Effective fossil fuel policies for asset managers

Technical paper

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ShareAction»

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Executive Summary

The science is clear. Rising global temperatures threaten environmental stability, social cohesion and the integrity of economic systems. To limit temperature rises, the world must reduce greenhouse gas (GHG) emissions to net zero. To reduce emissions, we need to phase-down the consumption of fossil fuels and transition to renewable energy and feedstocks.

The need to transition the global economy is uncomfortable for fossil fuel companies. They have the most to lose from it. Today, fossil fuel companies are (almost without exception) planning to increase production, not reduce it, and are investing in new capacity. In doing so, they risk undermining that transition.

Transitioning the global economy is complex. It requires interconnected action from companies, policy makers, investors and consumers. Transition has also been rendered politically charged by the anti-ESG movement. In consequence, there is confusion and inertia across much of the investment system on how to effectively deploy financial levers of influence over fossil fuel companies.

Overview of the paper's findings and recommendations

In this paper, we explore why and how this influence can be deployed, through the coordinated levers of capital allocation and stewardship.

In Part I of the paper we lay out the foundations, covering:

- the clear environmental basis for transitioning the global economy on a 1.5°C pathway, as supported by signatories to the Paris Agreement;
- the strengthening financial rationale for limiting temperature rises to 1.5°C, derived from the expected negative correlation of global GDP to (even modest) temperature rises over the long-term, together with the cost advantage of renewable energy over fossil fuel sources;
- the requirement to begin phasing down fossil fuel production this decade under the International Energy Agency's (IEA) Net Zero Emissions (NZE) and Announced Pledges (APS) scenarios, with new fossil fuel capacity redundant in both scenarios[1]; and
- the misalignment to those scenarios of the current strategies of fossil fuel companies.

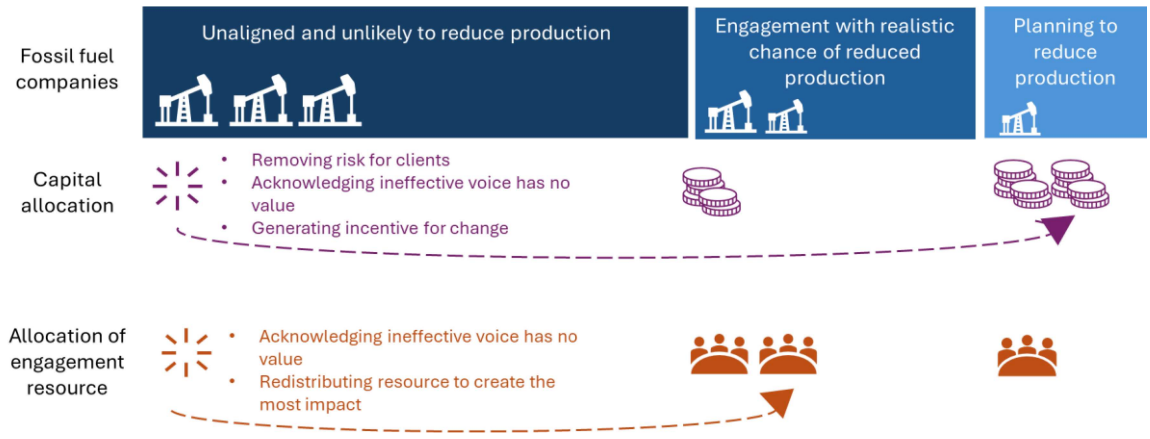
In Part II of the paper we consider how asset managers are currently framing their approach to investment in and stewardship of the fossil fuel sector through their policies. We find that these policies are generally limited in scope, despite the potential risks to their clients' long term financial interest if the global economy fails to transition away from fossil fuel production in line with the Paris Agreement.

We also address some of the common reasons given for not adopting more rigorous investment policies, including those relating to client mandates and asset manager duties, competitive dynamics within the fossil fuel market, and the efficacy of engagement over divestment.

While these arguments merit serious consideration, in aggregate they lean too far towards the continuation of ineffective action and 'business as usual'. They insufficiently capture the fact that the fossil fuel sector is not like other sectors – it requires a distinct approach to investment and stewardship. Different rules should apply, because of the risks the fossil fuel sector poses to the

long-term health of the global economy as well as to the environment. Investment policies are not evolving in step with the increased understanding of the economic risks posed by climate change and of the apparent acceleration of climate impacts. Asset managers risk 'missing the wood for the trees'.

In Part III of the paper we propose a more purposeful approach to investing in and stewarding the fossil fuel sector. This approach seeks to rebalance the emphasis towards a much more selective allocation of capital, combined with the robust application of consequence in engagement with those selected companies. We believe this approach is not just consistent with, but better captures, the duties of asset managers to their clients over the long-term. We believe this approach can influence the strategies of fossil fuel companies and reduce their incentive to continue betting against transition.



Source: ShareAction

Scope

The scope of this paper is limited to listed equity and debt investments in and stewardship of companies engaged in **fossil fuel extraction** by **asset managers.** This limitation reflects practical considerations of length and complexity. But transitioning away from fossil fuels will require simultaneous, collective action across multiple fronts. As such, this paper is consciously trammelled, and our recommendations should be considered as part of a broader investor strategy to support and catalyse transition away from fossil fuels. This broader toolkit should incorporate:

1. *Asset owners*: asset owners can play a crucial role in the transition of the global economy away from fossil fuels. Their incentives more naturally correspond to the long-term health of the financial system and can therefore steer asset managers away from strategies overly focused on short-term returns. They are closer to the non-financial preferences of their beneficiaries. Asset owners should adopt a directed approach to the fossil fuel sector in their own policies. This should be clearly reflected in mandates to their asset managers, to minimise the risk that uncertainty in interpreting 'client interest' stifles a robust approach. They should monitor asset manager implementation and be willing to move mandates where their asset managers are falling short.

2. *Policy engagement*: changing the policy landscape for fossil fuel production will be critical to decarbonising the global economy. The influence of investors over the fossil fuel sector will be much more effective if accompanied by a supportive policy backdrop. Therefore, investors should actively engage with policy makers to encourage rules that promote a stable and just transition.

3. *Fossil fuel value-chain*: companies operating in mid-stream, downstream and services activities in fossil fuels, and the financial institutions funding fossil fuel companies, are also critical facilitators of emissions. Those companies also need to be actively stewarded, through robust investment and engagement policies, to cooperate in transitioning the global economy.
4. *Demand-side:* engaging with the consumers of fossil fuels is an important complement to influencing the supply-side, in order to generate market signals for the transition to renewable energy and feedstocks.

Throughout this report, the phrase 'fossil fuel companies' should generally be interpreted as referring to upstream/extractors and the 'fossil fuel sector' as generally extending from upstream to downstream.

Summary of recommendations

All terms are defined and explained in the section 'Constructing an effective fossil fuel policy'

Recommendation #1: Set tight investment restrictions on thermal coal and unconventional oil & gas companies which are expanding capacity, including:

1.1 no participation in primary debt or equity offerings and no new holdings in secondary market debt and equity (active funds);

1.2 divest existing debt and equity holdings, subject to 'acceptable loss' considerations for general funds (active funds); and

1.3 exclude all debt and equity holdings in new passive products (passive funds).

Recommendation #2: Set rule-based restrictions limiting exposure to conventional oil & gas companies which are expanding capacity or planning to increase production, including:

2.1 no participation in primary equity offerings (active funds);

2.2 no participation in primary debt offerings for labelled funds and significantly restrict participation in primary debt offerings for general funds, investing only in those closest to alignment (active funds);

2.3 exclude new[i] and divest existing secondary market debt and equity holdings in labelled funds (active funds)

2.4 exclude new and recycle existing secondary market debt and equity holdings away from those companies most resisting the need to reduce production in general funds, subject to 'acceptable loss' considerations (active funds); and

2.5 exclude all debt and equity holdings in new labelled products and significantly restrict exposure to those close to alignment in new general products (passive funds).

Recommendation #3: Prioritise and engage robustly with fossil fuel companies where exposure is retained, including:

3.1 set clear expectations and time-bound milestones for their production plans, capital expenditure and other key metrics; and

3.2 align voting activity and proactively apply other escalation tools if expectations are unmet.

Recommendation #4: Engage with:

4.1 asset owners to align goals and create clear mandates for investing in and stewarding fossil fuel companies;

4.2 policy makers to provide the necessary balance of incentives to transition away from fossil fuels, including levers to rapidly scale up the creation of renewable energy capacity and to stimulate demand;

[i] 'exclude new' refers to adding exposure in isolation, as distinct from recycling capital from a less-aligned to a more-aligned company

4.3 financial regulators to address barriers to the adoption of robust investment policies for the fossil fuel sector that protect clients' long term financial interests and adequately incorporates non-financial preferences; and

4.4 the fossil-fuel value chain: setting expectations for midstream and downstream, power companies, and financers of the fossil fuel sector that are consistent with the transition expectations set for upstream companies. Encourage demand-side signals for clean energy and feedstocks from consumers of energy and companies that use petrochemical based materials in manufacturing.

Recommendation #5: Enhance public disclosure on investment in and stewardship of fossil fuel companies including:

5.1 aggregate portfolio exposure to fossil fuel companies;

5.2 the transition scenario on which engagement is founded; sector expectations and time-bound milestones; a list of companies engaged with; a summary of the use of escalation tools and outcomes; and

5.3 engagement on policy and membership of fossil fuel-relevant trade organisations.

Introduction

Fossil fuel companies merit an outsized level of attention from across the financial system relative to their size in portfolios because their products are the primary cause of rising global temperatures. The MSCI World Energy Index[2] (three-quarters of which comprises companies involved in the extraction of fossil fuel) has a market capitalisation of $2.9trn, or just 4.5% of the market capitalisation of the MSCI World Index[3]. The MSCI World Energy Index has significantly underperformed the MSCI World Index over the last 10 years and thus the sector has shrunk in significance in investor portfolios. But the sector has not shrunk in significance to the global climate crisis. 74% of total emissions in 2019 came from the consumption of energy, according to the World Resources Institute.[4]

The transition of the global economy is underway. COP28 signalled the *"beginning of the end"* for the fossil fuel era with its targets to triple renewable capacity and double energy efficiencies by 2030. It called on signatories to the Paris Agreement to accelerate action to *"transition away from fossil fuels in energy systems… in this critical decade"*.[5] The IEA points to the building momentum of transition, particularly evidenced in the uptake of solar PV and electric vehicles.[6]

Fossil fuel companies can hinder the transition of the global economy. An orderly and optimally efficient transition will involve all available clean capacity (energy and feedstocks) being as near to fully utilised as practically possible, with fossil fuels filling *residual* demand. If fossil fuel production exceeds this residual demand, clean capacity may be left unutilised. Excess production also puts transition at risk through the price mechanism. Lower energy prices in the short-term could disincentivise investment in clean capacity, squandering potential longer-term cost benefits of renewable energy as well as the mitigation of environmental and economic risks.

Transition is a fundamentally different proposition for the fossil fuel sector compared to other sectors. Transition for companies with high-carbon footprints means changing their *means of production* – both the source of energy consumed and the composition of feedstocks. Transition for fossil fuel companies means changing their *product*. Fossil fuel companies have the most to lose from transition.

Fossil fuel companies are currently planning to increase production and are investing in new capacity, contrary to the IEA's NZE and APS scenarios. The MSCI's Implied Temperature Rise (ITR) metric shows the energy sector as aligned to a 3.9°C increase in global temperatures, the most misaligned of all sectors.[7] The risks to transition posed by current fossil fuel companies' strategies are real.

Because of the unique risks fossil fuel companies pose to the transition of the global economy, the investment and stewardship approach to those companies needs to be fundamentally different from other sectors. Capital allocation should be especially selective – uncritical investing endorses a continuation of current misaligned strategies. Stewardship should be robust, with a judicious use of escalation tools. Continued patient engagement without the application of consequence is unlikely to encourage the sector to cooperate with transition, particularly given its history of defending narrow self-interest through misinformation and lobbying.[8] A change in emphasis between broad, patient engagement and the application of consequence, including the reallocation of capital, is urgently required.

Timing matters. Limiting temperature rises is a function of the 'carbon budget', which estimates the maximum *cumulative* volume of GHGs that can be emitted for a given temperature limit. Because fossil fuels are the primary source of emissions, a direct corollary of the carbon budget is capping the

cumulative production of fossil fuels. In the last four years, we have consumed around 30% of the carbon budget indicated by the IPCC.[ii] Moreover, there are signs that temperatures may be more sensitive to GHGs than previously thought, meaning the carbon budget may be smaller than estimated.[9] Therefore, a continuation of traditional patient approaches by investors, with limited impact on fossil fuel companies' strategies, looks increasingly inappropriate.

The anti-ESG movement has politically charged the discussion on transitioning away from fossil fuels, obscuring the economic and environmental rationale for that transition. However, asset managers have a duty to their clients to see through the mist and remain focused on objective, scientific fact and informed probability over special-interest motivated rhetoric.

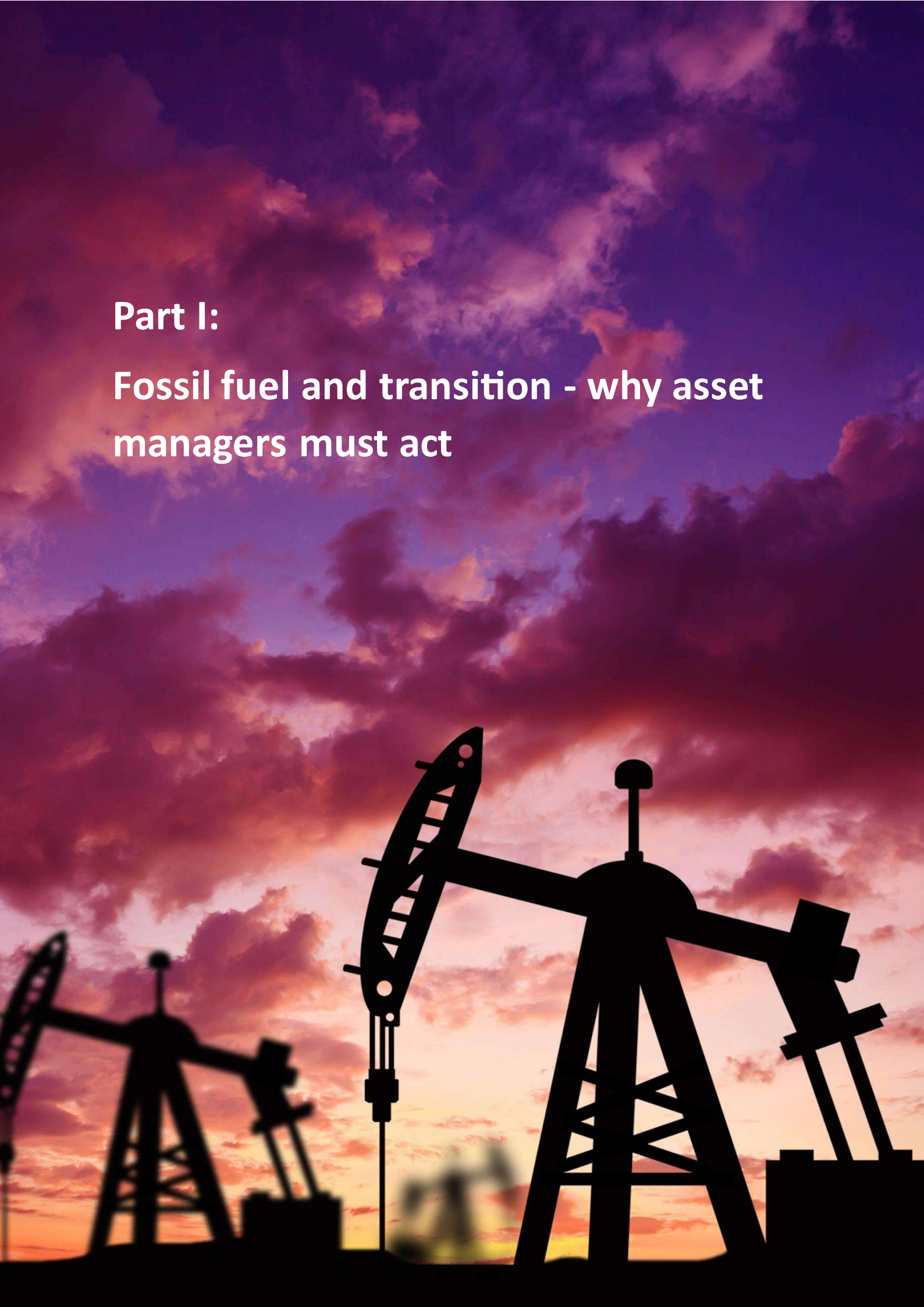
There is both an environmental and financial basis for asset managers to play a more influential role in catalysing alignment of fossil fuel companies. Many clients of asset managers – and their end-beneficiaries – have a tangible interest in limiting the environmental damage caused by climate change and limiting the contribution of their capital to facilitating that damage.[iii] Alongside these common non-financial preferences, the financial risk that accrues from climate change – even from modest rises in temperature – is becoming increasingly appreciated. This implies a dual basis for asset managers to exercise their fiduciary duty to clients by actively promoting transition across their portfolio.

[ii] Estimated by IPCC at 500Gt CO_2 from the start of 2020 to limit temperatures to 1.5°C: https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-5/

[iii] For instance, Scottish Widows' 2022 Green Pensions Report found that 72% of those surveyed placed importance on their pension being invested sustainably: https://adviser.scottishwidows.co.uk/assets/literature/docs/60817.pdf

Part I:

Fossil fuel and transition - why asset managers must act



The environmental case for 1.5°C

The United Nations Framework Convention on Climate Change (UNFCCC) writes of the Paris Agreement: *"…in recent years, world leaders have stressed the need to limit global warming to 1.5°C by the end of this century. That's because the UN's Intergovernmental Panel on Climate Change indicates that crossing the 1.5°C threshold risks unleashing far more severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall."*[10] The significant increase in environmental damage that will accrue from even modest temperature rises beyond 1.5°C has been laid out by the World Resources Institute:[11]

	1.5°C	2.0°C
% of global population exposed to severe heat at least once every five years	14%	37%
Sea-ice-free summers in Arctic	At least once every hundred years	At least once every ten years
% of vertebrate species that lose at least half their range	4%	8%
% of plant species that lose at least half their range	8%	16%
Decline in maize harvests in the tropics	3%	7%

Source: World Resources Institute (2018)

Analysis presented at COP27 implies that a 2°C scenario would see 1.4m more climate-related deaths per year than a 1.5°C scenario. Compared to the 3.4 million deaths per year estimated to occur by 2090 in an 'unabated' climate change scenario, the 1.5°C scenario would avoid 91% of those deaths, while the 2°C scenario would only avoid 50%.[12]

Currently, the global economy is trending to a temperature rise of significantly more than 2°C – 2.7°C according to estimates from the World Economic Forum (WEF).[13]

The incremental environmental damage that occurs as temperatures rise is not linear. Breaching climate tipping points[iv] will accelerate environmental damage, potentially irreversibly. Scientists have described this as a "*dangerous domino effect",* one which threatens an increase in "*food security crises, mass displacement and conflicts".*[14] Worryingly, recent evidence (such as the record temperatures experienced in 2023) suggests that impacts are progressing faster than expected.[15] This could mean that current forecasts of environmental damage are too benign.

Thus the environmental case for limiting temperatures to 1.5°C is well understood. ShareAction defines a responsible investor as one that *"takes the negative and positive impacts on people and planet as seriously as financial risk and return"*.[16] In the context of climate change, that means limiting or mitigating the environmental damage. Many asset owners want to mitigate the negative climate impacts associated with their capital. However, these preferences are often not clearly reflected in asset manager mandates. Asset managers need to better identify, measure and implement these preferences, while asset owners should more clearly express those preferences and ensure they are captured in the mandate.

[iv] Such as the collapse of ice sheets in Greenland, West Antarctica and the Himalayas, Amazon die-back and halting major ocean current circulation, according to an article by Amstrong McKay et al: https://www.science.org/doi/10.1126/science.abn7950

The financial case for 1.5°C

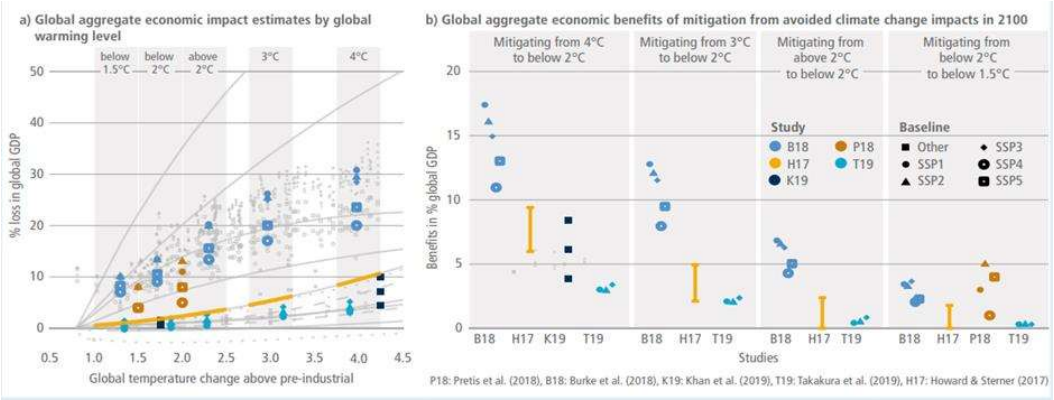
Our understanding of the economic impacts of climate change is evolving and the sanguine conclusions drawn from commonly used economic models are increasingly recognised as flawed, highlighted in reports such as those from the Institute and Faculty of Actuaries (IFOA)[17], Carbon Tracker[18] and USS.[19] UCL News explained in 2021: *"Currently, most models focus on short-term damage, assuming that climate change has no lasting effect on economic growth, despite growing evidence to the contrary. Extreme events like droughts, fires, heatwaves and storms are likely to cause long-term economic harm because of their impact on health, savings and labour productivity."*[20] Similarly, Stern et al argued in 2022 that Integrated Assessment Models underpinning analysis of the economic risks of climate change were *"inadequate to capture deep uncertainty and extreme risk, involving potential loss of lives and livelihoods on immense scale and fundamental transformation and destruction of our natural environment."*[21]

The material negative economic risks from climate change aren't just present in large temperature-rise scenarios. Studies also suggest that limiting temperature rises to 1.5°C would offer a better economic outcome over the long-term than even moderately higher scenarios (such as 2°C) – and indeed that *any* temperature rise has negative economic implications.

We see two main components to the case that 1.5°C is a financially better outcome than higher temperatures:

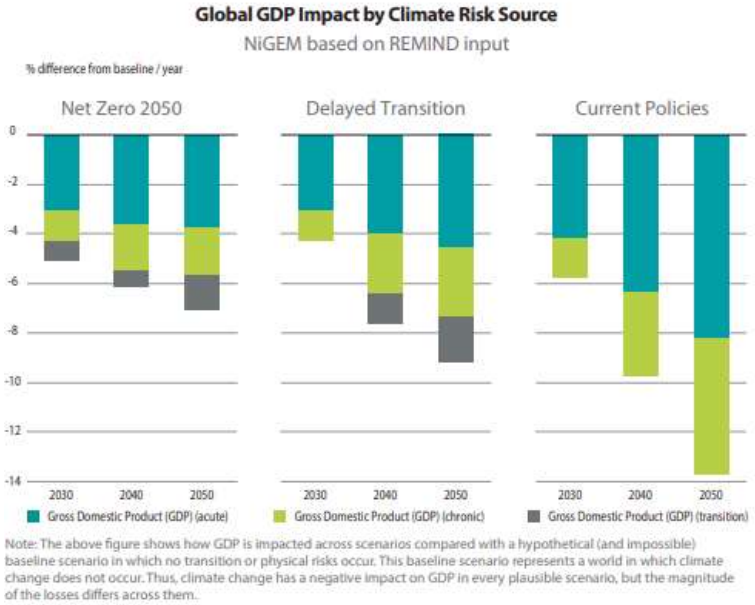
1. **Rising temperatures negatively impact the risk-return of financial assets**

   Even modestly higher temperatures above 1.5°C can have negative economic impacts. The Intergovernmental Panel on Climate Change (IPCC) cites studies that estimate negative correlation of global GDP to any temperature rise.[22] These studies size the economic benefits of limiting temperature increases to 1.5°C compared to a slightly higher 2°C scenario at 0% to 5% of GDP. At current levels of global GDP, that implies up to $5trn of incremental economic damage each year from a temperature rise of 2°C compared to 1.5°C.



Source: IPPC (2022).[23]

Similarly, the Network for Greening the Financial System (NGFS) models incremental negative GDP impacts of up to 7% per annum in their Current Policies scenario (c 2°C by 2050) compared to the IEA's 1.5°C NZE scenario.[24]



Note: The above figure shows how GDP is impacted across scenarios compared with a hypothetical (and impossible) baseline scenario in which no transition or physical risks occur. This baseline scenario represents a world in which climate change does not occur. Thus, climate change has a negative impact on GDP in every plausible scenario, but the magnitude of the losses differs across them.

Source: NGFS (2023).[25]

Higher temperatures also carry increased risk and uncertainty due to the presence of 'tipping points' which could trigger self-reinforcing temperature rises. Willis Towers Watson's Thinking Ahead Institute writes that climate tipping points could result in *"a 50-60% downside to existing financial assets in a business-as-usual scenario where climate risks are not addressed."*[26] The proximity of tipping points at current temperatures has become increasingly acknowledged. A report published in Science in 2022 identified 16 potential tipping points for which *"the probability of … being breached at 1.5C has now been increased from "possible" to "likely""*.[27] Five of these tipping points, including the West Antarctic ice sheet, may already have been breached.

Assessments of GDP impacts at a global level do not identically translate into projections for asset prices and returns, particularly for portfolios weighted to advanced economies. But it seems likely that negative global economic impacts from even modest increases above 1.5°C would materially affect advanced economies as well as emerging markets and developing economies (EMDEs), even if unequally. The physical effects of climate change are likely to impact all societies, for instance through increased population migration and elevated competition for resources, contributing to political instability and reducing economic confidence. Indeed, Aviva describes climate change as *"…an amplifier and accelerant"* of other social, geopolitical, environmental and economic risks.[v] [28]

Further, those negative advanced economy impacts seem likely to carry negative repercussions for asset prices overall and generate uncertainty. As a result both components of *risk-adjusted* and *return* for financial assets would be affected. The risks to financial assets from negative global economic impacts are sufficiently high for the prudent investor to proactively seek to mitigate them. In the UK, the Financial Markets Law Committee recently re-emphasised the importance of assessing climate risks as a material, even where it is difficult to quantify, saying:

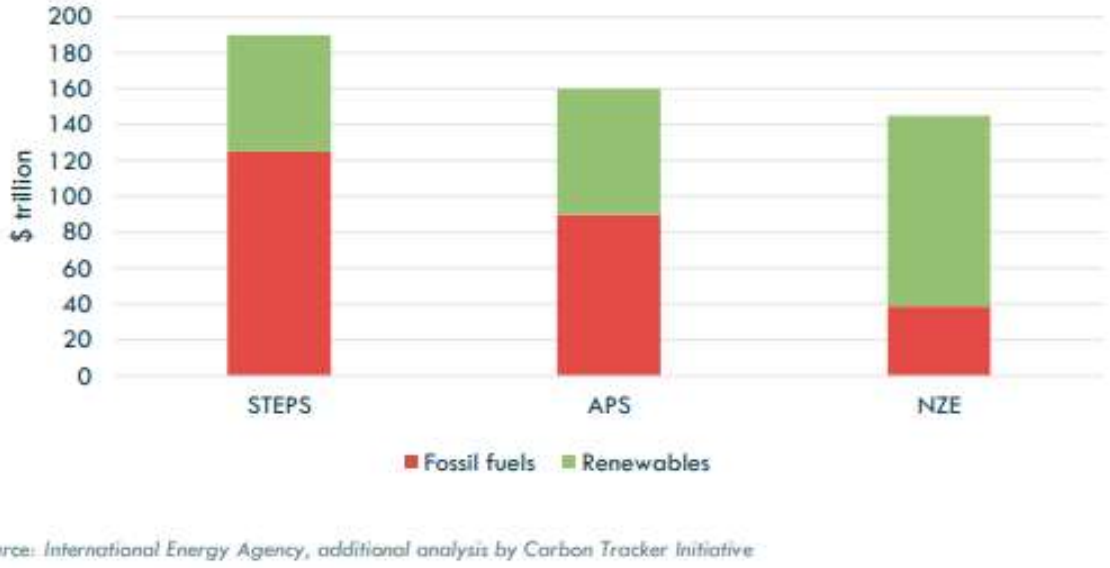
[v] See, for example, those listed in the WEF's Global Risks Report of 2023: https://www.weforum.org/publications/global-risks-report-2023/

"At least some of the effects of the subject of climate change fall into the category of outcomes to which it may be difficult to attribute probabilities but which are nonetheless material."[29]

2. Renewable energy will be cheaper than fossil fuel energy

Carbon Tracker has calculated that a rapid transition towards renewable energy in the IEA's NZE scenario (median temperature rise of 1.5°C) would result in total energy costs being $45trn lower through 2050 than a slower transition under the IEA's Stated Policies or STEPS scenario (median temperature rise of 2.4°C).[30] The total cost of energy under the NZE scenario would also be $15trn less than under the IEA's Announced Pledges or APS scenario (median temperature rise of 1.7°C).

FIGURE 4 - TOTAL ENERGY COST TO 2050 BY SCENARIO



Source: Carbon Tracker (2023).

The IEA itself has estimated that the cost of transitioning to clean energy under the NZE scenario would be $12 trillion cheaper by 2050 than meeting energy demand through fossil fuel.[31] They cite evidence that the cost of clean technologies *"are likely to keep falling"*, meaning the cost advantage will grow.

This means that transitioning the energy system under the NZE scenario pays for itself.

In other words, evidence is growing that transitioning to cap temperature increases at 1.5°C is more orderly, safer and cheaper than a slower, more volatile and hotter transition. Asset managers (and other commentators) sometimes present the pursuit of attractive risk-adjusted return as being inconsistent with the environmental goal of a 1.5°C pathway. But if 1.5°C is an economically and financially better outcome, then this argument seems misframed. Instead, the financial and environmental rationales for pursuing 1.5°C converge and become encompassed within fiduciary duty, particularly when interpreted as protecting the long-term broad financial interests and respecting the non-financial preferences of their clients. As the Net-Zero Asset Owner Alliance (NZAOA) wrote in its position paper on the oil & gas sector: *"The imperative to reduce global emissions to protect investment portfolios from the costs associated with a disorderly transition is sufficiently great that taking action to mitigate the associated risks is clearly within investors' fiduciary responsibilities"*.[32]

Transition scenarios for fossil fuel companies

There is some debate about whether fossil fuel companies can reinvent themselves as providers of clean energy or otherwise participate in the transitioned economy as demand for their products declines. The IEA has set out how oil and gas companies can *"take a real stake in the clean energy economy"*.[33] There are potential benefits in some fossil fuel companies continuing to exist as viable businesses by replacing their hydrocarbon activities with non-emitting revenue sources, for instance renewable energy, energy supply, low-carbon fuels and electric vehicle charging. This could support their role as dependable, declining suppliers of fossil fuel within the energy demand mix. It could reduce their incentive to compete with renewable capacity down to marginal cost, disrupting renewable economics and orderly transition.

Directing the excess cash generation these companies produce towards transition would make a significant contribution to the investment needed to decarbonise the global economy. The International Renewable Energy Agency (IRENA) wrote in their 2021 paper on the oil sector transition: *"Oil companies could… play a critical role in filling the gap in renewables investments that needs to be covered in the next several years to achieve climate targets".*[34]

However, there are challenges to the concept that fossil fuel companies can play a significant role as clean energy suppliers. The IEA cautions that oil & gas revenues could fall from $5trn in 2022 to $1.6trn by 2030 under the NZE scenario and as a consequence *"the oil and gas industry would have no remaining capital to spend on clean energy in 2030"* if taxes and dividends remained proportional to revenues.[35] Carbon Tracker also highlights challenges in its Navigating Peak Demand report.[36] Generating power from renewable sources is a fundamentally different business model to extracting hydrocarbons. Renewable energy investments have a different risk-return profile which may not fit easily into existing fossil fuel companies' capital structures. Retraining staff may not be straightforward.

Fossil fuel companies may struggle to bring investors on their reinvention journey; shareholders may instead prefer to extract the cash generated and reinvest it themselves. There is also a risk that fossil fuel companies use the reinvention narrative to justify misaligned production through the promise of technologies such as carbon capture, utilisation and storge (CCUS) that are still unproven or uneconomic at scale, except in niche, low-complexity applications such as natural gas processing and refining.[vi]

However, whether or not some fossil fuel companies can *in theory* reinvent themselves in a transitioned economy, *in practice* they are making little progress in that direction. Fossil fuel companies generated exceptional levels of cash flow in 2022, due to elevated prices following Russia's invasion of Ukraine. Yet, less than 3% of investment by the fossil fuel sector went into clean energy, according to the IEA, as we'll discuss below. Meanwhile, the large majority of fossil fuel companies are planning to increase production over the coming few years.

To an extent, whether some fossil fuel companies reinvent themselves is a matter between them and their shareholders. But what is very much a matter for the financial system, governments and society more broadly is that they reduce their production of fossil fuels. Transition requires the production of

[vi] For further reading on the limits of CCUS see Carbon Tracker's 'Curb Your Enthusiasm: Bridging the gap between the UK's CCUS targets and reality'; IEEFA's 'The Carbon Capture Crux--Lessons Learned'; Oxford Smith School's 'Assessing the relative costs of high-CCS and low-CCS pathways to 1.5 degrees'

fossil fuel to phase down as fast as new renewable capacity and efficiency gains will allow. Fossil fuel companies should be planning for that. By failing to do so, fossil fuel companies are standing in the way of transition. Planning to reduce fossil fuel production should be the primary focus when asset managers are considering allocating capital to or engaging with the sector.

It is also important that reducing production has a 'real-world' impact. That means producing less from existing fields. Selling fossil fuel-producing assets does not achieve this real-world effect. Consider the simplified example of a fossil fuel company who sets a target of reducing production by 25%. If, to meet that target, the company sells 50% of its production capacity and then adds 25% in new exploration capacity, the real-world effect will be a 25% *increase* in production. That is not to say fossil fuel companies should not sell assets, but just that selling assets should not obscure the assessment of production trends from the company's remaining portfolio of existing or new fields.

Through this section, we outline the pathways for reducing fossil fuel production set out by the IEA under different transition scenarios, and the implications of those scenarios for exploration of fossil fuel capacity, before turning to potential investment in clean energy solutions.

Scenarios for fossil fuel production

The IEA sets out the reduction in fossil fuel required under its three primary scenarios:[37]

- Net Zero Emissions (NZE), which sets out a pathway for the energy sector to achieve net zero CO_2 emissions by 2050. This caps global temperatures at **1.5°C**, with fossil fuel falling from 80% of the energy mix today to 20% by 2050, and with limited reliance on carbon capture.[vii]
- Announced Pledges Scenario (APS), which assumes that all climate commitments made by governments and industries around the world as of August 2023 will be kept in full and on time. This caps global temperatures at **1.7°C**, with fossil fuel falling to 40% of the energy mix by 2050, and with higher reliance on carbon capture.
- Stated Policies Scenario (STEPS) which reflects current policy settings and policies under development. This caps global temperatures at **2.4°C** (though with a 10% probability of temperatures above 3.2°C), with fossil fuel falling to 60% of the energy mix by 2050.

The estimated global temperature cap for each scenario carries material uncertainty. Each scenario is categorised as having a 50% probability of limiting global temperatures to the estimated level. In other words, even if the NZE emission reduction pathway is implemented, there is a 50% chance that temperatures will still exceed 1.5°C. 50% seems poor odds in the context of the potentially catastrophic effects of climate change. As the IFOA puts it *"a 50% chance of success also means a 50% chance of failure…[which is multiples higher than]… the chances of losing Russian Roulette, a game few would choose to play, even for significant reward."*[38]

Moreover, the odds are even lower than 50% if recent fears that the carbon budget is smaller than modelled prove correct. Nevertheless, we use the 50% probability scenarios throughout this report as these are common reference points.

The following table outlines the 2030 and 2050 supply of coal, oil and gas required under the three IEA scenarios:[39]

[vii] The IEA reduced the reliance on CCUS in its 2023 Net Zero Roadmap Update to 1Mt by 2030 compared to 1.6Mt in its 2021 NZE scenario due to CCUS's "history… of unmet expectations" and a "lack of new projects": https://iea.blob.core.windows.net/assets/9a698da4-4002-4e53-8ef3-631d8971bf84/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf

		2022	2030	2050	Change 2022-30	Change 2022-50
Oil Production (mb/d)	STEPS	94.8	99.1	94.5	5%	0%
	APS	94.8	90.2	53.1	-5%	-44%
	NZE	94.8	75.1	23.5	-21%	-75%
Nat Gas Production bame/yr	STEPS	4,138	4,299	4,173	4%	1%
	APS	4,138	3,861	2,422	-7%	-41%
	NZE	4,138	3,403	919	-18%	-78%
Coal Production Mtce/yr	STEPS	6,122	5,007	3,465	-18%	-43%
	APS	6,122	4,337	1,530	-29%	-75%
	NZE	6,122	3,257	499	-47%	-92%

Source: ShareAction analysis.

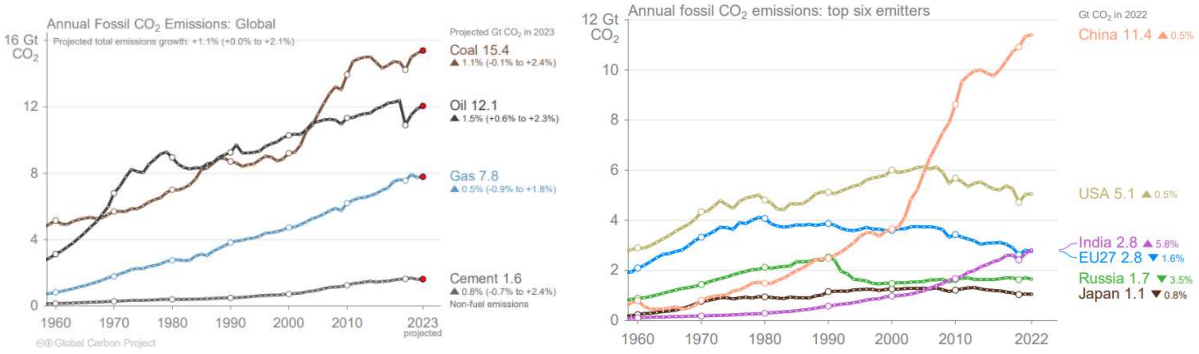
The IEA's NZE (1.5°C) scenario requires:

- coal production in aggregate reducing by circa 50% by 2030 compared to 2022, with advanced economies required to decline at a faster rate of 75%; and
- oil & gas production reducing by around 20% by 2030.

This provides investors with a benchmark against which fossil fuel company alignment can be assessed. Even under the less ambitious (and riskier) APS scenario, reductions in production by 2030 are still required: circa 30% in coal and 5% in oil & gas.

Coal is distinguished from oil & gas in the scenarios because:

- it generates 41% of total global emissions compared to 32% for oil and 21% for gas;
- it has outpaced oil & gas in emissions growth this century;
- thermal coal is replaceable with existing renewable technologies; and
- combustion of coal is on average more emission-intense than oil & gas (although on a life-cycle basis, some forms of oil & gas are comparable to coal in emission-intensity).



Source: Global Carbon Project (2023).[40]

As a result, prioritising the phase-down of coal production would make the most efficient contribution to emission reduction overall. Coal demand is weighted to EMDEs, which accounted for 82% of coal production in 2022.[41] Therefore, incentivising the reduction of coal in these regions must be paired with mobilising transition capital for clean energy so as not to unfairly constrain their economies.

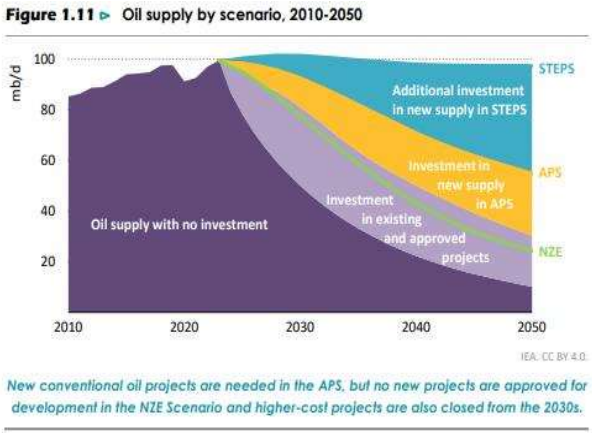
What is unconventional oil & gas?

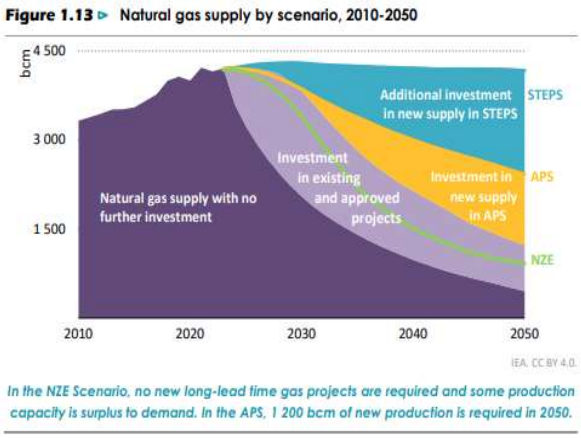
Unconventional oil & gas refers to oil & gas obtained using extraction methods that have elevated emission intensity, environmental damage, capital intensity or financial risk, including oil & gas extracted using alternative methods compared to traditional vertical well extraction. For the purpose of this paper, we define 'unconventional' oil & gas using the Urgewald definition: *"tar sands oil, coalbed methane, extra heavy oil and Arctic oil & gas, as well as oil & gas from unconventional production methods such as fracking or ultra deep drilling."*[42]

Beyond coal, phasing down unconventional oil & gas (which accounted for circa 35% of total oil & gas production in 2022) should take priority over conventional oil & gas due to the greater environmental harms they cause.

Exploration

The IEA has recently reiterated that "*no new [oil] projects*" and "*no new long-lead time gas projects*" are required under its NZE scenario, beyond investment in existing and already approved projects. Under the APS scenario, some investment is required beyond existing and already approved projects, but the IEA states that no new exploration is needed to meet this: *"In aggregate, no further hydrocarbon exploration is needed to meet these demand levels, although new conventional oil discoveries may in some cases be produced at a lower cost than existing sources of production."*[43]





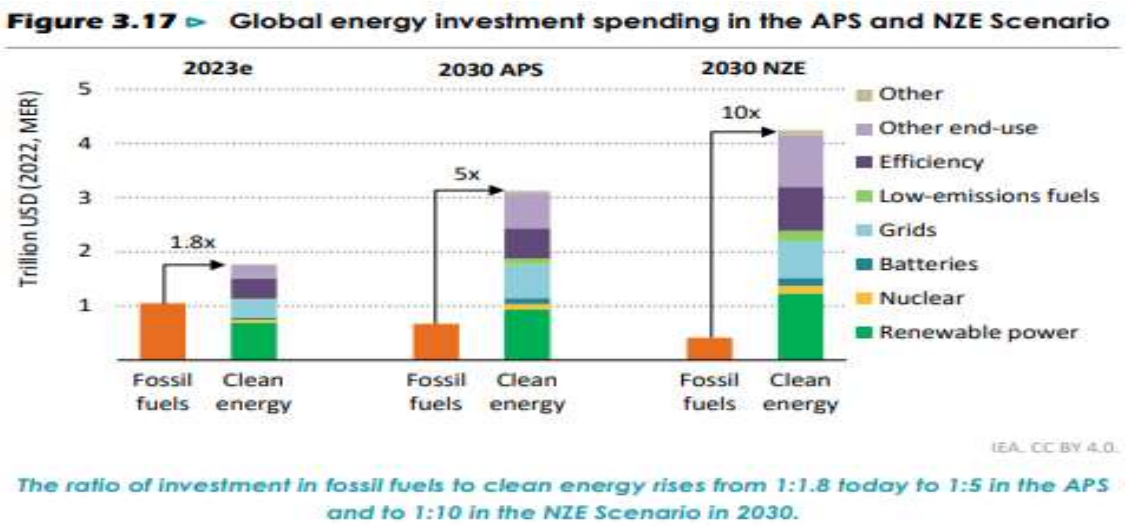
Source: IEA (2023).[44]

Investment in fossil fuel supply has increased in each of the last three years, returning to the pre-pandemic levels of nearly $1trn, of which $800bn is in oil & gas supply. The IEA has indicated that this investment in oil & gas supply (maintenance & expansion capex combined) is double what will be required in 2030 in the 1.5°C scenario and thus *"some existing production would even need to be shut in"*, with *"more than 7 million barrels per day of oil production pushed out of operation before the end of its technical lifetime"* by 2040.[45]

Investing capex into exploration for capacity that will not be required under the NZE scenario increases the risk of 'stranded assets'. The IPCC estimates that even limiting global warming to 2°C could result in up to $4trn of stranded assets through 2050.[46] The IEA's Fatih Birol put it thus: *"New large-scale fossil fuel projects not only carry major climate risks, but also business and financial risks for the companies and their investors. …Companies and investors should be very careful about [the claim that oil & gas companies have been under-investing], bearing in mind the demand trajectories we are seeing. It could lead them into taking very unhealthy, unwise economic and climate risks."*[47]

Investment in alternative revenue sources

The IEA assesses that the ratio of investment in clean energy compared to investment in fossil fuel will need to increase from 1.8x in 2023 to 10x in the NZE scenario.[48]



Source: IEA (2023).[49]

Fossil fuel companies generated record free cash flow in 2021 and 2022.[50] That capital could have been used to begin or accelerate diversifying their business away from fossil fuel into renewable energy or other clean energy solutions. However, in 2022, just 2.7% of investment by fossil fuel companies went into clean energy, accounting for 1.2% of total global clean energy investment, according to the IEA.[51] The IEA estimates that a reasonable ambition is for 50% of fossil fuel company capital expenditure to go towards clean energy projects by 2030 under its NZE scenario (as well as further investment to reduce scope 1 and 2 emissions). Most fossil fuel companies (accounting for over 80% of oil & gas production) do not have a target to diversify into clean energy.[52]

The detail of what is categorised as 'clean' matters. The IEA lists *"hydrogen and hydrogen-based fuels; carbon capture, utilisation and storage (CCUS); …liquid biofuels; biomethane; and geothermal energy"* as low-emission fuels and technologies, alongside renewable energy.[53]

However, the London School of Economics warns that the role of carbon dioxide removal (CDR) technologies such as CCUS will be limited and investment in CDR should *"complement, not replace, wider action on carbon mitigation"*.[54] While the financial and operational feasibility of renewable energy is already proven, that is not the case for CDR technologies.

The qualification of hydrogen as a clean fuel depends on how it is produced - only 'green' hydrogen (i.e. hydrogen produced using renewable energy sources) can be considered genuinely 'clean'.

Meanwhile, questions have long been posed over the credentials of biomass as a clean energy source, as we highlighted in our 2023 paper The Biomass Budget: *"biomass is not automatically low-carbon, and it also faces other major sustainability challenges related to its intensive use of land resources and its impacts on biodiversity"*.[55] For this reason, use of biomass resources across the economy should be limited and prioritised for high-value material applications, such as construction materials, pulp and paper, textiles, and chemical feedstocks, prior to bioenergy.[viii]

[viii] For further information on the limits of biomass use, please see Material Economics' 2021 report: https://media.sitra.fi/app/uploads/2021/06/material-economics-eu-biomass-use-in-a-net-zero-economy.pdf

Overview of fossil fuel companies' alignment

Oil & gas companies

How aligned is the fossil fuel sector currently? To give a sense for that, this section reviews the alignment of 16 of the largest listed oil & gas companies[ix] - seven of which are super-majors, four are independents, three are NOCs and two are IOCs. The main categories of oil & gas extractors are defined as:

Term	Definition
Super-majors & majors	Large, publicly-listed and investor-owned, international companies. Super-majors can be defined as having a market capitalisation of $100 billion or more[56] e.g. ExxonMobil, Chevron, bp, Shell and TotalEnergies, with majors having a market capitalisation of below $100 billion.
Independents	Smaller companies focused on one segment of upstream fossil fuel production e.g. Occidental, Canadian Natural Resources, EOG Resources, EQT Corporation.
International Oil Companies (IOCs)	Oil and gas companies that are either majority or fully-owned by a national government but operate across multiple countries e.g. China National Petroleum Corporation, Equinor, CNOOC.
National Oil Companies (NOCs)	Oil and gas companies that are either majority or fully-owned by a national government and primarily focus on their domestic market e.g. Saudi Aramco, Rosneft.

Production

The key measure of fossil fuel company alignment is how planned future production compares to the IEA's pathways. 2030 is the common reference date for medium-term targets in the global decarbonisation effort. However, very few fossil fuel companies have disclosed their production plans out as far as 2030 or published granular, credible transition plans yet.

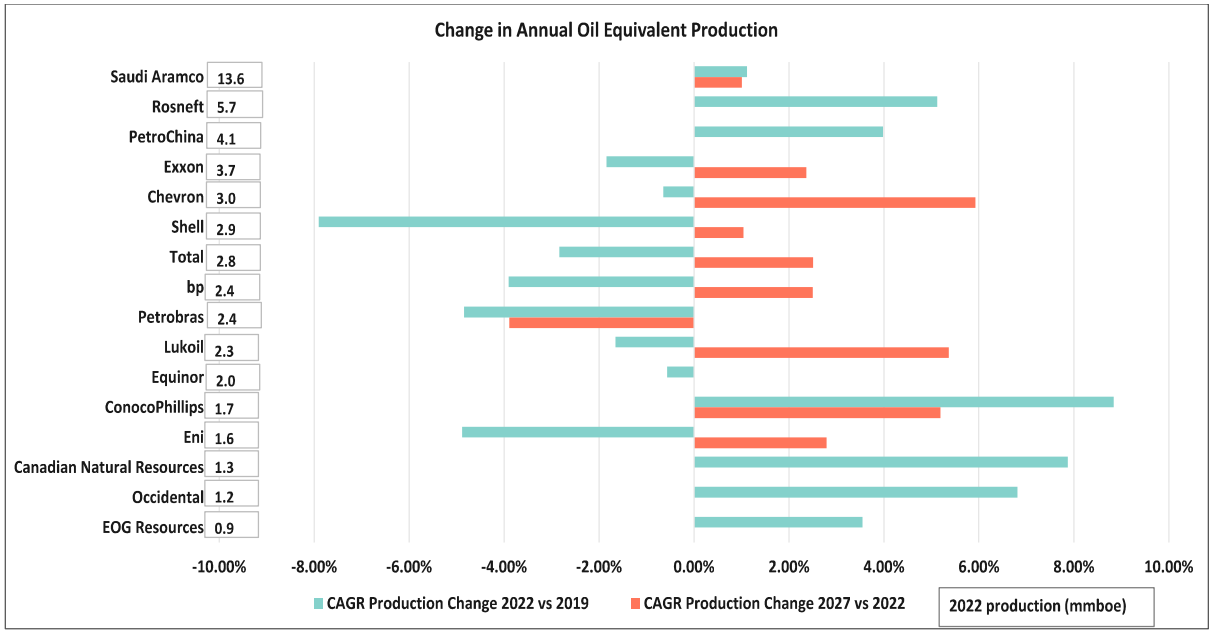
10 of the 16 companies we assessed have provided production guidance out to, or beyond, 2027. The combined average annual production growth implied from these 10 companies is 2.1% per year, or 10.9% total growth in production through 2027. Such planned production growth is inconsistent with the reduced production required in both the 1.5°C and 1.7°C scenarios.

Chevron is indicating[x] production growth of nearly 6% per year or a 33% cumulative increase, from 3 million barrels of oil equivalent per day (m boe/d) to potentially 4m boe/d. Petrobras and

[ix] We have not included one of the largest listed companies, Gazprom, as production data for 2022 was not available at the time of writing. For context, Gazprom produced 10.5m boe/d in 2021.

[x] Chevron is guiding for growth of more than 3% per year through 2027. The low bound of 3% would imply 3.55m boe/d by 2027, but the chart on p8 of the Chevron 2024 Investor Presentation (February 2, 2024) illustrates c 4m boe/d with a big increase in production from the Permian Basin, so we have reflected that illustrated figure in our chart and comments

ConocoPhillips are both guiding for growth of circa 5% per year (nearly 30% cumulative growth). At the other end of the scale, only bp is guiding for a production decline, of 3.9% per year (18% total reduction). Nine of the 10 companies are planning to increase production through 2027.



Source: ShareAction analysis of data from company annual reports, Eikon.

For context, between 2019 and 2022, the combined oil & gas production of the 16 companies declined by 0.5% per year on average. Production from ConocoPhillips (8.8%), Canadian Natural Resources (7.9%), Occidental (6.8%) and Rosneft (5.1%) all increased by over 5% per year on average. Production from Shell fell by 7.9% per year (or 6.1% adjusted for the sale of Permian Basin assets to ConocoPhillips in 2021). Production from bp fell by 13.6% on average, but that included the deconsolidation (and subsequent sale) of their stake in Rosneft at the end of 2021 – adjusting for that sale, their annual decline averaged 3.9%.[xi]

Expansion

Investment in fossil fuel capacity expansion is another key measure of alignment. As the IEA has made clear, no new oil & gas capacity is required in the NZE scenario, beyond projects under development or currently approved. Therefore, investing in new capacity indicates that the company's plans for future production are not aligned to the NZE scenario. Climate Action 100+ provided an overview of its assessment of capex alignment for the oil & gas sector in their 2023 update.[57] None of the future capex plans assessed were compatible with 1.5°C. 23% were partially aligned ('amber' flag) while 63% were unaligned ('red' flag), with 14% not assessed.

Urgewald's Global Oil & Gas Exit List (GOGEL)[xii] database highlights short-term and long-term components of expansion planned by oil & gas companies. Short-term captures capacity that is at the later stages of the development life-cycle (covering resources under development or under field

[xi] When a company sells a producing fossil fuel asset to another company, there is no real-world reduction in production – the production simply changes hands. Therefore it is important to distinguish organic changes in production from optical changes from buying or selling assets. Acquisitions and disposals are a common feature of the fossil fuel sector, but most transactions are smaller and the impact of these on production are often not easy to extract. Because of the size and significance of bp's exit from Rosneft, the impact was disclosed and so we have adjusted for it in the chart.

[xii] Urgewald is a German NGO whose GOGEL is a comprehensive public database of oil & gas companies production and expansion activities - see https://gogel.org/

evaluation) and is intended to start producing in the near-term. The total short-term expansion capacity of all companies in the GOGEL is 230bn boe, of which 59% (141bn boe) 'overshoots'[xiii] the oil & gas demand modelled in the NZE scenario. For the 16 assessed companies, we calculate that 60% or 48bn boe of their combined short-term expansion capacity overshoots the NZE scenario.

Long-term captures investments being made to explore for new oil & gas resources, which is the starting phase of the development life-cycle. Because no new oil & gas capacity is required in the NZE scenario, any exploration capex is inconsistent with that scenario. In total, the companies in Urgewald's GOGEL list have invested $56.8bn per year in expansion capex from 2021-3. The 16 assessed companies had a combined exploration capex of $15.4bn per year from 2021-3.

Company	Exploration CAPEX 3-year average (m USD)	1.5°C Expansion Overshoot based on IEA NZE (2021/2022)	Resources under Development* mmboe	Resources under Development/2022 production
Saudi Aramco	2,766	44%	16,802	3.5
Rosneft	646	78%	2,020	1.3
PetroChina	5,913	57%	6,484	2.6
Exxon	1,355	55%	7,929	4.9
Chevron	1,041	54%	5,914	4.5
Shell	2,015	84%	5,654	4.5
Total	989	57%	7,967	8.2
Equinor	1,140	71%	3,296	4.5
bp	858	50%	2,547	2.4
Petrobras	654	62%	9,572	11.1
Lukoil	451	61%	1,583	1.8
ConocoPhillips	1,054	76%	3,725	5
Eni	1,011	71%	3,307	4.5
Occidental	403	80%	2,011	3.8
Canadian Natural Resources	73	90%	990	2.1
EOG Resources	374	80%	1,946	4.7

Source: Urgewald (2023).[58]

Third party assessments

Various organisations provide assessments of (some or many aspects of) fossil fuel companies' transition alignment and we consider some of these for the 16 assessed companies.

The WBA assessed the transition alignment of 99 companies in the oil & gas sector in 2023, updating its prior 2021 assessment.[59] The average 'alignment score' was 13.5/100, only marginally better than the 11.7/100 score in 2021, highlighting that progress has been limited. TotalEnergies (3rd) and Eni (5th) performed better than peers but still only scored less than 50% (45/100 and 42/100 respectively). Three of the assessed companies ranked in the bottom-half: PetroChina (74th with a score of 5/100), Saudi Aramco (62nd with a score of 9/100) and EOG Resources (60th with a score of 10/100).

MSCI assesses the Implied Temperature Rise (ITR) of companies' strategies. None of the 16 fossil fuel companies that we consider here are aligned to 1.5°C. TotalEnergies' ITR is assessed as 1.8°C and Eni

[xiii] Overshoot is defined as short-term expansion not aligned to IEA's NZE scenario of 2021 & updated in 2022, including assets approved for development after 2021 or currently being evaluated for approval

at 1.9°C. Shell (2.1°C) and bp (2.5°C) are assessed at above 2°C while 10 of the assessed 16 companies have ITRs of above 3°C (note that Saudi Aramco, Rosneft, PetroChina and Lukoil do not have ITRs).

Carbon Tracker graded the transition alignment of 25 oil & gas companies in its Paris Maligned II report[60], considering five metrics: investment options (expansion capex alignment); recent sanctions (of new projects); production plans (into the second part of the decade); emissions targets (scopes 1, 2 & 3) and remuneration (alignment of executive incentives). Alignment was graded from A (most aligned) to H (least aligned). None of the 25 assessed received a grade of A, B or C and 18 received a grade of F or below.

Climate Action 100+ provides an assessment of alignment across 11 transition metrics. None of the 16 assessed companies have medium-term targets that are aligned to 1.5°C. PetroChina's, Exxon's and Occidental's targets are assessed as unaligned, with the rest assessed as partially aligned or (in the case of Rosneft, Lukoil and EOG Resources) are not assessed. Only bp and Eni are assessed as having aligned capex, with the capex of Saudi Aramco, ConocoPhillips, Occidental and Canadian Natural Resources all assessed as unaligned.

The Transition Pathway Initiative (TPI) assesses the climate strategies of the 1,000 largest, listed emitting companies in high-emitting sectors, including the oil & gas sector.[61] They have reviewed the transition strategies of ten oil & gas companies across categories of disclosure, climate solutions and alignment, using their new Net Zero Standard for Oil & Gas (which complements the CA100+ Disclosure Framework).[62] The average score was 19%, with substantial variation ranging from 52% for TotalEnergies to 0% for Suncor.

Lobbying activities by fossil fuel companies are a material indicator of their future alignment intentions and InfluenceMap provide an assessment of lobbying practices.[63] None of the 16 assessed companies are rated better than C on their lobbying practices, with four – Saudi Aramco, Rosneft, Chevron and EOG Resources – all being rated in the lowest 'E' category.

Company	WBA Oil & Gas Benchmark		InfluenceMap	MSCI	Carbon Tracker	CA100+	
	Rank /99	Score /100	Performance Band	ITR	Alignment Grade A-H	Medium-term Target	Capital Allocation
Saudi Aramco	62	9.1	E+	n/a	G	Partial	No
Rosneft	24	22.2	E-	n/a	n/a	n/a	n/a
PetroChina	74	5.3	D+	3.4	F	No	No
Exxon	39	16.7	D	over 3.2	G	No	Partial
Chevron	29	19.7	E+	over 3.2	F	Partial	Partial
Shell	11	31.7	C	2.1	E	Partial	Partial
Total	3	45.3	C	1.8	E	Partial	Partial
Equinor	13	29.6	C-	3.3	E	Partial	Partial
bp	12	31.1	C	2.5	D	Partial	Yes
Petrobras	17	25.3	C-	3.8	G	Partial	Partial
Lukoil	26	21	D-	n/a	n/a	n/a	n/a
ConocoPhillips	28	20.4	D-	3	H	Partial	No
Eni	5	42.2	C-	1.9	E	Partial	Yes
Occidental	31	19.4	D	over 3.2	F	No	No
Canadian Natural Resources	47	15.2	D-	over 3.2	F	Partial	No
EOG Resources	60	9.6	E	over 3.2	F	n/a	n/a

Sources: World Benchmarking Alliance, InfluenceMap, MSCI, Carbon Tracker & CA100+.

Transition targets

Six of the assessed companies have disclosed capex allocated to 'clean' solutions, though the definitions are inconsistent across the companies and often includes CCUS (which is unproven at scale and could be used to justify misaligned production of fossil fuel, as referenced above) and bio-fuels (which have limited capacity, cause environmental harm, and are still likely to generate emissions).

14 of the 16 assessed companies have interim scope 1 & 2[xiv] emission targets, though they vary in form. Saudi Aramco, ConocoPhillips and EOG Resources only have intensity targets while Saudi Aramco's first interim target date is 2035. The targeted reduction varies, from 15% (by 2035) for Saudi Aramco and 20% (absolute) for Exxon, to net zero (2030 upstream, 2035 all operations) for Eni and 50% for Equinor, Shell and bp. For reference, the IEA sets out a 60% reduction in total scope 1 & 2 emissions and a 50% reduction in scope 1 & 2 emission intensity by 2030 (from 2022 levels) for oil & gas production overall under the NZE scenario.[64] The APS scenario requires a 35% reduction in total scope 1 & 2 emissions and a 30% reduction in scope 1 & 2 emission intensity by 2030.

Six of the 16 assessed companies have scope 3 targets, though both Chevron and Eni have consolidated scope 1-3 targets rather than a standalone scope 3 target. Only bp and TotalEnergies have absolute scope 3 reduction targets, although bp scaled back its 2030 target ambition in February 2023 from a 35-40% reduction previously to a 20-30% reduction. Shell also softened its target ambition in March 2024, amending its previous 2030 target of a 20% reduction in scope 3 emissions to a 15-20% reduction. The four companies with standalone scope 3 intensity targets have calibrated these at 20-25% reduction by 2030.

[xiv] The 'scope' of GHG emissions classifies emissions across the value-chain. Scope 1 refers to direct emissions produced by a company from its activities. Scope 2 refers to indirect emissions produced from the purchase and consumption of energy (electricity, steam, heat, cooling) by the company in order to conduct its activities. Scope 3 refers to emissions produced elsewhere (both upstream e.g. feedstock, travel, waste and downstream e.g. the subsequent use and/or disposal of sold products) in the value-chain related to the company's activities not otherwise captured in Scope 1 or 2. Scope 3 emissions represent the vast majority (c 85%) of total emissions for fossil fuel companies.

Company	Clean Solutions Capex 2022	Clean Solutions Measures	Scope 1 &2 Absolute Target	Scope 1& 2 Intensity Target	Scope 3 Absolute Target	Scope 3 Intensity Target
Saudi Aramco	-	-	-	-15% by 2035 (2018)*	-	-
Rosneft	-	-	-5% by 2025, -25% by 2030 (2019)	Yes	-	-
PetroChina	-	-	-	-	-	-
Exxon	-	Incl CCUS, hydrogen, lower-emission fuels, lithium and others (2022-2027)	approx -20% by 2030 (2016)	-20-30% by 2030 (2016)	-	-
Chevron	$4.4b/37%	Incl bio-based diesel, natural gas, solar, CCUS	-	*	-	-
Shell	$4.3b/19%	Incl biofuels, hydrogen, charging for EVs, wind and solar power.	-50% by 2030 (2016)	-	-15-20% by 2030 (2021)*	-15-20% by 2030 (2016)
Total	$4b/25%	Incl renewable electricity, biofuels and biogas, clean hydrogen, & synthetic fuels.	< 38 Mt CO2e by 2025, -40% by 2030 (2015)	-	-2.5% by 2025&2030	-25% by 2030, -40% by 2030 (2015)
Equinor	$1.3b/14%	Incl renewables, CCUS	-50% by 2030 (2015)*	-	-	-20% by 2030 (2015)
bp	$4.9b/30%	'Transition growth engines': Bioenergy, convenience, EV charging, renewables & power, & hydrogen.	-20% by 2025, -50% by 2030 (2019)	-	10-15% by 2025, 20-30% by 2030 (2019)	-
Petrobras	-	Incl operations decarbonisation, biorefining, increased efficiency of refineries, low carbon solutions in E&P, R&D.	-20% by 2025, -30% by 2030 (2015)	-	-	-
Lukoil	-	-	-20% by 2030 (2017)	-	-	-
ConocoPhillips	-	Incl CCUS	-	-50-60% by 2030 (2016)	-	-
Eni	€481m /6%	Incl renewable business, customer acquisition, electric vehicles network infrastructure.	Net Zero 2035 (Upstream by 2030)	*	-	-
Occidental	-	Incl CCUS	-3.68Mt CO2e by 2024 (2021)	-40% by 2025 (2019)*	-	-
Canadian Natural Resources	-	Incl CCUS, methane emission reduction	-40% by 2035 (2020)	-	-	-
EOG Resources	-	Incl CCUS, offsets, reducing emissions e.g. leak detection, leaner fuels.	-	-10% by 2025	-	-

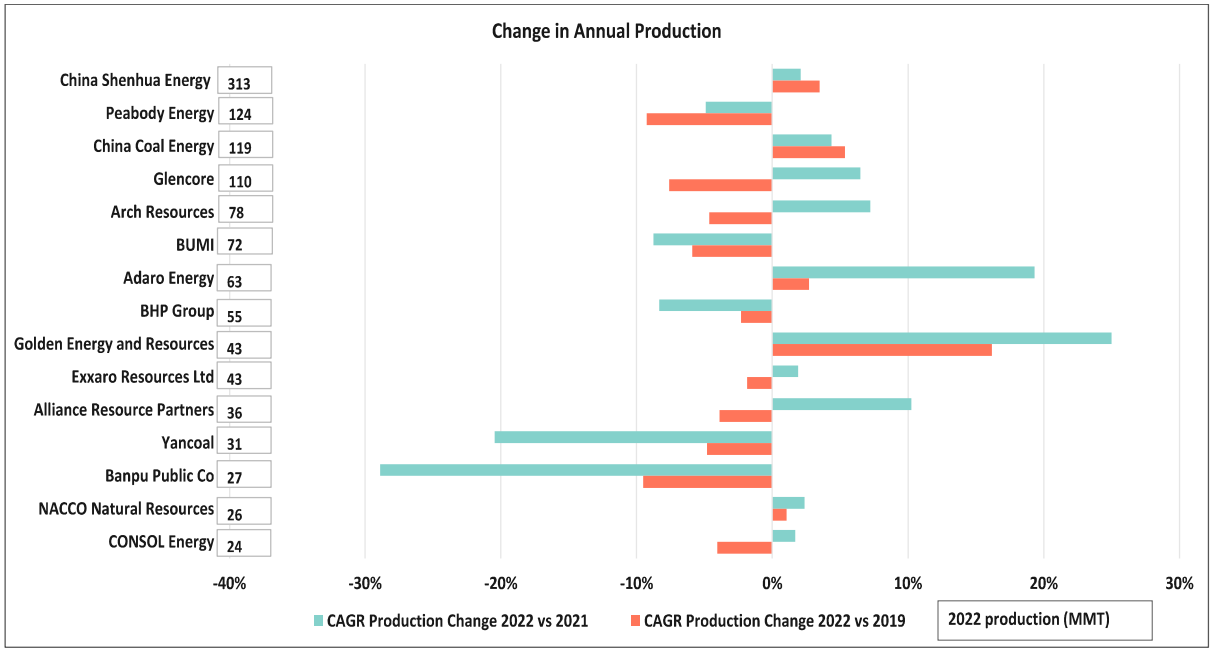
Source: ShareAction analysis of data from company websites.

**Table Notes: This table does not include emissions targets for 2040 and beyond. Saudi Aramco's scope 1&2 Intensity Target includes upstream emissions only. Chevron has a target for scopes 1-3, a 5% reduction by 2028 from a 2016 baseline. Shell's scope 1&2 Intensity Target excludes gas. Equinor's scope 1&2 Absolute Target measures emissions from operated fields. Eni has a target for scopes 1-3, a 15% reduction by 2030 from a 2018 baseline. Occidental's scope 1&2 intensity target is 0.02 Mt CO2e/BOE by 2025 (from 0.0335 MTCO2e/BOE in 2019).*

Coal companies[xv]

Global coal consumption reached record levels of 8.4bn tonnes in 2022 (up from around 7.9bn tonnes in 2019) and is expected to have increased a further 1.4% in 2023 according to the IEA.[65] Consumption in China grew by 5% in 2022, 9% in India, 32% in Indonesia and 4% in Europe (due to natural gas price spikes as a result of Russia's invasion of Ukraine) but declined by 8% in the US. The IEA expects global demand to reduce slightly - by 2% from 2023 to 2026 - but acknowledges the high degrees of uncertainty (particularly with respect to China's production).

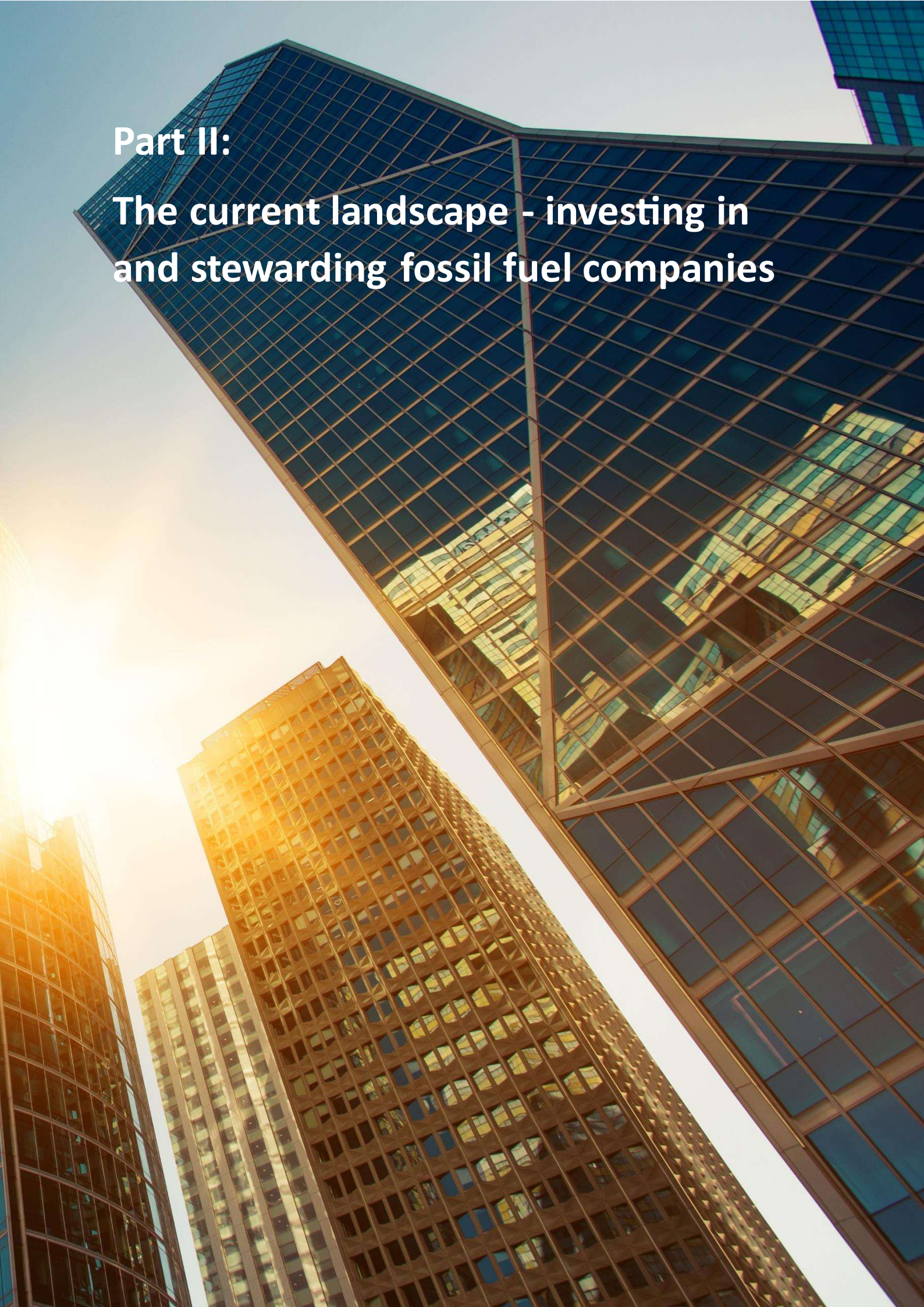
Within the global figure is a significant regional shift – coal consumption has been falling in Europe since the 1980s and in US since the 2000s, but demand from China, India and ASEAN countries has driven growth overall. China and India together are expected to account for more than 70% of global coal consumption by 2026, up from 35% in 2000. By contrast, the EU and the US are each expected to account for 3% of global consumption by 2026.[66] These regional trends are somewhat reflected in the company production figures below:



Source: ShareAction analysis of data from company annual reports.

We have looked at 15 of the world's largest listed coal producers, which collectively reduced volumes by 1.5% per year from 2019 to 2022. Growth was seen at China Shenhua Energy (3.5% per year), China Coal Energy (5.3%) and Golden Energy & Resources (16.2%). Five of the companies shown – Peabody Energy, Glencore, BUMI, BHP Group and Banpu Public Co - reduced production by 5% per year or more over the period. However, of the five producers that have reported 2023 volumes to date, four have increased production from 2022 – Yancoal (12.4%), Banpu Public Co (4.0%), Glencore (3.3%) and Peabody Energy (2.0%).

[xv] In this section we consider producers of all types of coal as disclosure does not isolate thermal coal production. However, elsewhere in the report we focus on thermal coal, which is replaceable with renewable sources rather than metallurgical or other types of coal which can be harder to replace.



Part II:

The current landscape - investing in and stewarding fossil fuel companies

How are asset managers influencing fossil fuel companies?

Investment Policies

Existing investment restrictions for the fossil fuel sector can vary across three broad factors:

1. the type of fund that the restrictions apply to, for instance whether the fund is labelled 'responsible', 'sustainable', 'ESG', '1.5°C aligned' or similar (which we generically refer to as 'labelled funds')
2. the type of fossil fuel the restriction pertains to, for instance coal, or unconventional oil & gas
3. the fossil fuel activity being restricted, for instance a broad exclusion of any fossil fuel production, exclusion of fossil fuel production above a threshold (revenue or volume), restriction on the expansion of fossil fuel capacity or a commitment to phase-out exposure to fossil fuel companies at a future date

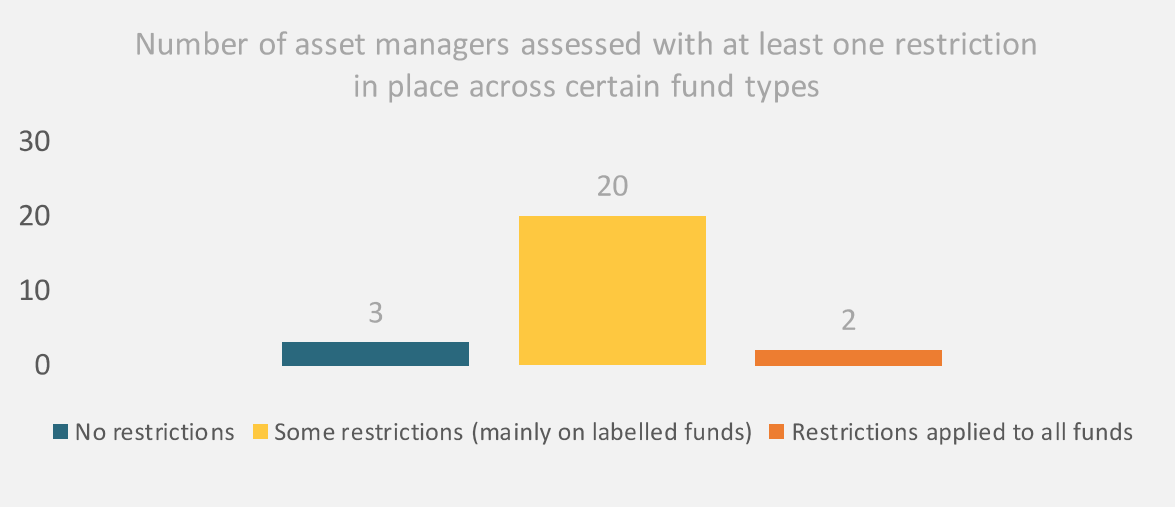
As we have seen, fossil fuel companies are currently not aligned to 1.5°C. ShareAction's 2023 Point of No Returns[67] survey highlighted that there is scope for asset managers to adopt stronger formal investment policies to more appropriately reflect the lack of adequate progress on transition by the fossil fuel sector and to apply consequence to their engagement with fossil fuel companies:

- While the majority (59 out of 77) of surveyed asset managers apply some restrictions to investments in thermal coal, these are mostly limited to labelled funds. Only 18 out of 77 surveyed asset managers applied thermal coal restrictions across all funds.
- The majority (48 out of 77) of surveyed asset managers had restrictions on (some forms of) unconventional oil & gas extraction applied to their labelled funds, but only 10 surveyed asset managers applied these restrictions across all funds.
- Despite the IEA's *"no new oil"* (in a 1.5°C scenario) message, only two of the 77 surveyed asset managers have restrictions on fossil fuel expanders that apply across all funds, with a further eight applying restrictions across labelled funds.

For this paper, we conducted updated research on the fossil fuel investment policies of the largest 25 asset managers globally.[xvi]

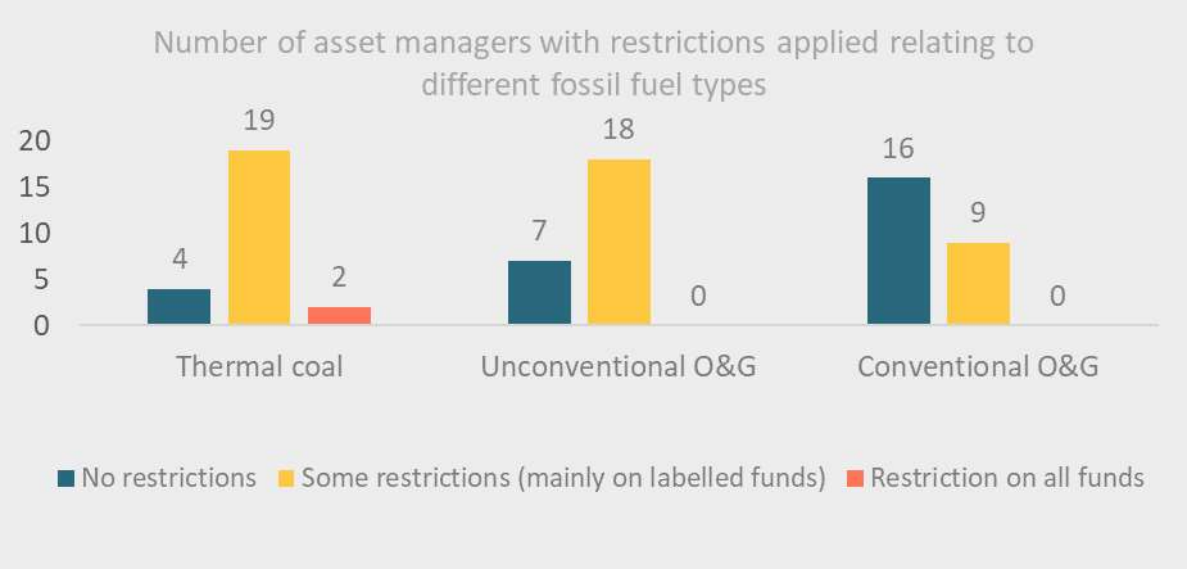
22 of these 25 asset managers had some form of fossil fuel investment restrictions. Just two of these asset managers had a fossil fuel restriction that covered all funds. 20 applied restrictions to a subsection of their funds – most commonly to labelled funds.

[xvi] Exclusion policies were counted in this analysis only where they did not contain significant exceptions.



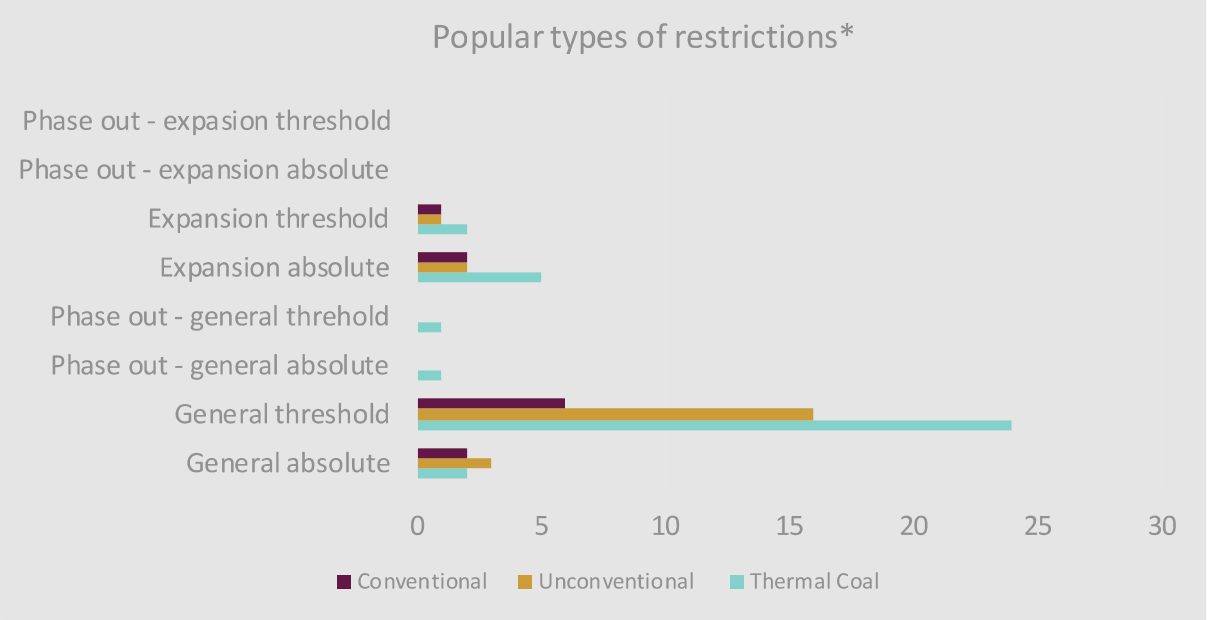
Source: ShareAction (2023).

Restrictions were most commonly applied to thermal coal (21 of the 25 asset managers), but 18 also had some restrictions on unconventional oil & gas and nine on conventional oil & gas. However, none of the restrictions on unconventional or conventional oil & gas extended to all funds.



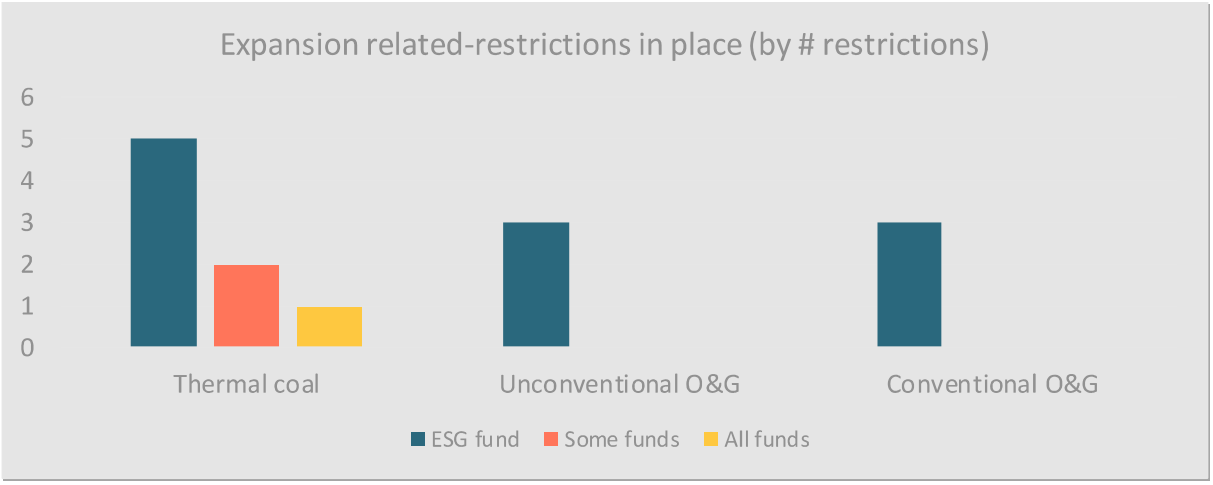
Source: ShareAction (2023).

General restrictions (i.e. set on production) were most common, while there were a handful of expansion-specific restrictions and two thermal-coal phase-out commitments. Some asset managers apply a materiality threshold to these restrictions, expressed as the portion of total sales derived from fossil fuels or the volume of fossil fuel production per year, while others apply these restrictions without a materiality threshold (i.e. restrictions on companies engaging in any production of fossil fuel). The application of thresholds was notably more common for general restrictions, while the absolute approach was more common in expansion-specific restrictions.



Source: ShareAction (2023).
**This chart shows number of total restrictions in place across the 25 asset managers assessed rather than the number of asset managers implementing these restrictions.*

Five asset managers applied coal-expansion restrictions to their labelled funds only, two asset managers applied that restriction beyond labelled funds to some other funds but only one asset manager applied coal-expansion restrictions to all funds. Restrictions on expansion of oil & gas capacity (including unconventional) were only applied to labelled funds.



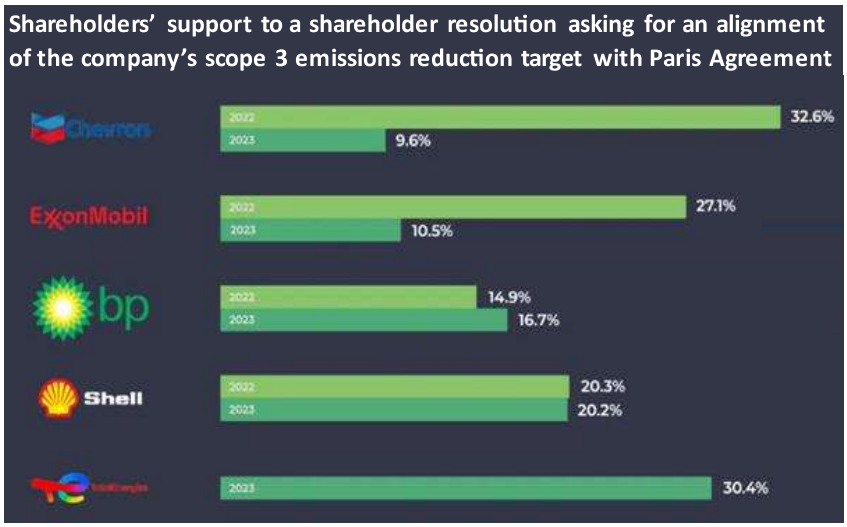
Source: ShareAction (2023).

Voting

ShareAction's latest Voting Matters report[68] for the 2023 AGM season included 30 shareholder resolutions at energy companies. Support for these resolutions was low at 23% on average, down from 30% average support for energy company resolutions in the previous year's report. The majority (23) of these resolutions were requesting enhanced disclosure of climate risks, impacts and strategies, yet support for these disclosure resolutions was only 26% on average (down from 39% in 2022). Support for the seven resolutions that called for 'action' on transition received 13% support on average (down from 22% in 2022).

The 30 resolutions on average saw 60% of the 69 asset managers assessed in Voting Matters 2023 voting in support, with 40% voting against, sending a mixed signal to energy companies on expectations for climate progress.[xvii] Moreover, the largest asset managers were more likely to vote against climate resolutions at energy companies, dragging the overall percentage support down. On average, seven of the 10 largest asset managers voted against. Indeed, seven of the 10 largest asset managers voted in support of less than one in five climate resolutions at energy companies.

Asset managers are generally signalling support for fossil fuel companies' misaligned strategies in this approach to voting. For instance, Shell, Repsol and TotalEnergies all received overwhelming support (89%, 80% and 98% respectively) for their Say on Climate proposals in 2023, despite none being 1.5°C aligned.[69] Follow This filed resolutions at five fossil fuel companies in 2023, calling for Paris aligned scope 3 targets. These resolutions received between just 10% (Chevron) and 30% (Total) support, with support for the resolutions at Chevron and ExxonMobil notably lower than for comparable resolutions in 2022.



Source: Reclaim Finance (2023).[70]

In Appendix 1, we highlight shareholder resolutions on transition alignment at three fossil fuel companies in 2023. These resolutions received support from only around one-third of shareholders, and similar support from the asset managers surveyed in our Voting Matters report, despite being flagged by CA100+ and recommended by proxy adviser ISS.

A key factor in how the management of a company determines its strategy is the structure of their remuneration incentives. Carbon Tracker has highlighted how management remuneration at 25 of the largest oil & gas companies *"continues to incentivise the growth of hydrocarbon output"*, with volume growth metrics comprising 30% or more of variable pay at seven of the 25 companies.[71] Fossil fuel companies are unlikely to align their strategies away from fossil fuel production unless remuneration structures incentivise doing so. Voting against remuneration proposals at AGMs can reinforce engagement with fossil fuel companies to align remuneration incentives away from fossil fuel production growth.

[xvii] Across the 30 resolutions, on average 29 of the 69 assessed asset managers voted in support and 19 voted against, while the resolution was not applicable for 21 asset managers (for instance, where they did not hold a position)

Engagement

As well as the voting lever being under-utilised by asset managers, there are indications that engagement efforts are failing to clearly signal expectations on transition alignment to fossil fuel companies. A report by Reclaim Finance[72] found that engagement by the largest asset managers with fossil fuel companies is not consistent with the 1.5°C pathway:

- Although 25 of the 30 surveyed asset managers engage companies to push for improvements on climate-related issues, none call for a decrease of companies' overall fossil fuel production or a stop to all new fossil fuel supply projects.
- None of the 30 asset managers "*have clear and comprehensive demands*", whilst only eight publicly ask companies to adopt short-term emission reduction targets.

Challenges for effective fossil fuel policies

Asset managers put forward various arguments against implementing more robust investment policies for fossil fuel companies, which we have grouped into three categories:

1. arguments relating to fossil fuel supply & demand (market arguments);
2. arguments relating to fiduciary duty (client arguments) and;
3. arguments relating to the efficacy of divestment as a strategy to catalyse fossil fuel alignment.

The arguments are not trivial and the issues they reflect are complex. However, we believe these arguments are somewhat misframed in the context of the risk climate change poses to their clients' interest. In this section, we outline the arguments presented and then set out what we see as counterpoints to them.

Market arguments

Argument: Fossil fuel companies are simply meeting market demand, serving an essential need that underpins economic health.

Counter-argument: Transitioning global energy systems has three inter-linked components:

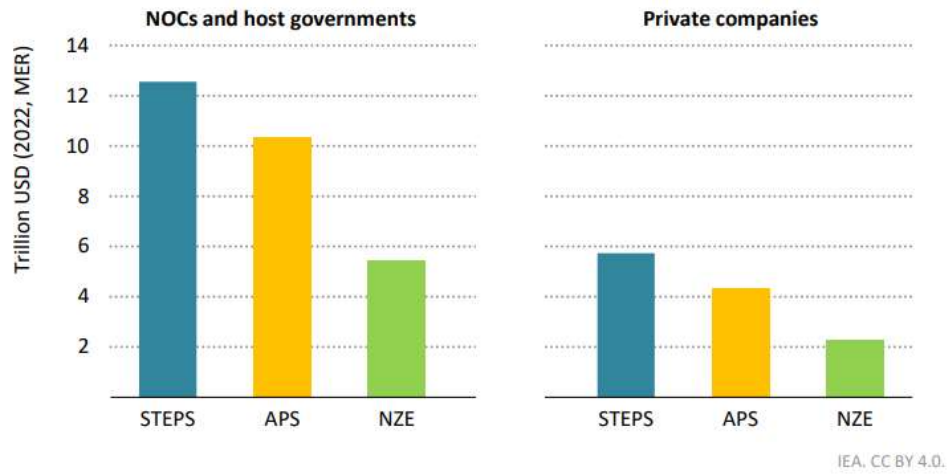
1. reducing the supply of fossil fuel energy;
2. increasing supply of clean energy: and
3. reducing the demand for energy through efficiencies.

Transition does not necessitate leaving energy demand, on which global economic health rests, unmet but rather changing *how* that demand for energy is met. Reducing the supply of fossil fuel energy is contingent on growth in clean capacity and achieving energy efficiencies, if demand is to be met. The IEA writes that *"successful net zero transitions will depend on suppliers and consumers working together"* and has highlighted the importance that this transition is driven from both the supply-side (changing the mix of supply from fossil fuel to clean energy) and the demand-side (signalling appetite for clean energy).[73]

The problem is that by planning to grow fossil fuel production and investing in additional fossil fuel capacity, fossil fuel companies are betting on a failed or inadequate transition. Moreover, as discussed, producing more fossil fuel than would be needed to meet demand unfilled by renewable sources contributes to the risk of that failure.

It is in fossil fuel companies' interests for transition to fail – the IEA sets out the reduction in net present value (NPV) for fossil fuel assets in the NZE transition scenario compared to the STEPS scenario. But it is not in the interests of long-term institutional investors, their clients or society for transition to fail or proceed too slowly. It may also not be in the interests of the owners and funders of fossil fuel companies to invest in fossil fuel capacity that will not be required.

Figure 1.32 ▷ Net present value of upstream oil and gas production



The value of the oil and gas industry diminishes sharply with increased climate ambition.

Notes: Values shown for NOCs and host governments are the sum of pre-tax discounted net income; for private companies it is the post-tax discounted net income. Uses a discount rate of 10%.

Source: IEA (2023).[74]

While investment in clean capacity has been lagging, indications are that 'S-curve' effects are starting to kick in,[75] accelerating capacity growth in renewables, electric vehicle penetration, battery demand and other essential components of a clean economy. With the commitment at COP28 to transition away from fossil fuel, triple renewable capacity and double energy efficiency by 2030, betting on the failure of transition looks neither financially nor environmentally smart.

Fossil fuel companies should be planning for reducing production as renewable energy grows in the energy demand mix, not planning to over-produce and potentially undermine transition.

Argument: If listed oil companies (super-majors, majors, independents) reduce production, they will simply cede market share to the state-owned NOCs. That will weaken the listed oil companies, to the financial detriment of their shareholders and funders, without leading to any reduction in the real-world production of fossil fuels.

Counter-argument: The NOCs are a significant part of the global fossil fuel landscape, accounting for more than half of global production, and close to 60% of the world's oil & gas reserves.[76] While many of these NOCs are listed with minority institutional ownership (or in the case of Petrobras, majority ownership), the engagement influence of minority shareholders over these state-controlled entities is limited. However, these companies also often access debt markets. The IEA estimates that NOCs *"currently rely on debt for around 35% of their total investment... and debt financing is often used when they need to finance a rapid increase in production, expand overseas or grow new business areas"*.[77] We acknowledge that some of the constraints on effective engagement with NOCs by shareholders also apply to debt investors. But the need for debt investors' capital does provide some leverage to influence NOC strategies - in choosing whether to provide or withhold debt finance that supports misaligned fossil fuel production - that is absent for equity investors in NOCs.

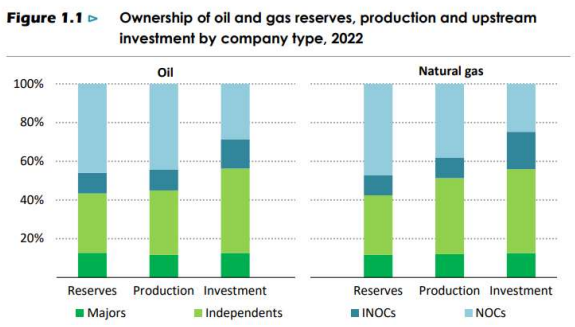


Table 1: State Shares of Listed NOCs

	Domestic Listing	International Listing	State Share
ADNOC			100%
CNOOC	X	X	62%
Ecopetrol	X	X	88.5%
Equinor	X	X	67%
Kazmunaigas	X		97%
Pertamina			100%
Petrobras	X	X	36.6%
PetroChina	X	X	83%
PETRONAS			100%
PTT	X		51%
Saudi Aramco	X		90.2%
Sinopec	X	X	68.8%
YPF	X	X	51%

Sources: IEA (2023).[78]

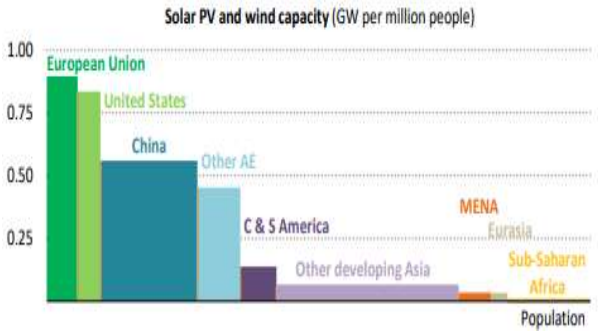
But irrespective of the NOCs' plans, in the context of a successful transition, listed fossil fuel companies planning to reduce production on an aligned pathway will be positioning themselves appropriately for a shrinking market. By anticipating and preparing for transition away from fossil fuel demand, these companies will be better placed than competitors who plan to grow production and contribute to over-supply.

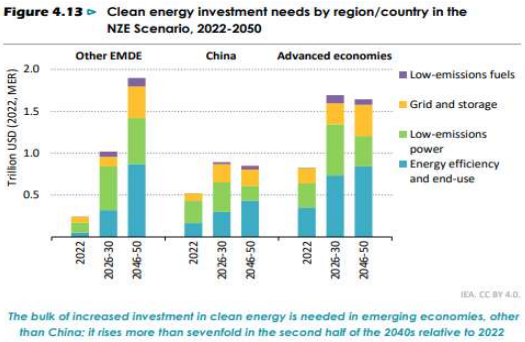
Moreover, as The Economist highlighted in its recent special report ('the long goodbye') on the oil industry,[79] lifting costs and carbon intensity are generally lower for NOCs in the Middle East than for other producers. This suggests these NOCs will have a competitive advantage which could see them gain market share in a declining market. It could be prudent, therefore, for listed fossil fuel companies to plan for a decline in demand for their production that exceeds that of the market overall.

In any case, it seems a poor reason for a fossil fuel company to pursue a growth strategy of planning to over-supply production simply because a competitor might pursue such a strategy.

Argument: Divesting from the fossil fuel sector puts a 'just transition'[80] at risk because it ignores different regional dynamics and the higher dependence EMDEs have on fossil fuel sources to support economic growth.

Counter-argument: There is currently a significant transition investment gap in EMDEs. The IEA reports that advanced economies and China have significantly (circa 10x) more solar and wind capacity per million people than EMDEs, and account for more than 80% of all clean energy investment.[81] Investment in clean energy needs to increase threefold overall by 2030 (compared to 2022 levels) under the NZE scenario, but by fivefold in EMDEs:





Sources: IEA (2023).[82] [83]

If this capital fails to be mobilised, a dilemma is posed – is it better for EMDEs to retain access to fossil fuel energy to support economic growth but disproportionally suffer the physical damage from

higher temperatures (which will directly and indirectly harm their economies)? Or should their demand for energy be partially unmet in order to cap temperature rises globally, which will constrain the economic activity of countries least able to compete for tight energy supply – including EMDEs?

The IEA assesses that *"the APS and the NZE Scenario both offer improved outcomes compared with STEPS"* for EMDE access to energy. For example, NZE envisages full access to electricity in Mozambique and Tanzania by 2030, whereas nearly half of people in those countries would not have access to electricity under STEPS.[84] When combined with the cost-advantage of renewable energy over fossil fuel energy, these comprise strong arguments for accelerating transition in EMDEs rather than prioritising the supply of fossil fuel energy.

Additionally, evidence points to economic risks associated with fossil fuel development for EMDEs, including:

- the 'Resource Curse', in which countries with significant natural resources can experience lower-than-expected economic growth;[85]
- the volatility of revenues from fossil fuel extraction, which the IEA states *"can be destabilising for public finances and prudent fiscal management";*[86] and
- the risk of EMDEs being left liable for 'stranded assets' following transition.[87]

Retaining elevated levels of fossil fuel production is a weak argument in support of the 'just' element of transition. The IEA notes that *"fears... that the world is underinvesting in oil and gas supply are no longer based on the latest technology and market trends"* and warns that *"the risks are currently weighted more towards overinvestment in oil and gas than the opposite"*.[88] The delivery of a just transition should not mean more fossil fuel, but more renewable energy. This highlights the need for an acceleration of transition capital to create clean energy in EMDEs in order to deliver the just and orderly transition of the IEA's NZE scenario. Although outside the scope of this paper, investors have a responsibility to address this need for transition capital in parallel with their responsibility to influence the reduction of fossil fuel production.

Client arguments

Argument: To exclude a significant portion of the investment universe would represent a breach of fiduciary duty, disadvantaging clients by denying them access to the potentially attractive financial returns of the sector. Further, many clients explicitly want exposure to fossil fuels.

Counter-argument: Many clients of asset managers[xviii] – and the people whose money they manage – have an interest in limiting the environmental damage that their capital contributes to, including from investments in the fossil fuel sector, alongside seeking a reasonable financial return. However, clients are often insufficiently informed of the environmental impacts associated with their capital. That insufficiency represents an obstacle to asset managers exercising their fiduciary duty to their clients as it trammels the ability of clients to identify and express their non-financial preferences, including as those pertain to the fossil fuel sector.

The duties of asset managers to their clients incorporates risk-adjusted return, not just return in isolation. Climate change elevates uncertainties, for instance as the self-reinforcing effects of tipping

[xviii] For example, as well as the Scottish Widows report cited above, the UK's Financial Conduct Authority CEO Nikhil Rathi said in a March 2023 speech that their Financial Lives survey found "81% of [UK] adults would like the way their money is invested to do some good as well as provide a financial return": https://www.fca.org.uk/news/speeches/reforming-our-capital-markets-ecosystem

points create less predictable outcomes, which translates into higher financial risk. This increased risk, alongside the growing recognition that temperature rises beyond 1.5°C could negatively impact returns, enhances the rationale for proactively investing and stewarding in alignment with 1.5°C in the long-term financial interests of clients. With current fossil fuel company strategies misaligned to transition on a 1.5°C pathway, there is a strong financial case for asset managers to take a more robust approach to influence these companies towards alignment. This more robust approach should incorporate both more selective capital allocation and more active use of the escalation toolkit with those selected companies if they are not meeting transition expectations.

In framing their duty to clients, asset managers should weight long-term beta (the overall portfolio value over a timeframe that correlates to the beneficiary's dependence on their capital) against short-term alpha (the opportunity to generate above-market returns from specific investments) in their investment decisions.

Beta vs alpha

Prioritising idiosyncratic returns can negatively impact overall portfolio returns, as The Shareholder Commons has highlighted: the *"reluctance to fully acknowledge the existence of real-world trade-offs between enterprise value and portfolio value leads companies to limit emissions only to the extent that doing so does not sacrifice their own potential future cash flows"*.[89]

By planning to grow production, a fossil fuel company might be enhancing its own cash generation and enterprise value (at least for a time). But it risks imposing detrimental impacts on the economy overall through the disruption of transition and thus impacting cash generation and valuations of other companies in broadly positioned portfolios. Pursuing fossil fuel sector alpha (which has been mostly negative in recent history) risks costing portfolio-beta if it encourages fossil fuel companies to pursue strategies that disrupt transition. Approaching capital allocation as a series of idiosyncratic, unconnected investments (identifying the most attractively priced individual opportunities in isolation) risks overlooking these negative effects on the overall value of a broad portfolio. Individual investments in fossil fuel companies need to be considered in the context of the potential harms to beta presented by those investments. It is also important to bear in mind that alpha is ultimately zero-sum, which is why beta is really what matters in protecting clients' financial interest.

Long-term vs short-term

Mark Carney has talked about the *"Tragedy of the Horizons"* - the incentive to under-weight the catastrophic impacts of climate change that will manifest over the long-term and fall hardest on future generations.[90] Much as the impacts of climate change are already becoming alarmingly apparent in weather patterns around the globe, transition is a long-game and the long-term financial impacts will be very different to the near-term impacts. Individual savers are more reliant on the long-term protection of their capital (and the long-term health of the planet they inhabit) than short-term performance.

But the investment system is not well structured to reflect this long-term interest. Investors feel more confident (whether rightly or not) in predicting how companies and economies will perform in the immediate future than over the long-term. As a result, investment decisions tend to over-emphasise the short-term, as referenced in various papers. For instance, Climate Works has written on the cognitive bias of short-termism.[91] A 2018 report from the EU's High-Level Expert Group (HLEG) wrote: *"Recent trends suggest that short-termism in the financial sector may have got worse, with the average holding period of market-traded assets becoming shorter, for example. The average holding of equities*

in the EU has fallen from about eight years two decades ago to just eight months today. It is reported that on average, equity managers turn over their entire portfolio in 20 months".[92]

Furthermore, fund flows can be correlated to near-term relative performance, as falling behind the benchmark can trigger outflows. Asset owners often assess the performance of asset managers over relatively short time-horizons. An asset manager with a credible strategy to deliver long-term outperformance at the cost of short-term underperformance may not retain the client capital to benefit from that long-term outperformance. A report by the European Securities and Markets Authority (ESMA) found *"…that the misalignment of investment horizons in financial markets and the remuneration of fund managers and executives that rewards short-term profit seeking could be potential sources of short-termism."* The report went on to suggest: *"Improvements in the availability and quality of ESG disclosure could serve to promote more long-term investment decisions by investors."*[93]

Asset managers urgently need to address this investment horizon-bias given the risks to their clients' long-term financial interests it represents. That most obviously applies to how the investment opportunity in the fossil fuel sector (which faces long-term demand decline) is framed, whatever the near-term potential for return-generation. While the calculus is complex, ensuring that governance and incentive structures underpin the long-term perspective, together with transparency to clients on the long-term risks and impacts play an important role.

Finally it is worth highlighting that 'opportunity cost' must be considered in the context not just of the sector's size (the MSCI World Energy Index has a market capitalisation that is less than 5% of that of the MSCI World Index, to illustrate) but also of the harms at stake. Exclusion of other sectors that carry significant social harms, such as unconventional weapons and tobacco or of companies that fail to protect against social risks such as human rights abuses or child labour, are broadly accepted. The seriousness of the issue at stake outweighs considerations of opportunity cost. The question becomes at which point investors consider the environmental, social and economic risks posed by misaligned fossil fuel plans to be sufficiently serious to move (at least some of) the sector from the category of 'regular investment opportunity' to a category where some proscription is appropriate.

Argument: 1.5°C is already out of reach so encouraging fossil fuel companies to adopt strategies for a scenario that won't happen (1.5°C) is financially sub-optimal.

Counter-argument: IEA, IPCC and others are clear that the window for 1.5°C *is* still open, though closing rapidly – *"barely breathing"* to quote Marshall Islands climate envoy Tine Stege at COP28.[94] In September 2023, the IEA wrote that 1.5°C was still *"possible due to the record growth of key clean energy technologies"*.[95] Asset managers have agency in the speed at which companies transition, through their potential influence in allocating and stewarding capital. Mitigating the economic risks of rising temperatures together with the cost advantage of renewable energy creates powerful incentives for asset managers to catalyse transition at the speed required for a 1.5°C pathway. The question is not so much whether 1.5°C can still be achieved, but whether the will is there to make it happen.

The closing window on 1.5°C should not be seen as reason for delay on the actions needed to transition to net zero. As The Nature Conservancy's CEO said in 2023 of the IPCC's AR6 Synthesis report: *"…[it] underlines the fact that we've entered an era where our prospects can no longer be quantified in convenient, +0.5°C increments – but where every fraction of a degree of warming we can avoid will make for a less perilous and less expensive future."*[96] The increasing potential risks to long-term asset values means the threat of surpassing 1.5°C should prompt an intensification of

asset managers' efforts to influence fossil fuel companies onto an aligned pathway, not excuse a dilution of effort.

Argument: An asset manager's role is not to *"tell companies what to do"* but rather trust to the expertise of management and the board to devise the most appropriate strategy, including planning for demand as they see best. An asset manager should not dictate transition scenarios to a company but rather let the company decide which scenario is most appropriate for them.

Counter-argument: Active ownership means actively conveying expectations on systemic issues like climate change. Stewardship incorporates the exercise of investor rights to board accountability and setting clear expectations on how the company should manage and mitigate macro, systemic issues. Fossil fuel companies have the most to lose from transition, and therefore require the most vigorous stewarding if they are to align with, and prepare for, transition. That alignment is likely to be in the interest of asset managers' clients but not in fossil fuel companies' interests. Active ownership means going beyond asks on disclosure and governance. It requires setting clear expectations for companies – including expectations of phasing down production by fossil fuel companies – and using the full toolkit (escalation and capital allocation) to achieve that.

Transition is a collective endeavour to address a collective threat. It requires coordination toward a common goal. Transition has different implications for different companies and sectors and so leaving companies to individually choose which transition scenario will suit them best undermines this coordination toward the common goal. Every company acting in their own narrow self-interest will leave companies worse-off overall. That is the basis of an asset manager committing to support the 1.5°C goal, as many have done. That commitment is denuded of meaning if it does not involve actively advocating for a 1.5°C transition and applying the levers of influence (how they allocate and steward capital) to encourage companies towards that goal. Letting companies, especially fossil fuel companies, choose the transition scenario that suits them best is inconsistent with a sincere commitment to 1.5°C.

Argument: Passive funds cannot impose investment restrictions – their investment decisions are predetermined by index or fund composition rules.

Counter-argument: While the capital allocation lever of influence is muted for passive investment strategies, the lever is still present in the asset manager's ability to create transition-aligned products and actively inform clients on the benefits of migrating their capital into these funds, while also removing potential disincentives (such as higher fees or lower liquidity terms). Asset managers can commit to phasing out unaligned legacy products (to the extent possible in the funds' documentation), prompting clients in those funds to consider the merits of moving their capital into aligned products. Passive funds can engage with index providers to explore whether a misalignment threshold can be introduced and also to strengthen the qualifying criteria for, and enhance the profile of, transition-aligned (or similarly branded) indices.

However, the muted capital allocation lever does increase the onus on passive asset managers to be active stewards of portfolio companies. This active stewardship should include the robust application of consequence for insufficient responses to investor expectations through the use of escalation tools. Passive funds tend, by their diversified construction, to have higher exposure to systemic risks which increases the obligation for passive asset managers to actively steward those risks in their clients' interests.

Arguments against the efficacy of divestment

Argument: Divesting from a company means the asset manager loses the potential to influence the company onto a more transition-aligned path through engagement.

Counter-argument: Engagement is a finite resource, which should be prioritised according to where it can be most effective. When engagement is proving ineffective, the focus should be reallocated elsewhere – as the (asset owner) Church of England Pension Board has decided to do with fossil fuel companies.[97]

Effective engagement often requires the potential for consequence to be applied. When engagement is proving ineffective, asset managers should apply the escalation toolkit,[xix] ending with partial or full divestment if progress remains inadequate. The potential for divestment brings the weight of consequence to engagement. A more selective approach to investment in the fossil fuel sector would facilitate greater concentration of engagement intensity with the companies which remain in the portfolio. It encourages the conditions for more effective engagement with those companies.

To date, engagement by asset managers has failed to encourage fossil fuel companies into alignment with a 1.5°C pathway. Those companies are mostly planning and investing to increase, not reduce, production. Yet the levers to intensify engagement – clear expectation-setting for strategy alignment, voting for aligned resolutions, robust investment policies – are under-utilised. Asset managers should apply consequence to their failing engagement by being willing to divest, codified into clearly defined investment policies. Framing and disclosing conditions on which investment in fossil fuel companies will be made, unmade or avoided through investment restrictions provides transparency and predictability on the application of consequence to failing engagement.

Moreover, divestment isn't necessarily inconsistent with constructive engagement. Reduced weighting or partial divestment gives a clear indication to the company of the potential consequences of expectations not being met, while still keeping channels of dialogue open. Even full divestment can leave the door open for engagement, if the reasons for divesting and the conditions for reinvesting are clearly communicated to the company.

Argument: Divestment doesn't change corporate behaviour, not least as it doesn't impact the company's cost of capital (which might motivate the company to a response).

Counter-argument: There are mixed conclusions on how effective divestment is in changing company behaviour, with some[98,99,100] arguing against its efficacy and others[101,102] arguing for it. The answer partly depends on whether divestment is an isolated act (especially from more modestly-sized asset managers) or becomes more of a norm across the market. It is a question of scale – if an investor turns from being a buyer or holder of a company's shares to a seller, the supply-demand equilibrium of the share price is changed. The more shares owned by the investor, the more the equilibrium changes and the more discernible the impact on share price might be. If multiple investors concurrently (but independently) formed similar opinions that owning shares had become less desirable, the impact would be more discernible again.

A company is not indifferent to its share price (as well as having implications for its access to capital, management compensation is often linked to the share price). It is also not indifferent to the identity of its owners or the composition of its shareholder base.

[xix] For further information on the escalation toolkit, please refer to ShareAction's RISE #2 guidance: https://shareaction.org/reports/rise-escalation

However, the primary goal of divestment is not to impact the cost of capital or change company behaviour, but to remove the exposure of asset managers' clients to companies with strategies which represent a risk to clients' long-term interests and which have proved inadequately responsive to engagement asks. The point of divestment is primarily to reallocate capital and engagement resource to companies which are more aligned with asset managers' expectations and their clients' interests. In other words, while the question of the impact of divestment on company behaviour is not clear-cut, it is somewhat moot from the asset managers' perspective. What matters is how they invest and steward their clients' capital to reflect their long-term interests.

Argument: A strategy of divestment by responsible investors may transfer ownership of fossil fuel companies into less responsible hands, who will prioritise (near-term) financial return with less consideration for environmental impacts.

Counter-argument: This argument includes the risk of ownership passing to private investors who may be subject to less scrutiny and therefore freer to pursue irresponsible practices. A related risk is that of more transition-ambitious oil & gas companies selling assets to competitors with less ambition for transition. There is some evidence of this asset transfer into less-responsible hands occurring. A report from the Environment Defence Fund estimated that the transfer of oil & gas assets from companies with environmental commitments to those without increased from 15% of the overall value of oil & gas sector mergers and acquisitions in 2018 to 30% of the total value of deals in 2021[xx] – or circa $60bn of assets.[103]

However, private capital is not unlimited and the size of the 'irresponsible transfer' risk needs to be held in context to the overall significance of climate risks. The enterprise value[xxi] of the listed oil & gas sector alone (i.e. not including private companies) is $7.7trn. $60bn of assets transferring to 'less responsible' companies in 2021 is a significant figure. But it is less than 1% of the total value of the listed sector. Concern for 1% of assets moving to 'less responsible' hands each year is an insufficient reason to not exercise the disciplinary stewardship that a credible potential for divestment can reinforce.

It is also inaccurate to suggest that all, or even most, private capital potentially interested in buying oil & gas assets sits entirely free from scrutiny or reputational association. Many investors in private equity funds ('limited partners') have the same financial interests and non-financial preferences as investors in listed companies – indeed, they are often the same investor.

There is also the potential transfer from responsible to less-responsible owners through the public markets. However, the seller of a listed security (equity or bonds) generally doesn't know who is on the other side of trade. Not selling for fear that the unknown buyer *might* be less responsible is a tenuous justification for an asset manager not exercising their own responsible agency and failing to connect capital allocation to the responsiveness of the companies to critical climate issues.

We acknowledge the argument that a client's portfolio may remain indirectly exposed to the climate risks posed by misaligned strategies of fossil fuel companies, even in the absence of direct exposure to many of those companies. Retaining some influence over the fossil fuel sector can in theory mitigate this residual exposure. However, if the fossil fuel sector is proving resistant to influence, then this argument weakens. Influence only has value if it leads to outcomes. Moreover, having influence over the fossil fuel sector overall does not require holding positions in the sector overall, or even most of the sector. Recycling capital and engagement resources away from the majority of the

[xxi] Per Eikon data on 26/4/2024

sector to influence alignment in a targeted cohort of fossil fuel companies can still allow opportunity for effective influence.

Argument: Excluding the fossil fuel sector won't help it transition. Denying capital to the sector will hinder transition and risk it becoming disorderly.

Counter-argument: In general, we agree that denying capital to a sector risks hindering, rather than supporting, its transition. Investors can catalyse transition by: over-weighting capital to those companies most willing and able to transition ambitiously; over-weighting engagement resource to those companies able but showing insufficient ambition to transition, and; under-weighting capital and engagement to those companies unable or unwilling to transition.

However, there are two levels to thinking about how to size the allocation of capital within this rubric:

1. sizing the relative allocation to companies within the sector; and
2. sizing the total allocation to the sector (relative to other sectors).

As well as identifying the transition leaders and laggards, an investor needs to assess the transition progress and potential of the sector overall. A sector that is leading in its meaningful contribution to transition potentially merits an over-weighting of capital compared to a sector that is lagging.

As we have argued, the fossil fuel sector is not like other sectors. The very nature of its transition is fundamentally different to other sectors - it needs to transition its *product*, not its *means of production*. It has the most to lose from transition. Its current expansion and production plans are a bet against transition. By planning to produce more fossil fuel than required to meet residual demand (i.e. demand not met by clean sources), the sector is putting transition at risk.

As a result, thinking about how to size the allocation of capital to the sector should be framed very differently to other high-carbon sectors.

There is some risk that abrupt withdrawal of funding and institutional ownership of the fossil fuel sector could trigger a disorderly transition, with unpredicted interruptions to energy supply. But there is a balance to be struck between the two poles of complete withdrawal of capital from the fossil fuel sector and uncritical 'business as usual' investing in the fossil fuel sector. The limited presence of investment restrictions (beyond labelled funds) points to the current balance being far too close to the second pole. Were fossil fuel companies to more clearly support the need of the global economy to transition away from fossil fuel, the more those companies would retain access to ownership by and the capital of responsible investors.

The basis for mobilising capital to support transition in our rubric above is predicated on the sector otherwise being constrained in funding its transition. Green bonds, for instance, have the purpose of mobilising capital to fund a specific 'green' activity, such as transitioning away from carbon-intense processes. It is not necessarily the case that a company cannot transition without that funding. Often, borrowers of green bonds choose that funding route over other potential sources of capital – regular bonds, new equity, using or reprioritising internal cash generation – for reasons of financial expediency. But the premise of targeted transition funding is to generate additional capital to catalyse transition activity that the borrower is already credibly committed to. If targeted transition funding frees up other sources of capital for the borrower to invest in unaligned activities, the purpose of transition funding is defeated. The fossil fuel sector is not short of capital. It generated record levels of cash flow in 2022, yet less than 3% of its total investment (on average) went into

clean energy. To be credibly considered 'willing and able to transition' per our rubric outlined above, and therefore a target for transition-supportive investment, it would first need to show commitment to transition by allocating a significant portion of its internal cash generation to that goal, and plan to align production with transition pathways.

Part III:

The potential for influence - recommendations for effective fossil fuel policies

Considerations in shaping a fossil fuel policy

Metrics

In order to build a robust fossil fuel policy, asset managers need to understand and assess the alignment and credibility of fossil fuel companies' transition plans. There are various factors to weigh up within this assessment of (relative) leaders and laggards in the sector in order to effectively inform capital allocation and stewardship priorities. In this assessment, asset managers can reference transition benchmarks from NGOs and other organisations such as the Transition Pathway Initiative, World Benchmarking Alliance, Climate Action 100+ and MSCI. However, asset managers should also be mindful of the assumptions and criteria used in such benchmarks.

The table below lists some of the categories of metrics that are contained in existing benchmarks and should be considered in an assessment of fossil fuel company alignment.

Category	Description
Scope 1 & 2 emissions (past, present and projected)	Scope 1 & 2 emissions measure the volume of GHGs emitted by companies. Scope 1 refers to the GHGs that a company emits directly - for example, the direct energy consumed in the process of extraction for a fossil fuel company. Scope 2 is the volume emitted indirectly, for example, from the purchase of electricity. Emission metrics can be absolute (the total volume of GHG emitted, in tons) or intensity-based (comparing the volume of GHG emitted to the amount of power generated, or the quantum of revenues received). Intensity can be a useful metric for comparing emission efficiency between companies, but reducing absolute emissions is the real goal of decarbonising the global economy and thus is an essential metric to target. Scope 1 and 2 emissions account for approximately 5-20% of total emissions from oil and gas companies.[104] Methane emissions account for nearly half of all oil & gas scope 1 & 2 emissions. Methane is a particularly powerful GHG, with a significantly more damaging impact on the climate than CO_2 (albeit shorter-lived). The fossil fuel sector has *"ready-to-implement and cost-effective technical opportunities to reduce methane emissions"* according to the United Nations Environment Programme (UNEP).[105] We discuss methane further in Appendix 2.
Scope 3 emissions (past, present and projected)	Scope 3 emissions are the GHGs emitted across the value-chain of a company. Upstream emissions are those generated to produce the materials, goods and services purchased by the company. Downstream emissions are released in the subsequent use of the products sold by the company. For a fossil fuel company, this includes the combustion of its coal and oil & gas to generate energy and the use of its products in chemical feedstocks. Scope 3 emissions account for approximately 80-95% of total emissions from fossil fuel companies, and so are key in measuring and reducing emissions.[106] Similar to Scope 1 & 2, Scope 3 emissions can be measured using both absolute and intensity metrics. Scope 3 emissions for a fossil fuel company correlates directly to the volume of production and therefore it is the absolute reduction in those volumes that really matters. At a system level, intensity has less utility as a metric because the revenue denominator is not comparable across the value-chain.
Fossil fuel production plans	The output targets for production of fossil fuels, measured in million barrels of oil equivalent per day (m boe/d) for the medium term e.g. through to 2027.

Fossil fuel expansion plans	Targets or plans to increase capacity or access to coal, oil or gas deposits. Capacity is a function of the total amount of fossil fuel 'reserves' the company has access or rights to. Reserves are characterised as either 1P (proven), 2P (probable) or 3P (unproven). 'Expansion' primarily relates to the intention of the fossil fuel company to begin production from 'new' reserves i.e. those that are currently untapped, as opposed to investments to maintain production from existing capacity. The intention to expand capacity can be expressed through company guidance and/or is evident in current and future capital expenditure allocated to expansion.
Targets and transition plans	The energy transition commitments (including to net zero) and targets (including interim emission targets) that a fossil fuel company may have in place, how it intends to achieve those targets and what transition scenario it is aligned to. A transition plan should set out the actions that will be taken towards transition, the timing of those actions and how they will be financed.
Investment in climate solutions	How much fossil fuel companies are investing in climate solutions, including clean energy capacity, energy efficiencies and related technologies.
Governance	The ways in which fossil fuel companies structure oversight and incentives for the energy transition, including: 1. ensuring board members have responsibility for and expertise in climate and transition issues, and 2. compensation incentives (director bonuses) linked to aligned (e.g. climate solution targets) and unaligned (e.g. fossil fuel expansion) activities.
Climate risks	Whether and how fossil fuel companies have modelled different climate scenarios, and how raised temperatures or energy transition would affect their future operations and assets. The assessment of these transition and physical risks under different climate scenarios – including the impact of a successful 1.5°C transition on the carrying value of assets, profitability, cash generation and ability to service obligations – should be reflected at an appropriate level of granularity in the company's financial statements and audit reports.
Lobbying	How fossil fuel companies seek to influence national and international policies relating to energy, either through direct lobbying, or membership of trade associations and whether that influence is in opposition to, or supportive of, transition.
Engagement	How fossil fuel companies engage with their suppliers and clients to influence and catalyse transition across the value-chain.
Disclosure	The level of disclosure from fossil fuel companies, including on emissions, carbon prices and level of alignment with existing frameworks (e.g. Task Force on Climate-Related Financial Disclosures or TCFD).
Just transition	Whether fossil fuel companies are integrating a 'just transition' into their business strategy. According to the UK's Transition Plan Taskforce definition, the just transition *"involves anticipating, assessing, and addressing the social risks and opportunities of the transition to a low-GHG emissions and climate-resilient development, as well as ensuring meaningful dialogue and participation for impacted groups (including workers, communities, supply chains, and consumers) in transition planning."*[107]

While all these metrics have relevance in considering the transition alignment of fossil fuel companies, we particularly focus on the following:

1. Production – planning to increase production through to the end of this decade is, in aggregate, inconsistent with both the IEA's NZE and APS scenarios. The IEA sets out the reduction in production required under these scenarios by 2030. While few fossil fuel companies indicate production targets through to 2030, indication of intent can be read in their current production trajectory and their plans for the next few years (typically to 2027).

2. Expansion – related to the point above, the IEA has been clear since 2021 that there is no need for further oil & gas exploration under the NZE scenario. In this scenario, falling demand means that no new long lead time conventional oil & gas projects should be approved for development. Investing in new fossil fuel capacity beyond this is not just betting on the failure of a 1.5°C-aligned transition, it is making that failure more likely.

3. Investment in diversifying revenues away from fossil fuel – as noted, there is some debate around whether some fossil fuel companies can plausibly play a role in a transitioned economy through diversifying into renewable generation capacity, other climate solutions or indeed any other products that have a place in a transitioned economy. Currently, fossil fuel companies are failing to seize the opportunity offered by exceptionally high levels of cash-flow generation to diversify their revenues.

4. Scope 3 targets – fossil fuel companies have obfuscated the central role that their product plays in the climate crisis by focusing disclosure and targets on scope 1 & 2 emissions. Reducing scope 1 & 2 emissions are indeed of material importance in contributing to transition, particularly methane emissions. But the magnitude of scope 3 emissions that result through the value chain from fossil fuel companies' products are far greater than the scope 1 & 2 emissions they generate in the process of extraction. Shouldering responsibility for the emissions that their products cause by setting scope 3 targets is a necessary signal of credible transition intent for a fossil fuel company.

As well as considering targets for *future* activity in these metrics, asset managers should also consider the *current* activity and *historical* trends in these metrics to provide context for, and assess the credibility of, company targets. Another factor that is important to consider, though less well disclosed and harder to quantify, is the lobbying activities of fossil fuel companies. This is especially pertinent when considering fossil fuel companies' track record of slowing progress on addressing climate change. Examining fossil fuel companies' current lobbying practices is an important reflection of their commitment to a timely transition. InfluenceMap's Scores provide a useful starting point for such assessment.

The role of debt vs equity

Funding a fossil fuel company through debt has a very different function to owning the company through equity. Debt financing is dynamic, because it has a maturity and so companies often come to debt investors to refinance debt, and sometimes increase access to debt capital. Access to debt finance has a direct impact on the cash availability of a company and affects its flexibility to make discretionary investments in its business. By contrast, shares in a company represent ownership, not funding. They carry different rights and risks.

Much of an asset manager's purchase of debt investments will occur in the primary market, where the transaction and the flow of capital occurs between the investor and the company.[xxii] By contrast, most buying of shares by an asset manager occurs in the secondary market, where the transaction and flow of capital is between two investors. The company is not involved. As a result, buying shares in the secondary market does not impact a company in the same way that buying (or funding) debt in the primary market does. Of course, there is also an active secondary market for debt and also a primary market for equity (though it is less active for large companies in mature sectors such as fossil fuel). But because debt matures, ongoing primary issuance is a necessary condition for secondary debt trading over the longer term.

Primary debt plays a more direct role in facilitating (maintaining or increasing the capacity for) a misaligned strategy and should be subject to a higher degree of restriction than secondary equity, as noted in some academic research.[xxiii] By conditioning the provision of debt on the adoption of an aligned strategy, asset managers can encourage fossil fuel companies to cooperate in, rather than to obstruct, the transition.

As well as having a higher impact, debt divestment or exclusion often has a lower opportunity cost than equity. The financial return on a portfolio of bonds with comparable ratings, currencies of denomination and maturities tend to be quite similar, unless the borrower has become financially stressed. The variation in potential returns on equities is typically much greater than for bonds – equity prices are more volatile than bond prices and exhibit higher dispersion. As a result, the opportunity cost of limiting the investable universe (by excluding participation in issuance of misaligned fossil fuel companies) is less for debt than it is for equity.

The intended use of the proceeds of primary market debt is also a relevant factor. When a company refinances existing debt – that is, uses the proceeds from the newly-issued debt to repay existing debt that is maturing or callable – it *maintains* its capital base (before considering other factors which will impact the capital base, such as organic cash flows, acquisitions or divestments etc). When that company is pursuing a misaligned strategy, investors participating in the refinancing are *maintaining* the company's ability to be misaligned. When a company raises incremental debt – that is, issuing new debt where the proceeds are not applied or ear-marked to repay existing debt – it *increases* its capital availability. When the company in question is pursuing a misaligned strategy, investors participating in the incremental debt are *increasing* the company's ability to be misaligned.

Trading debt in the secondary market has a similar effect to that of trading equity in the secondary market, in that it is an exchange between investors and doesn't involve the company. But to the extent that divesting debt drives the bond price down (and thus drives yields higher), that could have a more tangible impact on the cost of capital if the company needed to access primary debt markets around the same time. The impact on cost of capital would be direct, whereas the implied increase in cost of capital from a declining share price (as a result of divesting) would be indirect and less tangible.

While debt restrictions may have a greater effect than equity restrictions (reflected in the approach described as 'deny-debt, engage-equity'), there is still a place for the latter. Equity offers different, complementary engagement access and shareholder rights to debt. As we laid out in our recent

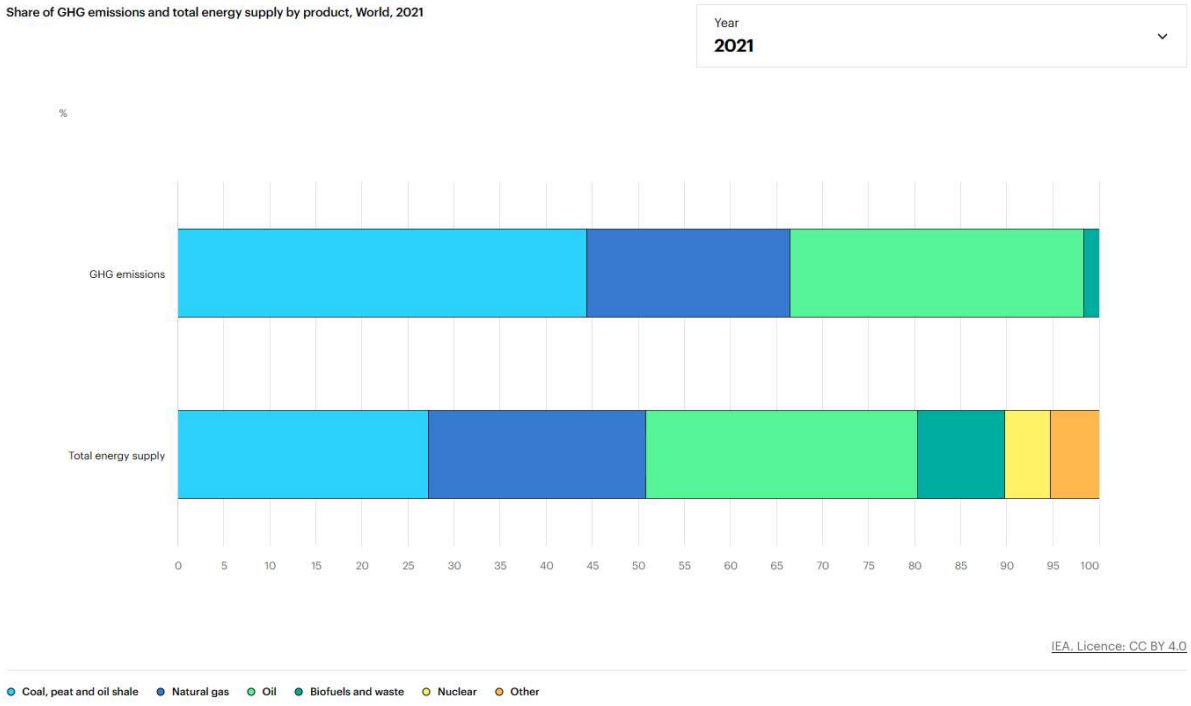
[xxii] The term 'primary market' refers to a company issuing new debt or equity capital and receiving the proceeds from investors, with an investment bank typically acting as an arranger or 'syndicator'; 'secondary market' refers to buying & selling bonds or shares between investors, including on listed exchanges or 'over the counter', with the proceeds going to the selling investor (not the company).

[xxiii] See for example Ellen Quigley's article: https://www.sciencedirect.com/science/article/pii/S2214629623003122

paper on escalation, engagement without the plausible presence of consequence can be ineffective.[108] Company boards are not indifferent to the identity of their shareholders (including a change from institutional to private), nor are they indifferent to the company's share price. There is a place for applying restrictions in equities as well as debt.

Fossil fuel type

Fossil fuels come in different forms and have different impacts on the environment. Coal is the most carbon-intense and thus environmentally damaging fossil fuel, generating more emissions in total than either oil or gas and is prioritised for phase-down as a result. The IEA shows that coal, peat and shale oil together provided 27% of the world's energy supply in 2021 but generated 44% of global emissions.[109] Gas provided almost as much energy (24% of total) but generated only half (22% of total) the emissions, meaning that coal, peat and shale oil are 75% more emission-intense (emissions generated per unit of energy produced) than gas on average. Oil accounted for 29% of the global energy supply and generated 32% of global emissions, meaning that coal, peat and shale oil are 50% more emission-intense than oil.



Source: IEA (2023).[110]

Different types of fossil fuel are found in different parts of the world and have different uses. For example, thermal coal is used in generating electricity, while metallurgical coal is used in steelmaking. Gas is used in electricity generation but is also used to heat buildings and in various industrial processes. Oil is used in transportation and as a chemical feedstock. Thus the different types of fossil fuel are not wholly interchangeable and as a result, transition pathways require a reduction in all three types simultaneously, not sequentially, though with coal phasing out at a materially faster rate than oil and gas.

It is worth noting that while gas is less emission-intense than coal or oil, it is still a significant generator of emissions. Like its fellow fossil fuels, the consumption of gas needs to reduce if we are to transition the global energy system, as the IEA's pathways clearly set out. Contrary to the language sometimes used (including by the producers of gas), gas is not a 'transition fuel' in the sense of being

exempt from transitioning the global energy supply away from fossil fuel. The reduction pathway for gas use by 2030 and beyond is similar to that of oil in the IEA pathways.

Within oil & gas, unconventional sources merit particular focus. Unconventional oil & gas is typically harder to access (for instance, in the Arctic, trapped in deep-rock formations or in deep-water) and thus projects often cause greater environmental destruction. Fracking (which primarily occurs in the US) requires more wells, with correspondingly more gas leaks (including methane). Tar sands include bitumen in its composition, which is particularly dense and makes the oil hard and carbon-intensive to extract and process. In addition, unconventional extraction can cause a variety of additional harms, such as:

- arctic drilling threatens the ecosystem of a region that plays a central role in moderating the earth's climate and is already heating faster than the planet overall; and
- unconventional oil & gas can cause social harm, for example by expanding into indigenous people's territories.

As a result, phasing down unconventional production and ceasing new extraction is of a higher priority relative to conventional sources – though as noted with gas above, all fossil fuel sources need to be reduced and replaced in transition.

Fund type

The mandate of the fund has implications for the type of investment restrictions that can or should be adopted. We think of fund type across two broad axes: passive-active and labelled-general.

Labelled versus general funds

A '1.5°C aligned' label is fairly precise, implying any constituents should already be credibly on the pathway to 1.5°C and therefore that any fossil fuel company planning to expand capacity or likely to grow production through 2030 should not be eligible. Eligibility for a 'Paris aligned' fund may be less clear as it could be interpreted as alignment with the *"well below 2°C"* goal of the original 2015 Paris Agreement, accommodating a lower ambition (something more akin to the APS scenario) - though a fossil fuel company planning to increase production into 2030 or expand capacity would still be incompatible.

Assessing fossil fuel investments appropriate for a fund with a more generic sustainable/RI/ESG label is less clear as a decarbonisation pathway is not prescribed. However, the label carries a clear implication – and reasonable expectation from clients whose capital is being invested through the fund – of investments that also meet a materially higher threshold of transition-alignment or credible transition ambition than for general funds. Therefore, we apply the same higher threshold to all forms of labelled funds.

It is also worth highlighting that labelled funds can be expected to play an active role in identifying and investing in 'leaders' in a sustainable transition, as well as avoiding laggards. It is not inconsistent for a labelled fund to invest in high-carbon companies, including fossil fuel companies, as long as they meet an appropriately demanding threshold of alignment. However, as we have outlined above, there are few options for such aligned investment across the fossil fuel sector today.

Importantly, while there should be a higher threshold for alignment in labelled funds, general funds should also apply robust investment and stewardship policies for the fossil fuel sector, given the risks to client financial interests that misaligned fossil fuel companies represent. Fossil fuel investment

policies should extend to general funds, even if the investment criteria are not framed identically to those of labelled funds.

Passive versus active funds

The other key distinction to draw in fund types is between active and passive. Passive funds will typically either replicate an index whose construction is outside the direct agency of the asset manager or set its own pre-determined rules for inclusion in a bespoke fund. Although this limits the ability to apply investment restrictions in these *existing* funds, the asset manager can engage index providers to explore the introduction of misalignment red lines and to strengthen qualifying criteria for labelled indices. Asset managers can also propose changes to the inclusion rules for existing bespoke funds designed by the asset manager itself.

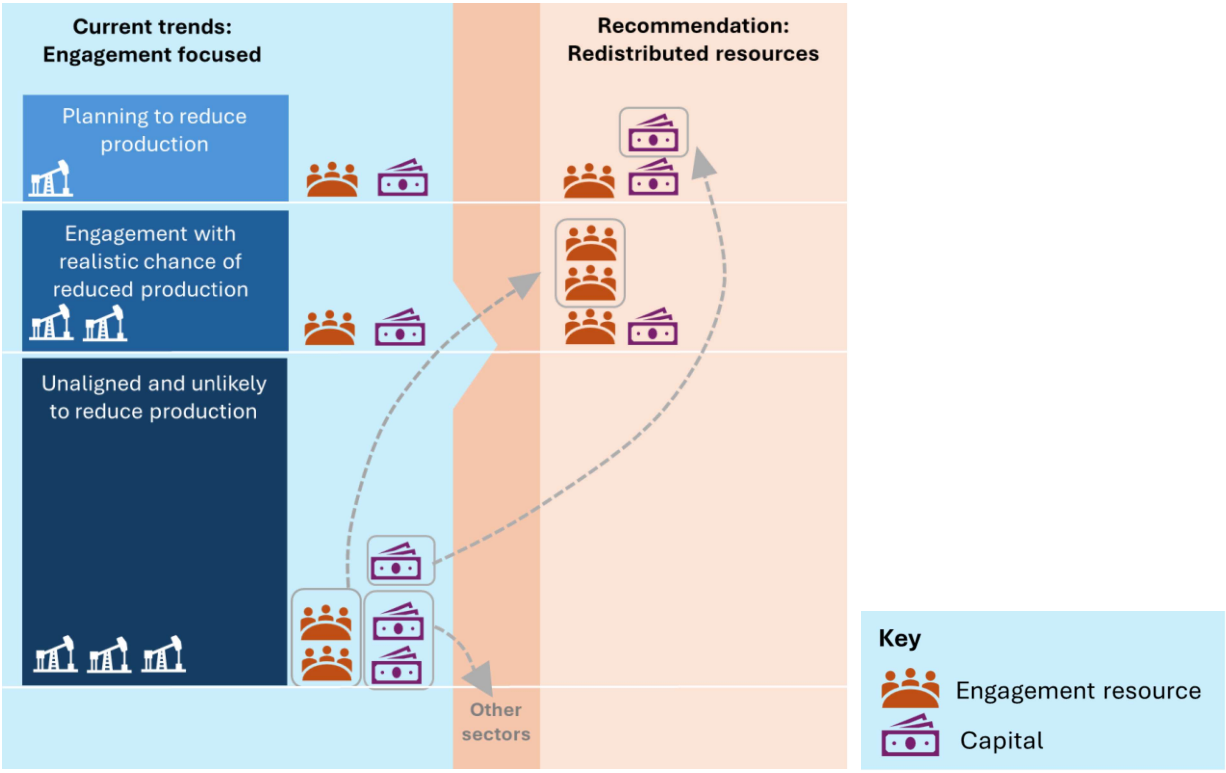
Asset managers can commit to apply aligned investment restrictions across all *new* products. They can actively create new products that mirror existing funds but with stronger alignment criteria, and encourage clients to migrate their capital into these funds. Asset managers can also consider, to the extent allowed in the fund documentation, setting a timeline over which unaligned legacy funds will be unwound or closed. This would create an additional prompt for existing investors in those funds to consider the environmental and financial risks posed by unaligned fossil fuel exposures and the merits of moving their capital into aligned products.

Constructing an effective fossil fuel policy

Fossil fuel policies should encompass three interlinked components, which we address in turn below:

1. capital allocation - how investments in the sector are determined;
2. engagement - how those investments are stewarded; and
3. disclosure - how clients, regulators and other stakeholders are informed about the risks and impacts of those investments and steps taken to mitigate them.

This graphic provides a simple illustration of how we envisage a more selective capital allocation approach combined with more targeted, robust engagement with those selected companies:



Source: ShareAction

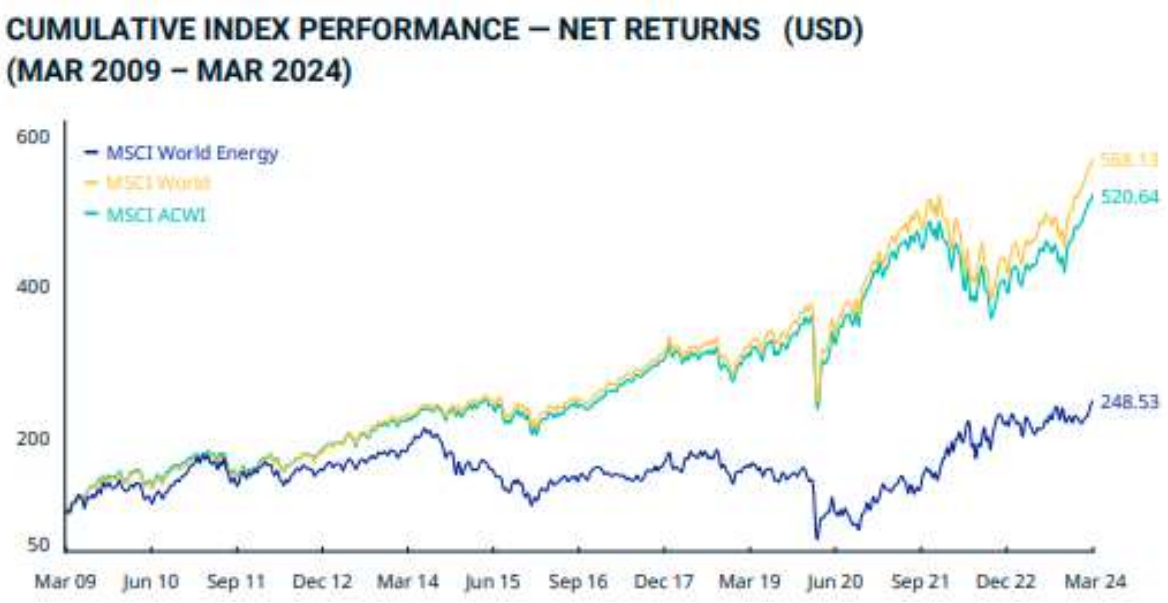
Capital allocation

The review of investment restrictions currently in place across asset managers show that while there has been some 'easy-wins', such as the adoption of restrictions in labelled funds and for coal, wider adoption of restrictions by asset managers is sparse. The somewhat polarised nature of the debate on fossil fuel companies and the role of investors in influencing their strategies has created a degree of stasis and contributed to the scarcity of extensive fossil fuel policies. We believe investment restrictions can be introduced that effectively catalyse greater transition-alignment from the fossil fuel sector.

We have set out in this paper the basis for asset managers taking a more purposeful, selective approach to how they are allocating capital to the fossil fuel sector. The growing financial risks presented by rising temperatures present an incentive for more robust action from asset managers. The magnitude of misalignment of the fossil fuel sectors' plans, and the potential for excessive fossil fuel production to stand in the way of transition, places the fossil fuel sector at the centre of the risks

posed by climate change to clients' capital. This financial risk diminishes the benefits to clients' interests from offering proportionally-weighted investment access to the fossil fuel sector as a default. The fossil fuel sector is fundamentally different to other sectors, and therefore requires a fundamentally different investment approach to protect the interests of clients.

The argument that asset managers would be penalising clients by not incorporating a proportional weighting to the fossil fuel sector seems underwhelming in the context of the long-standing underperformance of the sector. Returns from MSCI's World Energy Index have been less than half those of the (broad) MSCI World Index over the past 15 years. The risk characteristics of the energy sector are also unfavourable, with MSCI reporting materially higher volatility and lower Sharpe Ratios for its World Energy Index relative to the broader index.



Source: MSCI (2024).[111]

We are, of course, not making any predictions on the future performance of energy stocks or bonds. We claim no insight into whether the forces of mean-reversion, largely absent from the energy sector in the last decade or so, will reassert themselves (notwithstanding the vastly diminished role of fossil fuel in a transitioned future). But we are highlighting that the argument that asset managers need to provide proportional investment access to the sector because of the returns the sector might offer is neither well supported by recent history nor incorporates the risk that the sector's misalignment represents to longer-term economic health and financial interests.

The opportunity cost of choosing not to invest cannot be known in advance. However, the realised cost of divesting an existing exposure is knowable. We recognise that price has a relevance when considering whether to sell. It might be harder for an asset manager to justify realising a material loss (simplistically, selling at a lower price than the security was purchased) to mitigate longer-term risk to the portfolio overall. Asset managers therefore need to weigh up the security loss today against the expected future risk to the portfolio that selling will help mitigate. As a result, we have incorporated some 'acceptable loss' thresholds into our recommendations.

We sometimes hear that clients actively want exposure to the fossil fuel sector. Where that demand for exposure goes beyond the selective approach we are recommending, asset managers should consider whether such additional investments in the fossil fuel sector on behalf of those clients may conflict with the interests of other clients. Where accommodated, that capital should be managed in

discrete funds. The stated preference of some clients for material exposure to the fossil fuel sector should not be extrapolated to clients who have not stated such a preference by incorporating a proportional exposure to misaligned fossil fuel companies as a default position for general funds.

As discussed, the distinct role of fossil fuel in a climate context, together with its limited progress on transition alignment, having most to lose from transition and its history of lobbying are all relevant to how exposure to the sector overall should be sized. Allocation within the sector should involve actively cycling capital away from those companies most misaligned towards those showing relatively more progress. The potential for a combination of reduced exposure to the sector and more targeted allocation of that exposure has the potential to catalyse momentum towards aligning production to transition goal by the fossil fuel sector.

Our recommended approach to capital allocation to the fossil fuel sector therefore comprises a mixture of absolute 'red line' restrictions in some cases and active recycling of remaining exposure from laggards to leaders (relative restrictions) in other cases.

To determine whether a restriction should be absolute or relative, we consider the following factors:

- Asset class: debt or equity – debt is the funding 'lifeblood' of the company and can play a direct role in facilitating or sustaining a misaligned strategy.
- Market: primary or secondary – primary transactions involve capital going from investor to company and therefore has an immediate relevance to facilitating a misaligned strategy, where secondary transactions see capital flowing from one investor to another and therefore have a less direct influence on the company's strategy.
- Fund type: transition-specific (1.5°C/Paris-aligned), RI/sustainability-labelled, or general – the mandate, stated strategy and reasonable client expectations of a fund shape the suitability of investment decisions, with clients in labelled funds reasonably expecting a high qualifying threshold for the fossil fuel sector.
- Fossil fuel type: coal, unconventional oil & gas or conventional oil & gas – coal is materially more emission-intense and therefore a priority for reduction, while unconventional oil & gas has broader negative environmental and social impacts which warrant accelerated reduction compared to conventional oil & gas.
- Alignment: the absolute and relative (to peers) alignment of the company's strategy – the more a fossil fuel company is expanding or planning to increase production, the more it is a risk to the transition of the global economy.

The ability to apply investment restrictions is more constrained for passive funds and so our recommendations on capital allocation primarily apply to active funds. However, as noted earlier, passive funds still can shape capital allocation to incentivise transition-alignment in the fossil fuel sector, through creating aligned products and encouraging clients to move funds into them. Asset managers can also engage with index providers to explore the application of misalignment thresholds and to strengthen the qualifying criteria for and enhance the profile of transition-aligned (or similarly branded) indices.

Finally, we recognise that introducing a more selective approach to investing in the fossil fuel sector is not something that can be implemented 'overnight'. It will take time to explain to stakeholders (clients, employees, shareholders, regulators) and to implement with limited performance drag. But asset managers can announce the *intention* to adopt a more selective investment approach, while

executing that more selective approach over a reasonable timeframe. Indeed, announcing the intention may convey a sufficiently strong signal to fossil fuel companies to accelerate transition planning that the need to reduce exposure could be lessened.

Investment Policies for Coal

Coal phase-out is prioritised in all IEA transition scenarios, reflecting its higher emission intensity. Therefore our recommendations reflect strict investment restrictions on coal expansion, which represents a higher threat to successful transition and is therefore most likely to conflict with clients' financial interests and non-financial preferences. The provision of funding to a coal expander is actively facilitating that company's misaligned strategy and as a result, we recommend a full restriction of participation in primary debt (including refinancing) and primary equity capital raises across all active funds (both labelled and general). We reference Urgewald's Global Coal Exit List (GCEL)[112] to identify whether a coal extractor should be considered an expander.

Secondary-market exposure in coal expanders does not directly enable continued misalignment in the same way as participating in primary transactions. Nevertheless, linking secondary-market exposure to alignment brings consequence to expectation-setting and engagement with coal companies. It signals impatience for engagement without reasonable progress. Partially or fully divesting from misaligned coal companies emphasises the environmental and economic risks that coal presents and reduces clients' exposure to those risks. If selling ripples across investors such that security prices are affected, the impact on cost of capital and executive remuneration can incentivise the company to respond more constructively.

Therefore, we see a place for strong restrictions on secondary-market exposure, including selling down positions where an 'unacceptable' loss is not being incurred. Simplistically that could be thought of as selling above par for bonds (recognising that this doesn't reflect the impact of movements in the underlying interest rate on bond prices or of relative yield) and above purchase price for equity (this could be adapted, for instance to capture performance relative to a benchmark over a defined timeframe). [xxiv]

Not expanding coal capacity or production is a necessary but not sufficient condition to being aligned – investment decisions on coal companies should also reflect the need to phase-out coal on an accelerated timeline. There is an important regional aspect to this phase-out of coal. As noted, more than 80% of coal production is from EMDEs, where coal fleets tend to be newer. Both the IEA's NZE and recommendations from the UN[113] (based on research from Climate Analytics[114]) identify the need for a faster phase-out in OECD/advanced economies. The UN calls for thermal coal facilities to be phased-out by 2030 in OECD countries and by 2040 in the rest of the world. The IEA's NZE sees production falling by 74% (to 266mtce) by 2030 (from 2022 levels) in advanced economies and by 38% in EMDEs.[115] While recognising that the reduction pathway through 2030 is not intended to be linear, this implies annual reductions in the order of 9% and 5% respectively.

The regional distinction, non-linearity and year-on-year 'noise' complicate setting restrictions based on annual production volumes. As a result, we have not included production criteria explicitly in our investment framework. But we would encourage the addition of restrictions based on minimum annual reduction thresholds that incorporate: regional distinction (blended targets based on

[xxiv] 'par' refers to the face value or notional value of the debt instrument that the company will repay to the debt investor. Selling a bond above par, or 100% of face value, means receiving proceeds from the buyer that exceed the proceeds that would be paid by the borrower at redemption date. It is therefore an approximation of a 'profitable' sale.

production split); non-linearity (calibrating a reasonable phasing of annual reduction to achieve the 2030 goals) and; year-on-year volatility (which could be 'smoothed' by taking an averaging approach e.g. over 2-3 years).

We also recommend the adoption of an over-arching phase-out commitment of portfolio exposure to coal producers to match the UN's guidance. Phase-out should naturally come from the reduction of coal revenues of aligned coal producers over time, but investors should be exiting coal companies which are not reasonably aligning production, otherwise their overall exposure may fail to correspond organically to the phase-out timelines.

THERMAL COAL	**Base case - total restriction if:** • The company is expanding capacity (per Urgewald's GCEL)	
Fund	**Additional metrics or exceptions below**	**Rationale**
	Primary debt	
Labelled funds	Base case	1, 2, 3
General	Base case	2, 3
	Secondary-market debt	
Labelled funds	Base case	1,2
General	Sell existing exposure: - if base case breached; and - price is above par	2 4
	Primary equity	
Labelled funds	Base case	1, 2, 3
General	Base case	2, 3
	Secondary-market equity	
Labelled funds	Base case	1, 2
General	Sell existing exposure: - if base case breached; and - subject to acceptable loss threshold*	2 4

**'acceptable loss' threshold set by asset manager reflecting impact of sale on total portfolio performance with reference to either (absolute or relative) purchase price or historic (e.g. one year) mark-to-market*

Rationale Key (Coal)

1	Expansion is misaligned with 1.5°C and goes against the letter/spirit of the fund label
2	Puts transition at risk, with potential adverse long term economic and financial effects
3	Primary debt/equity supports misalignment of strategy including expansion investment
4	Incurring material losses from selling could breach fiduciary duty

Investment Policies for Oil & Gas

The approach to constructing investment restrictions for oil & gas companies inherits much of the same underlying logic as for coal restrictions, but with a recognition that the necessary reduction trajectory of production is less steep.

There is also the question of contingency. If renewable capacity and/or energy efficiencies are insufficient to meet the IEA's NZE scenario, should residual energy demand be unmet (i.e. fossil fuel production is phased down in line with the NZE regardless) or should fossil fuel companies over-produce (against the NZE scenario) to meet demand? The losers in both cases are more likely to be the less economically empowered, whether countries, communities or individuals. As the NZAOA put it: *"Failing to equitably allocate the costs of decarbonisation risks impacting low-income populations disproportionately—just as these same populations have long been disproportionately harmed by the pollution and other externalised costs of the world's reliance on oil and gas."*[116] Different stakeholders will have different opinions on how that trade-off should be calibrated – and therefore how much contingency fossil fuel companies incorporate into their planning.

Nevertheless, there is a clear difference between planning for a 1.5°C transition scenario with some contingency flexibility and planning for a non-transition or limited-transition scenario. The scale of misalignment is clear and the environmental and financial risks represented by that misalignment is becoming increasingly recognised.

Like coal, unconventional oil & gas activities should be subject to a higher priority of constraint and reduction, although the reasons are slightly different – unconventional oil & gas is not always more emission-intense than conventional (though scope 1 & 2 emissions tend to be higher for harder-to-access resource and methane leakage is a particular issue for fracking), but it incurs broader environmental damage (threatening natural eco-systems such as the Arctic) and social harms (incursion into indigenous territories). As a result, our recommendations for unconventional oil & gas production approximate to those for coal. We recognise that there is a regional lens to unconventional oil & gas production – for instance with shale extraction primarily occurring in the US and Arctic drilling from contiguous countries – which can prompt some local, politicised sensitivities.

Most oil & gas companies are engaged in a mixture of conventional and unconventional production and expansion. Ownership and funding is mostly at the company level and therefore investment policies cannot easily isolate unconventional activity within a company that does both. As a result, we suggest categorising oil & gas companies as either conventional or unconventional according to the proportion of unconventional activity they are undertaking. According to Urgewald data, 35.5% of production in 2022 was unconventional. We define an oil & gas company as 'unconventional' if its production of unconventional oil & gas exceeded 35.5% of its total oil & gas production in 2022, or if unconventional oil & gas is more than 35.5% of its total oil & gas expansion investment, based on the definition used in Urgewald's GOGEL database.

As with coal, we place expansion as a core investment criterion for oil & gas, and refer to the relevant metric in Urgewald's GOGEL. But we also assess the alignment of future production plans. This assessment is complicated by oil & gas company projections only extending as far as 2027 in most cases, so some interpretation is required to compare projections to the IEA's 2030 milestones. A linear interpolation of the NZE would imply an annual reduction in oil & gas production of circa 2.5% per year from 2022-2030 and a total reduction of circa 12% by 2027. However, the NZE pathway is not linear – demand peaks around the middle of the decade under the NZE before the reduction starts and then accelerates into the end of the decade. That implies that 2027 production should be

around the same level as, or a little below, 2022 levels. We introduce an investment criterion that corresponds to this.

The absence of projections out to 2030 highlights an important point – fossil fuel companies do not yet have sufficiently detailed or credible transition plans. Transition planning is an essential precursor to transition execution and transition plans are a necessary condition for transition alignment. In order to be credible, transition plans should include 2030 targets that are aligned to the 1.5°C goal (including not expanding capacity or increasing production), supported by granular detail of the operational steps and the anticipated funding to deliver the plan, together with the underlying assumptions. As discussed, the primary emphasis for a fossil fuel company is that they are 'transitioning away' from fossil fuel rather than what they are 'transitioning to'. Credible transition plans should be a core engagement focus for asset managers with the fossil fuel sector.

As before, we recommend stronger restrictions for primary-market investments and for labelled funds (where clients could reasonably expect holdings to be in companies that accord with sustainable and transition goals). Our framework accommodates limited scope to participate in primary debt of some conventional oil & gas expanders where an asset manager believes that excluding all exposure to the sector is inconsistent with fiduciary duty, particularly in cases where the debt offers a material spread-premium to similarly-rated bonds in other sectors. We calibrate this exception as applying only to conventional oil & gas companies which are:

- in the top 20% of alignment (least misaligned) in the sector with reference to GOGEL's expansion overshoot and exploration capex metrics[xxv]; and
- 2027 production guidance is not more than 3% above 2022 production.

For secondary-market debt exposure, we set a slightly higher tolerance compared to primary-market investments (thresholds set to top-30% in GOGEL overshoot and <5% production increase in 2027) before existing exposure should be sold. Selling is again subject to an 'acceptable loss' threshold (using par as a simple benchmark, though we recognise some asset managers may argue for a more nuanced measure of relative performance). Adding exposure in secondary-market debt would be subject to the primary market exception threshold and funded by selling exposure to a less aligned peer.

For secondary-market equity exposure, we increase the tolerance again, to reflect the engagement potential and broader escalation levers, to top-40% of GOGEL and <8% 2027 production.

These thresholds are not an exact science or derived from specific research. Rather they represent what we view as a reasonable *minimum level* of stringency to be applied to investing in the fossil fuel sector to reflect the risks posed by their misaligned strategies to the transition of the global economy.

These exceptions only apply to general funds. Investors in labelled funds can reasonably expect portfolio companies to meet basic standards of alignment, namely no investment in expansion or plans to grow production.

[xxv] An assessment of the relative misalignment of capex should encompass both overshoot of short-term expansion plans (assets in field evaluation and under development which are intended to generate production in the near term) and the total exploration capex (which relates to exploration for new, long-term resources). As noted above, 60% of short-term expansion plans are inconsistent with the NZE, while all exploration capex is inconsistent.

Moreover, many clients in general funds have non-financial preferences in addition to their financial interests – incorporating these preferences would imply a stricter calibration of thresholds. As noted above, asset managers should clearly establish what each clients' non-financial preferences are, so that they can be robustly incorporated. Some investors understandably believe the opportunity for persuading fossil fuel companies to align has already passed, and thus increase the emphasis on stronger investment restrictions rather than failing engagement strategies.

Finally, transition is not static. The carbon budget means that what is being done today is as important as reaching the point-in-time target at some date in the future. As a result, the calibration of thresholds for investment restrictions should increase over time, particularly where those fossil fuel companies invested in remain unresponsive to engagement. It is important to remember that any expansion or plans to increase production through 2030 are inconsistent with climate science, represented under the NZE. The investment approach should converge with this consideration over time in the protection of client interest.

OIL & GAS CON = conventional* UNCON = unconventional*	**Base case - total restriction if:** • any expansion overshoot or exploration capex (per Urgewald data), or • 2027 production planned to be any higher than 2022 levels (company disclosures)	
Fund	**Additional metrics or exceptions below**	**Rationale**
	Primary debt	
Labelled funds	Base case (CON & UNCON)	1, 2, 3
General	Base case (UNCON) Base case (CON), except if: - In 20% least misaligned per GOGEL expansion overshoot and exploration capex; and - 2027 production plan <3% above 2022	2, 3 2, 3 5
	Secondary-market debt	
Labelled funds	Base case (CON & UNCON)	1, 2
General	Sell existing exposure (UNCON) if: - base case breached; and - price is above par Sell existing exposure (CON) if: - base case breached; and - price is above par Except if: - In 30% least misaligned per GOGEL expansion overshoot and exploration capex; and - 2027 production plan <5% above 2022	 2 4 2 4 5
	Primary equity	
Labelled funds	Base case (CON & UNCON)	1, 2, 3
General	Base case (CON & UNCON)	2, 3
	Secondary-market equity	
Labelled funds	Base case (CON & UNCON)	1, 2
General	Sell existing exposure (UNCON): - if base case breached; and - subject to acceptable loss threshold** Sell existing exposure (CON): - if base case breached; and - subject to acceptable loss threshold** Except if: - In 40% least misaligned per GOGEL expansion overshoot and exploration capex; and - 2027 production plan <8% above 2022	 2 4 2 4 5

**company categorised as 'unconventional' if more than 35.5% of its total oil & gas production in 2022 was from unconventional sources or if unconventional represents more than 35.5% of total expansion, based on GOGEL data; otherwise categorised as 'conventional'*

***'acceptable loss' threshold set by asset manager reflecting impact of sale on total portfolio performance with reference to either (absolute or relative) purchase price or historic (e.g. one year) mark-to-market*

Rationale Key (Oil & Gas)

1	Expansion is misaligned with 1.5°C and goes against the letter/spirit of the fund label
2	Puts transition at risk, with potential adverse long term economic and financial effects

3	Primary debt/equity supports misalignment of strategy including expansion investment
4	Incurring material losses from selling could breach fiduciary duty
5	Allocate exposure to the least misaligned companies

Engagement

It is critical that asset managers maximise the influence of their voice through robust engagement with the fossil fuel companies to which they remain exposed, following the more directed approach to capital allocation outlined above. Rotating capital away from a significant portion (the least aligned) of the sector brings force to purposeful engagement with the smaller group of portfolio companies. This more directed approach also consolidates stewardship resources into those engagements, increasing the potential for them to be impactful and contribute to system-change.

Our recommendations for engagement with the fossil fuel sector draw on our recent RISE Guidance Paper #2,[117] which suggested setting sector level expectations and timebound milestones, and the use of the escalation toolkit to add impetus to engagement on systemic issues. As fossil fuel companies have the most to lose from transition, they require the most vigorous application of asset manager influence, including recourse to the escalation toolkit. The fossil fuel sector's history of obfuscation and reluctance to align to transition suggests that timelines for escalation should be accelerated, relative to other sectors.

Engagement with fossil fuel companies should encompass a holistic scope, covering the reduction of production, allocation of capital expenditure, emission targets (scope 1 & 2 and scope 3), the production of a transition plan and lobbying. They should also encompass the incentive structures for management, which in many cases currently encourage misaligned growth in fossil fuel production.[118]

In **preparing** for effective engagement of fossil fuel companies, asset managers should:

- *Determine the principles on which engagement will be based, including:*
    - the specific transition scenario and pathway that the asset manager expects the sector to align to;
    - the required change in production volumes for each fossil fuel type (coal, oil, gas) out to 2030 and beyond to 2050, with regional variations where specified in the pathway (for instance, the different production trajectories for coal in advanced economies vs EMDEs in the IEA scenarios); and
    - whether existing capacity (currently producing fossil fuel assets and projects approved before the end of 2021) is sufficient to meet fossil fuel demand in that scenario.
- *Convert those principles into clearly articulated sectoral expectations that correspond to that scenario, incorporating the following:*

Expectation categories			
Transition plan	Transition plan for phasing down the production of fossil fuels, supported by detailed disclosure on operational implementation, and anticipated financing of the plan, evaluated by a reputable organisation or framework.	Disclosure of assumptions behind the transition plan, including: reliance on emission-mitigation technologies such as CCUS; assumptions for transition-cost; competitive landscape for targeted transitioned products; technological feasibility and; sensitivity analysis for capital access.	Commitment to principles of a just transition, including commitments to provide or facilitate re-training opportunities for employees.
Production targets	Targets for reducing production through 2030 and beyond to 2050, aligned with the pathway.	Prioritising phase-down of the most damaging fossil fuels (coal & then unconventional oil & gas).	Progress towards achieving targets over time.
Emissions targets	Scope 1 & 2 absolute emissions reduction targets aligned to the transition scenario for 2030 and beyond to 2050.	Specific emission reduction targets aligned to the transition scenario for the most relevant GHGs, including methane and CO_2.	Targets for scope 3 emissions reductions aligned to the transition scenario for 2030 and beyond to 2050.
Capex	Reducing projected fossil fuel capex in alignment with guidance from the IEA, which includes no expansion capex in the NZE or APS scenarios.	Targets for capex in renewable capacity & climate solutions.	
Disclosure	Breakdown of production volumes, scope 1 & 2 and scope 3 emissions, capex breakdown including: fossil fuel expansion; fossil fuel maintenance and; climate solutions (broken out by solution-type).	Progress on the transition strategy, challenges encountered and any changes to assumptions.	Climate policy positions, lobbying activities and membership of (and role in) trade associations.
Risk analysis	Analysis of impacts on asset valuations under various transition scenarios, including stranded asset risk and decommissioning costs and the mitigation strategy.		
Lobbying	Alignment of lobbying practices with the transition scenario.	Monitoring and assessment of alignment of lobbying, identification of lobbying risks and potential conflicts of interest and process to address these.	

- *Prioritise fossil fuel companies for engagement*: based on a realistic, objective assessment of the feasibility of influencing the company into alignment with the asset manager's

expectations over a reasonable timeframe (including prior history of, and receptiveness to, engagement).

- *Set clearly articulated time-bound milestones:* that enable the implementation of expectations for every company being prioritised for engagement, informing the company of the intended consequences (application and timing of escalation levers) if milestones are missed.

When **undertaking** effective engagement of fossil fuel companies, asset managers should:

- *Apply the escalation levers if milestones are missed and sequentially increase the intensity of those levers, including:*
    - meetings with the board;
    - public letters and statements;
    - filing and supporting aligned shareholder resolutions;
    - voting against standing items including: against remuneration policies if incentives are not structured to support transition; against the audit if climate risks are not appropriately incorporated and; against directors if the company is failing to react to the transition expectation, is failing to disclose its lobbying practices adequately or is lobbying in a manner that fails to align with transition principles; [xxvi]
    - litigation; and
    - capital allocation levers such as partial divestment (ultimately moving to full divestment/exclusion and the end of engagement if expectations continue to be unmet).

  Asset managers should inform companies where escalation tools have been used and provide the reason – including votes for a shareholder resolution or against standing items and partial or full divestment (together with detailing the conditions upon which reinvestment would be considered).

- *Consider the efficacy of making the use of escalation tools public:*
    - For instance, pre-declaring on voting, publishing letters to the board or announcing when divestment actions have been taken.

- *Participate in collaborative forums (subject to regulatory limitations) to*:
    - socialise understanding of shared systemic risks and their implications for the fossil fuel sector;
    - share and align engagement asks (increasing efficiency for the company as investors coalesce their expectations); and
    - both lead and support asset managers in engaging with fossil fuel companies.

- *Engage with policy makers, nationally and internationally*:

[xxvi] Reclaim Finance has published recommendations for voting against standing items at six fossil fuel companies in 2024: https://reclaimfinance.org/site/en/2024/04/09/agms-2024-time-to-oppose-oil-and-gas-expansion-through-votes/

- governments and regulators are of vital importance in setting the rules to underpin the transition to net zero. Engagement with policy makers is particularly important in the context of the recent 'ESG backlash' and the intensive lobbying of policy makers by the fossil fuel industry; and
- collaborative forums may be a particularly effective way for asset managers to coordinate and reinforce asks of policy makers.

We also recommend referring to reports on strengthening stewardship approaches in pursuit of the 1.5°C goal including:

- IIGCC's Net Zero Stewardship Toolkit report[119] which sets out a framework for stewardship to accelerate progress to net zero. The framework incorporates: setting net zero alignment criteria; time bound company level objectives and a corresponding 'milestone staircase'; prioritising companies for engagement; the use of applicable escalation levers; adopting a net zero voting policy; disclosure; and interaction with clients on net zero strategy and goals.

- Reclaim Finance's guide on Climate Stewardship[120], which recommends strengthening the effectiveness of engagement through increased transparency on engagement and voting (policies and track record); setting and disclosing time-bound sectoral expectations (communicated to the company); prioritising core demands for alignment with 1.5°C; implementing an escalation strategy which systematically increases intensity; and using the full toolbox of influence.

While neither report is specific to the fossil fuel sector, the frameworks and recommendations are directly applicable to it.

Finally, effective engagement is intensive and needs to be appropriately resourced. As we outlined in our RISE Guidance #2 paper, appropriate resourcing incorporates ensuring sufficient capacity, expertise, oversight and integration into investment processes.

Disclosure

Improving the granularity of public disclosure of how asset managers are investing in and stewarding fossil fuel companies would have a variety of benefits:

- Clients could better assess how well their long-term financial interests and non-financial preferences are being reflected in asset managers' approaches to the fossil fuel sector, including understanding the environmental impacts associated with their capital, the long-term financial risks of the investment and stewarding approach and the alignment with their transition objectives.

- Fossil fuel companies will likely be more responsive to asset manager expectations when the consequences of not meeting these expectations are made clear. Better visibility on the effects their strategic decisions will have on their relationship with investors and access to their capital will lead to a stronger disciplinary stewarding potential.

- Governments, policy makers and regulators can make more informed decisions on whether their stakeholders' interests are being appropriately protected through current investments in fossil fuel companies. This includes facilitating an assessment of whether fossil fuel companies can realistically be cooperators in transitioning the global economy, or whether alternative plans need to be made to replace their expertise in supplying energy, to adapt to

potential volatility in the supply of energy, to mitigate the risks of destabilising over-supply of fossil fuel and re-employ the fossil fuel work-force.

- Generating a more informed public debate on the practical efficacy (rather than theory) of strategies to bring fossil fuel companies into cooperation with achieving the transition of the global economy and encourage convergence on the most effective strategies.

Asset manager disclosure should cover four areas:

1. Principles:

    a. State the principles of the investment and stewardship policy relating to fossil fuel companies, including the transition scenario it is predicated on that fossil fuel companies will be expected to align with.

    This paper sets out why ShareAction firmly believes that the policy should be predicated on the 1.5°C transition scenario, for both environmental and financial reasons, which the IEA and others state is still achievable.

    However, this paper and its recommendations are still relevant to asset managers who believe targeting 1.5°C is undesirable or unachievable. Those asset managers should clearly outline the transition scenario their investment and stewardship approach is predicated on, and outline the rationale for adopting that alternative scenario, including a credible assessment of the long-term financial risks to client assets compared to 1.5°C.

    b. Detail the expected production (split by oil, gas and coal) and scope 3 absolute emissions pathway that portfolio fossil fuel companies are expected to align to, upon which engagement and capital allocation decisions will be benchmarked.

    c. Disclose how the asset manager approaches weighing-up risks to long-term beta over opportunities in short-term alpha when considering fossil fuel investments.

2. Investment:

    a. Disclose the aggregate exposure to fossil fuel companies, split by debt and equity;

    b. Disclose the gross and net rotation of exposure in the sector (split by debt and equity) and the gross total amount of primary debt finance participated in over the reporting period;

    c. Disclose the absolute scope 1 & 2 emissions and (separately) scope 3 emissions associated with the total fossil fuel exposure and the expected 2030 absolute scope 1 & 2 emissions and (separately) scope 3 emissions from the current exposure; and

    d. Identify the largest three debt and equity exposures and related emissions in the portfolio, together with the change in both from the prior reporting period.

3. Engagement:

    a. Disclose the sector-level expectations upon which engagement with fossil fuel companies will be based, with time-bound milestones to achieve these expectations, including: milestones for production alignment; interim scope 1 &2 and scope 3 targets; and capex for clean capacity or climate solutions.

b. Disclose the list of priority fossil fuel company engagement targets, the rationale for their selection and whether engagement will be bi-lateral, collaborative or both.

c. Disclose the number of fossil fuel companies in each category of the escalation toolkit at the end of the reporting period and the outcomes of escalation levers applied during the reporting period (the number of successful escalations; the number of unsuccessful escalations but remaining on the escalation pathway; the number of unsuccessful escalations exiting the pathway via divestment).

d. Disclose all votes against standing items at fossil fuel companies, with rationale.

e. Disclose all votes on all shareholder resolutions with a detailed rationale (going beyond simple labels such as 'too prescriptive' or 'poorly worded') for votes against the resolution and outline efforts made to engage with the resolution filers to amend the wording of the resolution.

4. Affiliation:

- Publish a climate lobbying policy including the underlying principles that guide the asset manager's own lobbying activities in relation to climate and the fossil fuel sector, and how they monitor, coordinate and assess the impact of their lobbying.
- Report on direct climate policy activity and engagement, including a review of how it aligns with delivering 1.5°C, with evidence and case studies where possible.
- Disclose the asset manager's membership of all fossil fuel relevant trade organisations including those that lobby against legislation promoting 1.5°C alignment, with evidence of activities and case studies where possible.

Conclusion

The question of how asset managers can most effectively influence fossil fuel companies away from their narrow self-interest is complex and difficult trade-offs need to be made. Complexities include weighing the protection of long-term beta (the overall cost to the economy and to financial markets of an inadequate transition) against opportunities for short-term alpha (from owning fossil fuel securities in the hope of outperforming the market). They include decisions on how consequence (including divestment) should be applied when engagement with fossil fuel companies is proving ineffective. There are trade-offs required in steering to a system-level outcome through individual investment or divestment decisions and engagement actions. Whether fossil fuel companies can reinvent themselves within a transitioned economy (for instance, as owners of renewable energy capacity) is a matter of some debate. Reducing fossil fuel supply on a transition-aligned pathway is contingent on the creation of equivalent renewable capacity (together with gains in energy efficiencies) if demand is to be met.

These complexities are daunting. But the stakes are too high, for society and for the financial system, for complexity to stand in the way of clear-eyed progress. Asset managers and their clients have significant potential influence over the strategies of fossil fuel companies. The growing financial case for limiting temperature rises strengthens the obligation to use that influence by proactively aligning investment and engagement strategies to support the transition away from fossil fuels.

The fossil fuel sector is a special case within investment and stewardship. Because the sector has the most to lose from transition and could hinder transition, different rules apply. Uncritical funding of and investment in the sector and engagement without consequence create a licence for the sector to undermine transition. Asset managers should adopt a more directed approach to investing in fossil fuel companies and a more purposeful use of stewardship levers in their clients' long-term financial interests.

Appendix 1 – Resolutions at fossil fuel companies

Below, we have assessed three key shareholder resolutions at oil and gas companies in 2023, all of which were flagged by CA100+.

	TotalEnergies SE	Glencore	ExxonMobil Corp
	Resolution A, 2023[121]	**Resolution 19, 2023**[122]	**Item 8, 2023**[123]
Resolution ask	To align its existing 2030 reduction targets covering scope 3 GHG emissions from the use of its energy products with the goal of the Paris Climate Agreement.	Asked that the Climate Action Transition Plan be presented for a vote at the 2024 AGM including: a) Disclosure of how projected thermal coal production aligns with the Paris Agreement; b) How capex allocated to thermal coal will align with disclosure in a); c) The extent of any inconsistency between the disclosure in a) & IEA NZE scenario timelines for coal phase-out.	Issue a report analysing the reliability of its methane emissions disclosures: • Made public; and • Summarise outcome of efforts to directly measure methane emissions using recognised frameworks, and whether outcomes suggest a need to alter actions to achieve its climate targets.
For / Against	30.4% / 69.6%[124]	29.2% / 70.8%[125]	36.4% / 63.6%[126]
Recommendations from proxy advisers	ISS: For Glass Lewis: Against	ISS: For Glass Lewis: For	ISS: For Glass Lewis: For
Support from: • **CA100+ members*** • **ShareAction's Voting Matters** • **'Big four' asset managers**	• 49% • 30% • All against	• 65% • 29% • 3 against, 1 for	• 75% • 36% • 3 against, 1 for
Action/Disclosure basis	Action	Disclosure	Disclosure
Context	- The strategy to achieve the aligned targets was to be up to the Board to develop. - Company had existing scope 3 targets, but resolution filers assessed these to be only in line with the IEA APS scenario, not NZE. - Its scope 3 2030 targets were also in the single digits, clearly unaligned to the decline required to meet the NZE scenario.	- In 2021 Glencore committed to align targets & commitments to the Paris Agreement - This would require a transition plan for thermal coal - however since then new expansion has been announced - ACCR assessed that forecast coal emissions were not aligned to NZE[149] - No strategy had yet been indicated to meet emissions targets re: coal.	- Committed to reduce methane emissions in alignment with Global Methane Pledge, but doesn't report emissions or set targets using direct methane measurements - Currently largely uses estimates - direct measurement accounts for 15% of total production - Targets cover only 45% total production. - Not aligned with Oil & Gas Methane Partnership 2.0.
Is it prescriptive?	Consultative only, not binding.	Focusing on disclosure, and therefore should not be seen as prescriptive.	Focusing on disclosure, and ask is to align with competitors, so should not be seen as prescriptive.
Is there economic merit?	Climate change is of direct economic relevance to	Thermal coal strategy is material to Glencore's	Specific risks: Key competitors have adopted more robust

	upstream oil & gas companies and to investors.	business. Disclosure would allow fuller assessment of strategy by investors.	methane reporting and the company is facing fines for methane leaks.
Follow up?	TotalEnergies has not made any changes to its scope 3 targets.	Glencore has not provided further detail on the role of thermal coal in transition plans.	Although this resolution did not receive majority support, ExxonMobil did join the OGMP2.0 in Nov 2023.
Notable votes *against* standing items at 2023 AGM (5%+ against)	• R6 – Director renewal: 16% • R7 – Director renewal: 9% • R10 – Approval of EDs & NEDs comp: 6% • R12 – Approval of CEO 2022 comp: 9% • R13 – Approval of CEO comp policy: 7% R14 – Opinion on climate progress report: 11%	• R3: Director renewal: 11% • R5: Director renewal: 5% • R13: Approve climate report: 30% • R15: Renew article 10.2 authority: 6% • R16: Renew article 10.3 authority: 11% R17: Empower directors re: article 10.3: 12%	• R1: Director elections – three nominees received 5%+ votes against • R3: Approve exec comp: 10% • *Additionally, there were 12 shareholder proposals put forth, the majority of which were on ESG issues.*

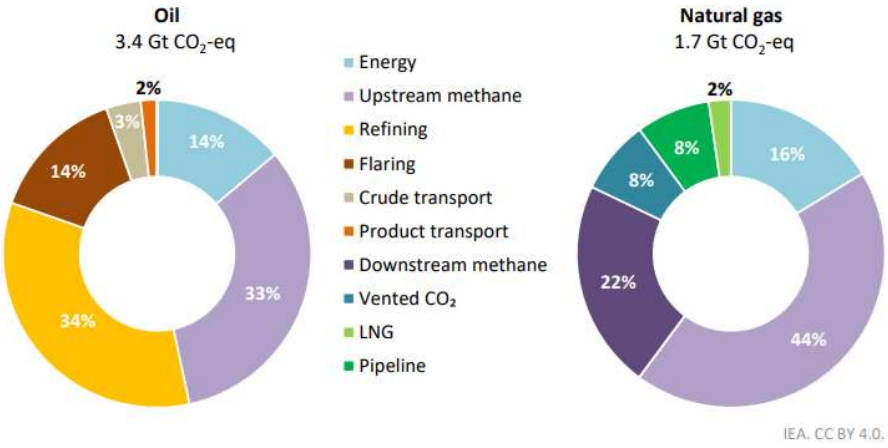
**Proportion of CA100+ support shown is only for the asset managers included in ShareAction's Voting Matters 2023 report, not all CA100+ members, and shows the proportion of asset managers supporting, rather than total shares held voted in support. Voting Matters 2023 analysed the voting performance of 69 of the world's largest asset managers.*

Appendix 2 – Methane

Methane is a particularly potent (though relatively short-lived) GHG, with a *"Global Warming Potential about 80 times greater than that of carbon dioxide (CO2) during the 20 years after it is released into the atmosphere"* according to UNEP[127]. Methane is responsible for around 26% of global warming to date (since 1851) according to the University of Oxford[128], the second most significant contributor after carbon dioxide (69%). The fossil fuel sector generates 35% of total methane emissions, with agriculture the largest source at 40% and 20% coming from waste (solid and water).

According to the IEA[129], methane accounts for 66% of the total scope 1 & 2 emissions produced from gas extraction and supply and 33% of total emissions from oil extraction and supply. As a result, the IEA say that *"[r]educing methane emissions is the single most important measure that companies can take to reduce their scope 1 and 2 emissions intensity"*. They go on to say that these methane emissions could be reduced by 75% using established measures *"such as leak detection and repair programmes and upgrading leaky equipment"*. Ceasing all non-emergency gas-flaring and venting alone would cut methane emissions from oil & gas operations by 20%. Cutting methane emissions is also cost-effective: the IEA estimates that 40% of methane emissions from the oil & gas sector could be cut at no net cost.

Figure 2.1 ▷ Breakdown of GHG emissions from oil and gas supply, 2022



Methane emissions account for nearly half of all GHG emissions from oil and gas operations.

Notes: One tonne of methane is taken to be equivalent to 30 tonnes of CO_2 based on a 100-year global warming potential (IPCC, 2021). LNG = liquefied natural gas.

Source: IEA (2023).[130]

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