CLIMATE CHANGE AND FOSSIL FUELS (CLIFF)
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NET-ZERO TARGETS WILL ENABLE CONTINUED FOSSIL FUEL USE

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KEY MESSAGES

1. Science-based net-zero targets require a rapid fossil fuel phaseout
2. Many net-zero targets rely on offsetting emissions instead of phasing out fossil fuel
3. Fossil fuel companies are setting net-zero targets which rely on unproven negative emission technologies
4. The financial sector continues to finance new fossil fuel projects despite adopting net-zero targets
5. National governments are adopting net-zero targets while expanding fossil fuel production

INTRODUCTION

Limiting the worst impacts of climate change will require bringing greenhouse gas emissions to zero (Frankhauser et al., 2022). Since true-zero is difficult to achieve, a net-zero strategy is being adopted instead by many cities, companies, and governments. However, the way 'net-zero' is likely to be interpreted may enable continued fossil fuel (FF) use (Action Aid, 2020). Rather than net-zero, reaching true-zero emissions where emissions are eliminated rather than compensated, should be the target.

SCIENCE-BASED NET-ZERO TARGETS REQUIRE A RAPID FOSSIL FUEL PHASEOUT

The IPCC's (2023) scenarios to limit global warming to 1.5°C require achieving net-zero emissions at global level by 2050. The 'safest' scenarios to prevent overshooting the 1.5°C target requires immediate action (Fankhauser et al., 2022). While each IPCC scenario uses some form of negative emissions technologies, the scenarios are still dependent on rapid fossil fuel phase out. The IEA (2021) has stated that as of 2021, no new coal plants or oil and gas fields should be approved for development in order to meet net-zero targets. Beyond this, estimates suggest that approximately 40% of *already developed* reserves should remain unextracted, let alone undeveloped reserves (Trout et al., 2022). This raises North-South justice issues.

MANY NET-ZERO TARGETS RELY ON OFFSETTING EMISSIONS *INSTEAD* OF PHASING OUT FOSSIL FUELS

The 'net' in net-zero means that many commitments rely on negative-emissions technologies such as afforestation and carbon capture and storage (CCS) to offset their emissions, rather than reducing emissions to zero (Realff, 2022; Fankhauser et al., 2022, Hale et al., 2022). However, there are many reasons to doubt these claims. First, even if individual cities, companies and countries can achieve net-zero, are there enough afforestation and CCS opportunities to compensate for the net-zero targets of all? Second, offsetting in the past has enabled rich countries to continue using FFs and this may now happen on a global level. Third, afforestation requires land, which may be appropriated from the Global South to enable companies and governments in the Global North to continue emitting (Action Aid, et al., 2020). Moreover, the delay in implementing REDD (reducing emissions from forests and forest degradation) reveals the huge complexities in actually undertaking an afforestation project at this scale. Fourth, CCS technologies used in targets are still infeasible at a large scale and thus risky to rely on (Roberson & Mousavian, 2022). Is net zero a "cover up for business-as-usual"[1]?

NATIONAL GOVERNMENTS ARE ADOPTING NET-ZERO TARGETS WHILE EXPANDING FOSSIL FUEL PRODUCTION

Scientists have computed carbon budgets that apply to the entire atmosphere rather than specific regions or entities. It is therefore necessary to carefully transform the global carbon constraint into individual decarbonization pathways for countries and other sub-national entities (Hale et al., 2022; Frankhauser et al., 2022). Although some countries claim to have already achieved net-zero (Hale et al., 2022), Climate Action Tracker (2022) reveals that none of the pledged net-zero targets of their studied sample are compatible with 1.5 °C as most targets rely on currently unfeasible negative emissions technologies and offsets.

FOSSIL FUEL COMPANIES ARE SETTING NET-ZERO TARGETS AND RELYING ON UNPROVEN NEGATIVE EMISSIONS TECHNOLOGIES

Likewise, oil & gas companies are adopting net-zero targets. Of the 36 oil & gas companies targeted by the investor group Climate Action 100+, about half have net-zero or long-term emissions reduction targets (see Fig. 1 and 2). However, many of these were rated 'partial', due to excluding Scope 3 emissions or failing to comply to a 1.5°C pathway (CA100+, 2020). Achieving net zero Scope 2 emissions would result in supply chains that are net zero upstream and downstream of the company. However, this leaves the end use out of the calculations (Realff, 2022).

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Figure 1: Oil & Gas company climate plans

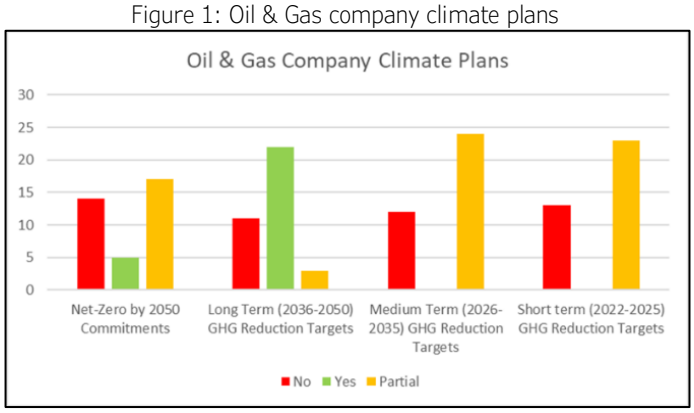
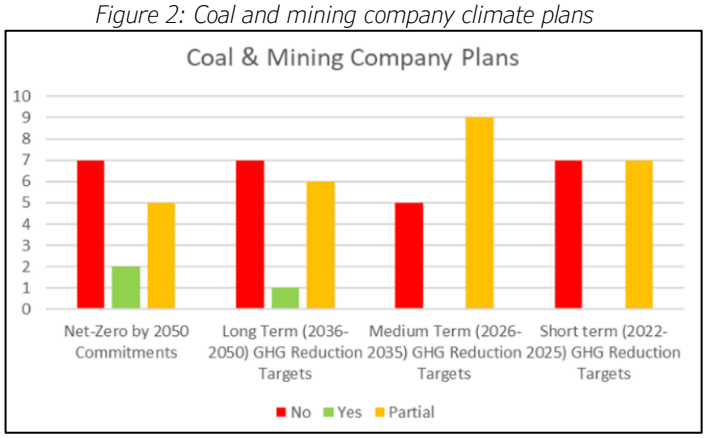


Figure 2: Coal and mining company climate plans



Company performance on short to medium-term targets is much lower, indicating that companies are delaying phasing out FF. Coal and mining companies perform even worse. Most FF companies continue to spend money on exploration and expansion activities that are not consistent with net-zero pathways. CA100+ (2020) estimated that approximately USD 65 billion of oil and gas companies' planned spending on upstream activities (on average, about 60% of their CAPEX) was not aligned with a 2°C target, let alone 1.5°C. Oil Change International finds that none of the net-zero or climate plans adopted by eight of the largest US and European FF companies set an end date for FF extraction (Tong & Trout, 2024). Their targets for emissions reductions do not come from planned declines in FF extraction and production but from offsets. None commit to stopping exploration activities and all continue to approve new extraction projects.

THE FINANCIAL SECTOR CONTINUES TO FINANCE NEW FOSSIL FUEL PROJECTS, DESPITE ITS OWN NET-ZERO TARGETS

The emissions from oil and gas projects currently under development by fossil fuel companies will drive warming far beyond 1.5° or 2°C (Carrington & Taylor, 2022). Although institutions in the financial sector are increasingly adopting net-zero targets, they continue to finance these projects, which undermine any possibility of achieving net-zero emissions at a global level (Action Aid, 2020). An assessment by New Climate Institute (2026) revealed that none of the 28 Dutch big polluting companies and banks analyzed hit above an adequate integrity rating (which is still far from positive) for their future climate plans. The plans are often not in alignment with science and mostly do not account for the mid-term (period between 2030-2050), are kept purposefully vague and lacked concrete policies and discussions regarding carbon emissions, let alone concrete net-zero plans (Mooldijk et al., 2022). There is a large discrepancy between country commitments and their plans to expand fossil fuel extraction (see Table 1).

Table 1 National net-zero plans

Country	Projected $GtCO_2$ emissions from extraction projects*	Net-zero target rating**	Targeted net-zero year
China	332.9	Highly insufficient	2060
United States	151.1	Insufficient	2050
Russian Federation	117	Critically Insufficient	2060
Saudi Arabia	107.1	Highly insufficient	2060
Australia	46.3	Insufficient	2050
Qatar	43.3	*No target*	n/a
Canada	39.0	Highly insufficient	2050
Iraq	27.6	*No target*	n/a
India	27.0	Highly insufficient	2070

**Kühne et al. (2022)*
***Climate Action Tracker (2022)*

RECOMMENDATIONS

Rather than relying on the 'net', emissions reductions plans should target true zero emissions in order to meet global climate goals. These targets should be accompanied by credible short-term emissions reduction commitments and a rapid fossil fuel phaseout. The use of offsets should be properly substantiated and checked for consistency with global climate targets.

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Footnotes

[1] From: https://www.realsolutions-not-netzero.org/?

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