and the scientific consensus on the transition pathway to net zero, and suggests removing the need for AGRP by proposing a blanket ban on collaboration with fossil fuel companies which fail to meet the proposed Grace criteria.

2.3.1 CBELA fossil fuel process

CBELA's role is explained in its induction documentation, which includes an explanation of its function as a committee of the University Council and the legal nuances for members of the University Council as charity trustees in considering whether to accept or refuse a donation, as follows [author's bold]:

'Committee on Benefactions and External and Legal Affairs (CBELA): General Introduction

The Committee on Benefactions and External and Legal Affairs (CBELA) is a committee of the University Council. It scrutinises engagements between the University and external parties to ensure that they are appropriate in terms of reputational risk. This due diligence is one of the legal duties of charity trustees and CBELA acts on behalf of the University's trustees (the Council). It also provides oversight for the University's legal affairs.

Trustees' legal duties and responsibilities for due diligence.

Legally, charity trustees must use their charity's funds and assets only to further the charity's purposes, and must avoid undertaking activities that might place the charity's funds, assets or reputation at undue risk. In practice, this means that trustees must (among other things) carry out due diligence on those individuals and organisations from whom the charity receives donations or with whom it works closely. This duty falls to CBELA.

One aspect of protecting charity funds and assets, as well as reputation, is trustees' responsibility to take donations. **Trustees may only refuse a donation exceptionally, when**: it would be unlawful to accept it, such as when the charity knows that the gift comprises the proceeds of crime; or **accepting the donation would be more detrimental to the charity's purpose than the donation would benefit the charity in enabling it to pursue its purpose.**

This means that trustees must weigh risk against benefit. They might (for example) consider that taking a donation would lead to loss of donations from other supporters at least equivalent, over the long term, to the value of the donation. Or, perhaps, that the reputational damage would have an impact on their ability to recruit staff, and in our case students, that outweighed the benefits. Although a charity's ethics and values play a part in reaching such decisions, they cannot be the decisive factors. The charity needs to be able to point to demonstrable detriment. Decisions are often not straightforward. In practice, compliance means conducting due diligence and exercising reasonable care over the selection of donors and partners in order to identify and avoid significant risks, and manage and mitigate overall risk, but it does not mean avoiding all risk. The Charity Commission supports 'a risk-based and proportionate approach'.[40]

In October 2020, the University adopted new CBELA guidelines "governing the acceptability of donations and other external funding to the University: climate change".[41] The Guidelines recognise that, if the University's long-term interests are to be best served and its standing at the forefront of climate change mitigation and adaptation is to be maintained, the University must also reflect its commitment in its approach to donations and other external funding.

The purpose of this process is to decide 'on behalf of the Council whether certain other sources of external funding are acceptable on ethical or reputational grounds. To guide it in its advisory and decision-making functions, CBELA considers the extent to which the source of funds is aligned with the University's own objectives concerning climate change'

For public companies, "CBELA looks at evidence relating to the company's commitment to address climate change, including:

- The company's most recent climate related disclosures, including financial disclosures;
- The company's current position on independent, environmental impact lists such as CDP, or Carbon Tracker;
- The company's current adoption of science-based targets or equivalent;
- The company's lobbying activities, including through trade associations.[42]"

In June 2021, the University introduced an enhanced set of criteria for energy companies, including a red, amber, green (RAG) scale.[43] This scale evaluates companies against the University's climate change guidelines.[44] In cases where the "University's and the company's interests are currently not aligned and there is limited indication that the

[40] CBELA 2023 [1]
[41] CBELA 2023 [2]
[42] CU Reporter No 6590, p15
[43] CBELA 2022
[44] CU Reporter No 6590, p15

company is on a trajectory to achieve better alignment in the future"[45], the company is rated red and the University will not accept funds from the company (research or philanthropic).

The due diligence material prepared for the CBELA committee is excellent, well researched and clearly presented. It scrutinises fossil fuel companies' short-term targets, investment plans and corporate policy influence for alignment with the science of NZ2050 and hence alignment with the University's stated ambition.

2.3.2 CBELA decision clarity and impact

The CBELA process has already had significant impact in reducing the number of fossil fuel companies ranked as amber and in moving those companies over time down the ranking system closer to a red ranking. Current green rated companies include Fromatome [nuclear] and First Hydrogen [green hydrogen], amber rated include BHP and Electricity Generating Authority of Thailand [no funding projects yet approved for either of these], Shell and BP [the focus of the remainder of this section because they are the most significant sources of funding], and Schlumberger is red rated.

The current process asks a committee of non-experts to review complex due diligence research in the context of a nuanced legal role for charity trustees. Decisions are not simple, nor lightly taken, and the process design itself makes it hard to follow decision-making logic. This process design lends itself to external criticism by those who disagree regardless of what decision is taken. Hence our recommendation is that this process be replaced by one with much clearer external benchmarks as the primary decision-making tool.

Both Shell and BP are currently rated as 'amber' by CBELA. Detailed due diligence has been presented to the committee showing that no oil and gas companies are aligned with the University's level of ambition on any of the three main categories of criteria. And yet, neither company has been classified as "red", indicating that a partnership/collaboration would generate "High reputational risk [and] major concerns overall".

To be clear, the relevant due diligence research finds that:

- On targets and reductions: **all companies still fall short of 'the absolute emissions reductions necessary** to link their businesses to the finite limits of the carbon budget'.
- On CapEx alignment: **all companies are continuing to explore and acquire fossil fuel resources, even though the industry already has more project options than needed for below 2°C scenarios.**

The CBELA process has all the evidence it needs yet it is difficult to find the logic behind the decision to continue to accept funding from fossil fuel funding sources. It appears that the process has placed undue emphasis on the benefits of the small amounts of fossil fuel funding under consideration and underestimated both the reputational risks of taking this funding and the missed opportunities laid out in section 3. Given the high

[45] CBELA 2022

reputational risk and the relatively small amounts of funding involved, this process **should be significantly tightened up** to ensure much clearer decision logic and transparent alignment with the University's stated policy objectives. We make recommendations in section 4 on how to achieve this.

2.3.3 AGRP process to ensure use of funds aligned with University ambition

The AGRP comprises subject matter experts who review all proposed research grants from fossil fuel companies; it reviews the purpose and comments on the project's potential impact for the energy transition. The funding proposal, along with the AGRP's comments then returns to CBELA for a final decision.

Since the new guidelines have been adopted, new research with applications to fossil fuels and related technologies, as well as research that could have dual use applications (to both fossil and other types of technologies) has been restricted. The only research grants from fossil fuel companies now being accepted are those judged by the AGRP to be contributing to solutions to the climate crisis.[46]

Unlike some other universities, Cambridge can now say with reasonable confidence that no major research funding is going towards research into areas which could exacerbate the climate crisis as opposed to accelerating the solutions. This approach should be followed by all universities.

The AGRP process works well and no recommendations are made to amend its operation.

2.3.4 Landscape of external benchmarks assessing alignment of fossil fuel companies

There are a host of initiatives providing assessments of various aspects of company plans and activities with regards to their alignment with PA goals. CBELA due diligence work draws heavily on these. Here we provide an overview of the main initiatives.

A useful way of thinking of the various elements is to adopt the '5 P's' of the UN Race To Zero initiative, which requires companies to -

- **Pledge** - set a rigorous Science-Based Target for emissions reductions in the short term in line with NZ2050 or earlier, to be externally verified
- **Plan** - work out how you are going to get there
- **Publish** - disclose strategy, targets, plans etc eg via CDP
- **Proceed** - implement the plan and publish progress on track with targets
- **Persuade** - align lobbying/public affairs policy engagement and trade body membership consistent with targets and plans[47]

[46] Cambridge University 2023
[47] UNFCCC 2023

In short the leading initiatives are as follows:

- CDP for corporate climate disclosure
- The Science-Based Targets initiative [SBTi] for credible short-term targets
- Transitions Pathway Initiative [TPI], CA100+ and Carbon Tracker Initiative [CTI] for assessments of company targets and plans (including CapEx)
- Influence Map for assessment of alignment of lobbying/public affairs and trade body membership

These initiatives are explained in detail in the background paper on internal context.

Any leader can set a bold target for 2050, so the key tests for corporate alignment with NZ2050 [and hence the University's Ambition] are to do with current and short-term action as follows:

- Short-term targets aligned with science-based decarbonisation pathways
- CapEx plans consistent with these pathways[48]
- Alignment of corporate public affairs and trade body membership with these levels of short-term ambition[49]

And indeed, these three areas are reflected in the 5 criteria reviewed by CBELA due diligence.

Next, we look at the assessment of the alignment of fossil fuel companies with a NZ2050 trajectory and hence with the University's lowest level of ambition [NZ2048 as opposed to NZ2038] for each of these 3 criteria. After describing the general approach to each relevant benchmark, we use actual data for Shell and BP to illustrate, as these are the only 2 fossil fuel companies currently assessed by CBELA as amber.

2.3.4.1 Short-term targets

The gold standard for target setting is the Science-Based Targets Initiative but at the moment there is no published methodology for the oil and gas sector. Until this is available other proxies will need to be used.

In 2021, the TPI released a report[50] that found that 85% of assessed oil & gas companies do not align with the below 2 degrees benchmark by 2050.

TPI finds **Shell's** current emissions are not aligned with a 2.6°C world . It estimates that its short-term targets (for 2025) are also not aligned with 2.6°C, while its targets for 2035 are not aligned with 1.5°C.

TPI finds **BP's** current emissions are not aligned with a 2.6°C world. It estimates that its short-term targets (for 2025) are also not aligned with 2.6°C, while its targets for 2035 are not aligned with 2°C.

[48] As an indicator of whether short-term action is commensurate with stated goals
[49] As an indicator of activities relating to science disinformation
[50] TPI 2021

Similarly, CA100+ finds that neither BP nor Shell have short-term (to 2025) or medium-term (to 2035) targets aligned with NZ2050.

Note: companies' targets should be assessed against science-based pathways and must include all scopes [critically including scope 3, essentially the proxy for the amount of fossil fuels extracted].

2.3.4.2 CapEx Plans

Perhaps the best measure of a company's commitment to the transition is the evidence of where it spends its CapEx. This is a relatively new field, and much methodological work is underway, largely spurred by the IEA's 2021 finding that "[t]here is no need for investment in new fossil fuel supply".[51] Similarly, the UN Production Gap report estimates that oil and gas production must decline by between 3-4% per year to keep to a 1.5°C carbon budget.[52] The academic literature indicates that existing proven fossil fuel reserves, if combusted, would take the world well beyond 1.5°C and even a 2°C carbon budget.[53]

In a recent op ed, Fatih Birol, the IEA's executive director, emphasised this finding, stating: "the push by some companies and governments to build new large-scale fossil fuel projects is not only a bet against the world reaching its climate goals — it is also a risky proposition for investors who want reasonable returns on their capital."[54]

CA100+ finds that no fossil fuel companies have capital plans aligned with NZ2050. The best source of deep research into this issue, however, comes from CTI.

CTI has conducted in depth research on Shell's latest energy transition strategy.[55] It finds that while Shell has increased the scope and frequency of its climate related reporting, its transition plans are not Paris-aligned, due to: (1) a lack of interim absolute scope 3 targets, (2) continued hydrocarbon exploration and sanctioning of new fossil fuel projects, and (3) a long lead in time for scaling up low carbon activities. In 2023, the company's CapEx guidance is still predominantly directed towards oil and gas. CTI analysis estimates that both BP and Shell's 2022-2030 CapEx plans would well exceed a 1.7°C trajectory.[56]

2.3.4.3 Lobbying

The Grace criteria states that the University should not "accept research funding or allow sponsorship or other collaborations with companies... [if] they retain memberships with trade associations engaged in political lobbying against science-based climate legislation."[57] This requires a company to *take action* by leaving non-aligned trade

[51] IEA 2021, p11
[52] UNEP 2021
[53] Trout et al 2022, Welsby et al 2021
[54] Birol 2023
[55] Carbon Tracker 2023
[56] Carbon Tracker 2022
[57] CU Reporter No 6666, p640

associations, and to do so in cases where the trade association's positions are *not aligned with climate science*.

This is very difficult to judge as multinational companies are members of many trade bodies which they join for a large number of reasons. To cover the full range of lobbying activities both directly and indirectly through trade bodies, the best source of data is InfluenceMap. They rank companies on an A to F scale for the alignment of their engagement with NZ2050. Membership of trade bodies actively lobbying against aligned climate policy drags down the score, more so if the company has a leadership position within the trade body.

Shell and BP both score a C overall on Influence Map. Both BP and Shell remain members of the American Petroleum Institute (API), which has a poor track record on climate, scoring an F (failing grade) in InfluenceMap's scoring system. The API has stated that it would oppose any regulations that would increase the price of US oil and gas exports, and has referred to the goals of the Paris Agreement as "aggressive".[58] The API took an oppositional position to the EPA's proposed methane emissions standards in 2022.[59] TotalEnergies left API in 2021, citing climate-related concerns, demonstrating that this is a reasonable expectation on fossil fuel companies claiming NZ2050 alignment[60]

2.3.5 Evolving regulatory landscape for Net Zero Transition Plans

The expectations on corporations to align with national climate goals and the methodologies to assist this are developing apace. The rapid adoption of voluntary targets has demonstrated willingness from many corporates but left a huge gap for regulation - leading the UN Race To Zero campaign to publish its 'Pivot Point' report calling on governments to fill the regulatory gap which voluntary initiatives can only partially address. At COP26 then Chancellor Rishi Sunak announced that all UK companies would be required to publish transition plans soon - and the Transition Planning Taskforce will announce its findings this year. The EU has just announced plans to make NZ transition plans a requirement.

All fossil fuel companies appear to fall short on meeting the proposed criteria of the TPT, being non-aligned on short- and medium-term targets, and by continuing to forecast CapEx non-aligned with 1.5°C.

2.3.6 Conclusions - fossil fuel companies alignment with NZ2050

Current best assessments of the three key metrics of NZ2050 alignment described above, by the most respected and credible neutral 3rd party organisations show that **no fossil fuel companies, including those currently ranked by CBELA as amber, have short-term targets, CapEx plans, or policy engagement which are aligned with NZ2050 and hence the University's level of ambition**. This is 8 years after Paris, 5 years after the IPCC report on 1.5°C and 3 years into the CBELA process of assessing alignment.

[58] Influence Map 2021
[59] Influence Map 2022
[60] Total Energies 2021

As an example of a clear, fact-based decision, the Church of England recently [June 2023] moved to exclude a large group of oil majors from their pension fund:

> Having already excluded 20 oil and gas majors from its portfolio in 2021, the Church Commissioners today went further, announcing that it would now also be excluding BP, Ecopetrol, Eni, Equinor, ExxonMobil, Occidental Petroleum, Pemex, Repsol, Sasol, Shell, and Total, after concluding that none are aligned with the goals of the Paris Climate Agreement, as assessed by the Transition Pathway Initiative (TPI).[61]

It should also be noted that assessing corporate climate transition plans is a frontier domain and a rapidly evolving area, and this is a live topic beyond the University. As methodologies change and improve, criteria should be improved and updated.

2.3.6.1 Note on scope of companies affected by the Grace

The Grace asks the Council to extend restrictions to all companies not just 'constructing' or 'exploring' but 'facilitating'. This would have the impact of extending the current CBELA process far beyond its current focus on fossil fuel companies, dependent of course on the interpretation of 'facilitating'. This could be interpreted to cover all professional services companies with any contractual ties with fossil fuel companies such as banks, insurers, consultants, suppliers of all kinds and customers of all kinds. There is a range of impact and influence that such companies have over fossil fuel company activity. A proportionate approach should be taken, reflecting this range, the leverage that the University's relationships with non-fossil fuel companies might reasonably have over fossil fuel company behaviour and the resource requirement to extend scope rapidly and effectively. Recommendations for considering the scope of the University's engagement with different categories of company are included in Section 4.

As part of this consideration, a clear definition of what constitutes a 'fossil-fuel' company is necessary. The SBTi initiative have just such a clear definition - quoted here at length for clarity

SBTi 1 - Fossil fuel companies [not able to join SBTi until oil and gas methodology complete]:

> Companies with any level of direct involvement in exploration, extraction, mining and/or production of oil, natural gas, coal or other fossil fuels, irrespective of percentage revenue generated by these activities, i.e. including, but not limited to, integrated oil and gas companies, integrated gas companies, exploration and production pure players, refining and marketing pure players, oil products distributors, gas distributors and retailers and traditional oil and gas service companies (except as noted in category 2 below).

[61] Church of England 2023

SBTi 2 - Companies that *can* join the SBTi

- Companies that derive less than 50% of revenue from a) sale, transmission and distribution of fossil fuels, or b) providing equipment or services to fossil fuel companies (see above).
- Companies with less than 5% revenue from fossil fuel assets (e.g. coal mine, lignite mine, etc.) for extraction activities with commercial purposes.
- Electric utilities that mine coal for their own power generation.
- Subsidiaries of fossil fuel companies (see SBTi 1 above) may join the SBTi if the subsidiary itself is not considered a fossil fuel company.

  SBTi evaluates the eligibility of subsidiaries of fossil fuel companies on a case-by-case basis. The subsidiary's operational model and relevance of its emissions to its parent company will be assessed.[62]

We use this definition in recommendation 2, section 4. We consider the primary activities of a company to be the key test of alignment rather than its ownership structure and conclude that the University's best interests are served by working with companies whose business activities are focussed on the energy transition regardless of ownership.

2.4 Current teaching and research scope

There is a significant range of activities on climate and sustainability at Cambridge, across research, teaching, and engagement, all of which are evolving rapidly.

2.4.1 Research

There are many different dimensions of climate and energy research throughout Cambridge. This section outlines four cross-University energy and climate initiatives with a significant industry interface that were highlighted during interviews.

Cambridge Zero works to catalyse and support collaborative and interdisciplinary climate-related research projects and collaborations across the University, as well as facilitating partnerships between researchers and external partners. This includes organising internal and external workshops and symposia, identifying funding opportunities, and maintaining a mailing list with funding opportunities. Cambridge Zero has recently launched a new Postgraduate Academy, which will facilitate interdisciplinary research collaborations on climate change and net-zero. This model allows a great deal of flexibility for researchers to identify their research topic and partners.

[62] SBTi 2023

The Maxwell Centre was founded in 2016 to serve the interface between industry and academia, primarily across the Schools of Physical Sciences and Technology. Zero carbon has been a core strategic focus since 2019, with a second strategic focus on science-technology-medicine. The Centre maintains a wide network of industry links and enables researchers to work on relevant issues with their counterparts in companies, typically at a pre-competitive level. The Centre catalyses academia-industry research links through events, targeted introductions, facilitation of joint/co-created research proposals, and development of skills required by researchers for meaningful engagement with industry (e.g. through "Putting your research into context" workshops, and "Impulse for tech innovators" practitioners-led entrepreneurial training). Industry partnerships at the Maxwell take the form of either direct research collaboration with groups hosted in the Maxwell Centre (where decisions whether to engage are taken by PIs and their Departments), or co-location of companies (with access to shared offices, labs, meeting space or hot-desks).

Cambridge Institute for Sustainability Leadership (CISL) has worked on sustainability and climate change for over 30 years. Alongside its education work, it works to enhance leadership capabilities, drive solutions-focused business/policy dialogues and coordinate multidisciplinary research and insight. CISL has a significant industry interface, including several business leadership groups, such as its Corporate Leaders Groups , and various finance sector groups under the banner of its Centre for Sustainable Finance. Shell was a former member of its Corporate Leaders Groups, until the company was asked to leave in 2015 amid concerns over continued unconventional fossil fuel exploration.

The Interdisciplinary Research Centres [IRCs] were created to facilitate interdepartmental collaboration and research. The Energy IRC is the largest, with over 250 academics, and a steering committee of 25 academics from 4-5 schools, working on energy and related fields. There are many areas of research excellence at the University directly contributing to important and scalable solutions for example in the field of battery technology, photovoltaics materials and decarbonising aviation.

A reading of the six Schools' vision documents reveals scant attention to climate change and certainly not a strategic focus. A strategic review of climate change related research has just been initiated and is most welcome. There is a strong need for this kind of strategic review to balance the strength of the bottom-up researcher-led approach to agenda setting. At times of disruptive change, a process anchored in past experience and external relationships is unlikely to provide the leadership direction needed and will likely miss opportunities to move into new areas and accentuate gaps in the current research offering.

2.4.2 Curriculum and teaching.

Cambridge Zero: The Cambridge Zero Education pillar currently has three streams of work considering climate and sustainability in the context of the University of Cambridge curriculum, collaboration to develop climate and sustainability education beyond the University, and University of Cambridge student engagement. On the Cambridge curriculum stream they are currently conducting an audit of climate and sustainability education at the University which will be published internally as part of a preliminary report on climate and sustainability education at the University (August 2023). They are also conducting a student survey to gather student views on climate and sustainability education. Data currently gathered broadly indicates a strong student demand for

sustainability to be represented within the taught curriculum, though there is a concurrent concern over balancing this with workload and a focus on core studies. A 2021 Cambridge Zero survey indicated that just 26% of students thought that Cambridge offered sufficient sustainability courses.

Many colleges also appoint a student officer for ethics, environment, or sustainability. Cambridge Zero runs a coordination network for these officers, as well as coordinating or supporting a range of student events, funding opportunities, and skill development schemes.

Undergraduate Study: Interviews and preliminary investigations identified the following relevant courses and actions undertaken by Departments and Schools, but note that this is not a complete list:

- The School of Clinical Medicine has employed a Climate Teaching Fellow with a remit to review clinical education and introduce climate and planetary health related content.
- The Natural Sciences Tripos has introduced a Part IB (year 2) cross school course on Quantitative Environmental Science.
- The Department of Chemical Engineering and Biotechnology are currently undertaking a curriculum review and offering a new Tripos (undergraduate course) on Chemical Engineering and Biotechnology that will integrate climate and sustainability content. This was formerly Chemical Engineering, a Part 1b, II & III option (years 2-4), accessed from Part 1a Natural Sciences or Engineering.
- The Faculty of English have introduced a course on Environmental Criticism and Posthumanism.
- The School of Biological Sciences is undertaking a curriculum review of their Natural Sciences Tripos courses that includes key skills and competences, integrating recent research relating to education for sustainability.
- The Department of Architecture are offering a new Design Tripos from October 2024 that will challenge students to think about global problems such as climate change and give them the skills to help create solutions to them

Postgraduate courses in the 2022–23 academic year included:

- MPhil in Anthropocene Studies
- MPhil in Environmental Policy
- MPhil in Holocene Climates
- MPhil in Engineering for Sustainable Development
- MPhil in Conservation Leadership
- MRes + Doctoral Training in AI for the Study of Environmental Risks (AI4ER)
- MRes + Doctoral Training in Future Infrastructure and Built Environment
- Cambridge Climate, Life and Earth (C-CLEAR) Doctoral Training Partnership

Future potential postgraduate education opportunities include:

- October 2023: The Cambridge MBA (the Cambridge Judge Business School) – a new Sustainability Pathway will offer a new Sustainable Business concentration for students with sustainability interests. Students will take a curated set of relevant electives; experience meetings with leading sustainability practitioners; undertake a final capstone project related to sustainability; and have access to a range of sustainability-related electives, projects and speaker events.
- October 2024: MPhil in Quantitative Climate and Environmental Sciences (School of Physical Sciences) – This 10-month cross-departmental programme will cover a range of skills required for understanding and modelling of climate and the environmental processes. The course will train a new generation of scientists to work with environmental data to address the myriad of challenges associated with global warming.
- (in development) MPhil in Energy Materials (Department of Materials Science & Metallurgy).
- (in development) CDT in Sustainable Energy Material Innovation (School of Physical Sciences).
- (in development) PGCert in Sustainable Healthcare (School of Clinical Medicine).

The University also offers a number of executive education courses on sustainability, including:

- CISL Master of Studies in Sustainability Leadership
- CISL Master's in Sustainability Leadership for the Built Environment
- CISL Postgraduate Diploma in Sustainable Business
- CISL Postgraduate Certificate in Sustainable Business – organisational/value chains
- CISL Postgraduate Certificate in Sustainability Leadership for the Built Environment
- BS open programmes in Environmental, Social and Governance (ESG)
- IfM Engage open course in Weathering the Climate Crisis
- IfM Engage open course in sustainable value innovation

CISL offers a range of online courses focused on sustainability and Cambridge Advance Online also offers a range of online short courses including sustainability-focused courses such as Climate Change for Decision-Makers, and ESG Risk Management.

Many departments are currently undertaking a curriculum review, including the Department of Chemical Engineering and Biotechnology.

Recent experience, for example in the runaway success of the launch of the Masters in Climate, Management and Finance at Imperial College suggests that there is very strong demand among both undergraduate and postgraduate students for climate related content and hence significant opportunities to attract talented students and grow student income. In addition there is also increasing demand from employers. For example, there is a strong demand for an MBA programme with a sustainability focus.

Section 3
Impact of the Grace

In this section we assess risks and opportunities (on a scale of negligible, low, medium, high) across the University's ability to deliver on its mission, on protecting and upholding its reputation and on its ability to attract and retain talent. Across these 3 broad categories we look at the impact on teaching, research, contribution to progress, funding, and academic freedom and freedom of speech. We consider risks and opportunities in three scenarios - business as usual [BAU], implementation of the Grace as written [GAW], implementation of the Grace amended as per this report's recommendations [AG].

3.1 Risks to the University's mission

3.1.1 Risk to the University's ability to contribute to solutions to the climate crisis

Risk from funding loss. In 2021-22 total industry funding represented approximately 5.1% of income from research grants/philanthropy, and 2.0% of total income. During the same period, fossil fuel funding (including research grants and philanthropic donations) represented about 0.4% of income from research grants/philanthropy and 0.1% of total income. Hence the loss of this funding in the GAW or AG scenarios would have a small negative impact overall and a medium impact for those individuals and research areas most directly affected.

Risk of reduced collaboration. The GAW scenario would severely impact academics' ability to collaborate with industry practitioners who have key experience and data necessary for research to lead to real-world applications. The recommendations mitigate this risk by limiting restrictions considerably to headline funding only as defined in section 1.3 and recommendation 3. Thus, in the AG scenario, industrial collaboration would continue to be permissible except in the case of a red-rated partner offering headline funding. In addition this risk is mitigated by narrowing the scope of companies affected by the Grace in the first instance in recommendation 4.

Risk of loss of leadership bandwidth. Currently large amounts of key staff and leadership time are spent managing what has become a small amount of money from a small number of companies, distracting attention from more strategic considerations, bolder plans and new relationships. This will only get worse in the BAU scenario as discrepancies between policy and practice continue. AG recommendations to tighten up the rigour and transparency of the CBELA process and to defer largely to credible third party assessments of corporate NZ2050 alignment will mitigate this risk.

3.1.2 Reputational risks

Reputational risk of visible teaching and research bias. Both research evidence and anecdotal experience show that there is an ongoing reputational risk from academics who receive significant funding from fossil fuel companies adopting a fossil-fuel propaganda narrative when explaining the energy transition in the BAU scenario. This can be subtle but insidious for example adopting the deliberately misleading term 'energy company' rather than the accurate 'fossil fuel company' nomenclature or falsely claiming that 'all fossil fuel companies are transitioning very fast'. In addition there is a risk of bias in selecting research topics which might be funded by fossil fuel companies but have less impact than other topics. This risk is low overall for the University because of the small number of academics involved and will be mitigated by the recommendation on CBELA tightening in the AG scenario.

Reputational risk of policy and practice non-alignment. This is a high risk in the BAU scenario and is at the heart of the Grace. An elite science and technology University with a clear commitment to climate action leadership will be held to the highest standards of integrity with regards to rigorously implementing science-based policy, and it is in the best interests of the University as a whole to live up to this expectation. As shown in section 2, the CBELA process fails this test. In the AG scenario, mitigation through tightening the CBELA process largely addresses this risk.

Reputational risk of severely restricting industry collaboration. The BAU risk is low but the GAW scenario would create a very high reputational risk by significantly curtailing Cambridge academics' ability to collaborate with real-world practitioners. This would both diminish the quality and relevance of research and severely impact academic freedom and freedom of speech.

3.1.3 Risks with regards to talent

Talent risk - students. The BAU risk is medium, growing with no action as concern and awareness grow in the student demographic. This is reduced to low in the AG scenario but not to negligible.

Talent risk - academics. BAU risk is low, but would be very high in GAW scenario given restrictions on academic freedom and freedom of speech, and research impact. There is a small but contained risk in the AG scenario that loss of funding from fossil fuel sources would lead to a small number of academics leaving the University or a small number of

research positions becoming unfunded. The mitigation approach here is to significantly ramp up fundraising, allow currently negotiated funding arrangements to fund their contracted course and for the university to consider supporting affected areas with central funds for a limited period.

3.1.4 Risks with regard to protected freedom of speech and academic freedom

There is a robust legal framework which protects freedom of speech and academic freedom and imposes duties on the University to uphold those freedoms, as well as affording individuals rights to such freedoms. As noted in sections 2.2 and 3.1.1 above, the GAW scenario would lead to a loss of funding and significant restrictions on research which would potentially have a significant impact upon the freedoms of some individuals in the University. This is largely but not fully mitigated in the AG scenario.

If the University were in breach of its legal duties in this regard, it may be exposed to legal action from individuals, reputational damage and/or increased scrutiny from its regulator, the Office for Students, which has the power to impose fines and other sanctions.

Specifically, there is a risk for the University of legal claims on free speech / academic freedom grounds from any individual academics (including PhD students) whose work or career is affected by a University decision to rule out certain research funders or funding streams. A new Act of Parliament just passed gives a greater range of legal redress options for academics; and provides for an extended regulatory function for the Office for Students to investigate free speech / academic freedom matters.

Further consideration should be given to the individual impact of the loss of funding, in particular whether it would have a significant impact on a particular department, research group or individual. This will ensure the University can assess the risk of being found to have breached an individual's rights because of an unknown disproportionate impact of funding being removed. This risk informs recommendation 2.14 in section 4 of this Report.

3.2 Opportunities to enhance the University's mission

3.2.1 Opportunities to increase impact of University on solutions to the climate crisis

Fundraising opportunity. Cambridge has an impressive and impactful offering to the world in terms of its ability to accelerate solutions to the climate crisis that is unparalleled. It covers the full range of areas from materials science, biotechnology, engineering, AI, economics and finance, business mobilisation, policy, development and more. Given the University's global reputation and the crystal clarity of statements about the existential nature of the climate crisis and the University's unique capabilities, it is hard to imagine a greater opportunity to push for major fundraising. As benchmarks for ambition we see for example the $1bn establishment of the Doerr School at Stanford or what we know anecdotally from conversations with other companies and universities

looking at raising funds in the order of hundreds of millions of pounds. Note however, that this is not simply a question of increasing funding for the institution with its current approach to research theme selection but would require a significant shift in the way the University positions itself at the centre of the innovation ecosystem driving the transition, covering teaching, research, spin-outs and advice. This is a question of leadership commitment and then the hard work of collaboration in a fiercely bottom-up culture.

Breadth of research and teaching opportunity. Cambridge already has a unique breadth of offerings covering most aspects of the climate crisis but taking a more strategic collective approach would present an opportunity to honestly identify research expertise gaps and to then proactively seek to attract global philanthropy and talent to address those gaps, as well as more proactively developing teaching offerings to address the growing appetite from undergraduate and postgraduate students alike for teaching which equips them to be innovators, solutions providers, and leaders in addressing the climate crisis. This will require a holistic, collaborative spirit across University institutions as diverse as CISL, the Centre for Existential Risk, the Whittle Lab, CCI and the Judge Business School.

3.2.2 Opportunity to enhance the University's reputation

Every week we are bombarded with more and more evidence of the current and worsening impacts of the climate crisis and simultaneously with depressing news illustrating the dearth of institutional leadership. The scientific, economic and moral cases for urgent action have been made in the clearest possible manner. Bold statements of leadership abound, yet action rarely matches rhetoric. On this thorny issue, the University has an opportunity to stand as an exception, to live up to its mission and its potential and to provide leadership and garner the reputational benefits this will bring. This will require much of the leadership cadre of the University - in particular the courage to argue rigorously and not based on past emotional ties. This is the least that University stakeholders should be able to expect.

3.2.3 Opportunities with regards to talent

Students. Student levels of concern in the crisis and interest in being part of the solution will very likely only increase in coming years. The global mismatch between clear science and political commitments and weak action understandably lead to anger, confusion and fear among the brightest of the next generation of students. To attract the best talent, universities will need to offer excellent teaching which equips students to have agency in many roles in the transition, to demonstrate a research agenda which provides multiple routes to impact and to show leadership in all aspects of the institution's response to the climate crisis. This will require a reset of external relationships with the clarity which the recommendations suggests. Whatever the University decides, some students will always push for more, but clear thinking, bold leadership and excellent execution will enhance the University's ability to attract the very best.

Academics. There are two elements of opportunity for the University with regard to attracting academic talent. Firstly by ensuring the Grace is implemented in a way which preserves the vital freedom of Cambridge academics to pursue the research they choose with the partners they choose. And secondly by making clear that the University will ambitiously pursue its mission by driving collaboration and fundraising to support academics in many different fields, including not only those where the University is already world-leading but also those where there are opportunities to add to the range of solutions which Cambridge academics are developing. Creating a world-leading research ecosystem focused on climate solutions would create an exciting environment to attract the best global talent.

Section 4
Recommendations

This report has shown that the University is a world leader in multiple areas of climate teaching, research and influence with the potential to raise orders of magnitude more finance to promote this agenda than the small amounts which are the focus of the Grace. The first recommendation therefore is to launch a much bolder fundraising initiative. The implementation of the Grace as written is not compatible with the University's mission or its duties in relation to academic freedom and freedom of speech because it goes too far in restricting valuable research collaborations and individual academic ability to engage with partners of their choice. However, the core argument behind the Grace, that the University's CBELA process does not rigorously implement the University's policy on restriction of funding from non-aligned fossil fuel companies has real merit. The recommendations that follow thus suggest implementing an amended form of the Grace which protects the University reputation and therefore its best interests by rigorously and transparently using credible third party assessments of company alignment as the main basis for CBELA decisions, whilst retaining discretion in exceptional circumstances. Further recommendations suggest ways to achieve consistency across all business relations over time and provide clarity as to which restrictions to apply to companies red-rated by CBELA without impinging excessively on ability to deliver research solutions or on academic freedom and freedom of speech.

There are four main recommendations:

1. **The University should instigate a major [at the scale of £1bn] fundraising initiative** to promote Cambridge University as the leading global multi-disciplinary teaching, research, innovation and advisory University. This should cover all existing relevant and possibly new University collaborations, including Cambridge Zero and might include the refurbishment of an existing building to highest sustainability standards. The University is wasting valuable resources managing a small amount of controversial funding and missing the opportunity to raise orders of magnitude higher funding to focus on its much broader research, teaching and influence agenda.

2. **The University should clarify the current CBELA process, maintaining discretion but largely relying on simpler tests and third party analysis.** The University is exposed to high and rising reputational risk due to the unclear link

between due diligence and decision-making to deliver the University policy of only accepting funding from companies aligned with its level of ambition on climate change, and this is not in the University's best interests. CBELA should adopt the SBTi definition of 'fossil fuel company' to cover companies substantially involved in fossil fuel extraction but not wholly or partially owned subsidiaries focussed on clean technology solutions.

3. **The University should not extend restrictions** imposed as a result of CBELA red rating **to 'other collaborations'.** To do so would severely restrict the ability of researchers to work on practical solutions, would seriously restrict academic freedom and freedom of speech, and would lead to a loss of impact.

4. **The University should not extend the CBELA process to all companies 'facilitating**...' but should lay out a timetable for all company engagement to require alignment with the University's ambition over time [covering funding, philanthropy, research collaboration and procurement]. Starting with its largest suppliers who are either major financial institutions or companies from the major emitting sectors, then other large companies with which the company has a relevant relationship and finally SMEs, the University should ensure all businesses with which it engages in any form are aligned with its ambition on the climate crisis. This should be carried out according to a transparent, reasonable and phased timetable, to be produced within 18 months.

Detailed Recommendations

1. Instigate a major fundraising initiative

1.1 **Set a globally significant bold goal** - £1bn would reflect the reality of the Doerr donation to Stanford and demonstrate serious ambition that would require a step change in institutional leadership, thinking and collaboration.

1.2 **Make this a collaboration across all Schools** - start by inviting all Schools to specifically address climate crisis teaching and research needs and opportunities in their strategic vision documents which are woefully lacking in strategy or vision with regards to the climate crisis at the moment.

1.3 **Invite CUDAR and the Strategic Partnerships Office to explore much bolder partnerships with the new clean energy majors** such as Iberdrola, Orsted, Envision, NextEra Energy, Enel. These should all be the target for multi-year, £multi-million relationships. They are spending 3-5 times the levels of CapEx that BP and Shell are on the energy transition.

1.4 **The Vice Chancellor should lead this initiative**, with CUDAR tasked with coordinating across all schools and the SLT.

1.5 **Define a clear vision of a global Centre of Excellence for tackling the climate crisis**, including earth systems science understanding of the problems, science and technology development of solutions at scale, policy innovation and advice, and legal, financial and economic innovation to direct public and private finance at the speed and scale needed.

1.6 **Include a significant entrepreneurial incubator and spin-out element to this vision** covering the full range of new business products, services and models, including working to mobilise the wider Cambridge enterprise ecosystem.

1.7 **Include in this process financial mechanisms for incentivising collaboration and boldness** in order to facilitate the early stage work of developing new collaborations whether in terms of whole new centres or for major research themes.

1.8 **Carry out a specific review of the research capabilities, technology development potential, and incubation opportunities** around all forms of carbon dioxide [and other GHG] removal, storage and use, with a view to both supporting current research themes most affected by a reduction of funding from [currently not NZ2050 aligned] fossil fuel companies and significantly broadening the research agenda beyond the narrow part of the solution space which favours fossil fuel company capabilities.

2. Clarify current CBELA process

2.1 **Keep the CBELA climate change focus on Fossil Fuel industry for now** - and adopt the SBTi definition of a fossil-fuel company, see section 2.3.6.1.

2.2 **Replace the slow, vague decision-making process with one largely relying on credible third party providers** of assessments of NZ alignment, whilst maintaining discretion in exceptional circumstances.

2.3 **Use 3 tests of alignment**

- Short-term targets aligned with scientific pathways to NZ2050
- Short-term CapEx plans aligned with these targets
- Policy influence activities reasonably aligned with these targets

2.4 **Implement this revised process immediately using partner-provided data for these 3 tests** [with recommended compliance definition] as follows:

- Short-term targets NZ2050 aligned - TPI green or CTI analysis
- Short-term CapEx NZ2050 aligned - CTI analysis
- Policy influence - InfluenceMap C+ or higher [and rising over time]

2.5 **Partner with a credible 3rd party data provider** [recommended Climate Arc] as the medium term partner to bring order and simplicity to these inputs as methodologies evolve [eg SBTi Oil and Gas methodology, UK and EU Transition Plan requirements]. Consider partnering with TPI or CTI for regular standardised updates on the first two tests, and to add additional [e.g. private] companies if needed, and with InfluenceMap on the third test.

2.6 **Immediately inform current amber rated partners** who will shift to red rated under this clearer process, and very explicitly explain the line they would need to cross to return to amber. VC to meet the CEO in person and confirm in writing.

2.7 **Give affected companies a short time [recommend 3 months] to change plans/engage with data partners**, to make a case for adjusted rankings. The University to stay out of this process.

2.8 **Publish the University criteria and affected companies and scores** - transparency is the key to trust.

2.9 **Retain AGRP process on use of funds as currently operating.**

2.10 For clarity **note that the recommendation to follow the SBTi definition of fossil fuel companies means that the CBELA process would not cover wholly or partly owned subsidiaries** who are not focussed on fossil fuel extraction but on clean-tech acceleration.

2.11 **Explore partnering with a wider group of universities** facing similar challenges in order to adopt a common approach based on common criteria and common data sources.

2.12 **Commit to reviewing the 3 recommended tests and 3rd party analytics partners on a regular basis** [say every two years, with support of Climate Arc or similar] and as methodologies and regulations evolve. Ensure the review considers the University's charity law framework and any updated law or guidance on its trustees' duties on accepting or refusing donations.

2.13 **Any changes in CBELA ratings should not be applied retrospectively to**

existing agreed funding relationships - these should run their course, providing some buffer for research initiatives and staff. The University should consider supporting these areas of research from central funds for a limited period of time to allow a smooth transition.

2.14 **Give further consideration to ensuring that any decision with respect to funding takes into account the University's legal duties** with respect to freedom of speech and academic freedom in respect of any significant impacts on particular departments, research groups and/or individuals.

3. Do not extend the scope of CBELA climate change considerations to 'all collaborations'

3.1 **Allow all forms of [non-funded] technical collaboration with fossil fuel companies even if red rated for funding.**

3.2 **Allow multi-company technical collaboration to include a small minority [say less than 25%] of red-listed fossil fuel companies,** even if this collaboration requires small [say less than £100k each] of funding from all participants. This kind of collaboration is key for complex supply chain reconfigurations needed to address the climate crisis and minority participation mitigates the influence and reputational risks associated with headline funding.

3.3 **The above should still be subject to continuing effective receipt of advice from AGRP** to ensure this research is focussed on solutions to the climate crisis and has no dual use associated with improvements in fossil fuel extraction.

4. Phase-in climate alignment expectations on all companies with whom the University has a relationship of any form [excluding investments, covered by divestment policy]

4.1 **Define 3 groups in order of importance and urgency.**

4.1.1 **Major suppliers, particularly financial institutions and major emitters** [as defined by CA100+ or similar].

4.1.2 **Other large suppliers/partners.**

4.1.3 **SMEs**

[note these groups labelled A, B, C respectively in sequencing recommendation 4.5].

4.2 **Define scope of relationships to include research funding and**

collaboration, procurement, and others as appropriate taking due consideration of the need to preserve freedom of speech and academic freedom.

4.3 Within 18 months **publish a plan and timetable** of how the University will expect companies to demonstrate alignment with its ambition.

4.3.1 **Transparency of disclosure appropriate to size and sector** [as a first step, and to help the University establish this plan, the University should partner with CDP to join their supply chain transparency initiative, thus joining hundreds of organisations who are on a similar journey].

4.3.2 **(Short- and medium- term) targets in line with NZ2050** [the University to partner with or at least signpost to SBTi, as US federal administration has done recently for all federal procurement].

4.3.3 **Plans in line with this ambition** [as is being mandated in the UK and EU].

4.3.4 **Policy engagement in line with above ambition.**

4.3.5 **Demonstration of progress with above plans.**

4.4 When the plan is published, clearly **communicate the implications of not being aligned .**

4.4.1 **For fossil fuels companies this is the subject of this report.**

4.4.2 **For all other companies and types relationship this will need to be defined** but we recommend the following although this is not exhaustive

- Headline funding - not accepted if not aligned [but collaborative funding and non-funded collaboration accepted as per recommendation 3
- Procurement initially tilted towards those companies aligned, with a grace period of 2 years, following which companies will be excluded from procurement processes.

4.5 **An indicative sequencing is as follows** [groups A, B,C as per 4.1]

Sequence	1	2	3	4	5
Disclosure	A	B	C		
Targets		A	B	C	
Plans		A	B	C	
Policy			A	B	C
Progress			A	B	C

Note there is a vast amount of support resources available for all these companies, and most will already be working on all elements so those well prepared will find these timings easy to achieve. In particular note CDP, We Mean Business [WMB] and SBTi have resources specifically tailored to SMEs.

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