

Briefing · June 2024

Principles for just and equitable oil and gas phase out

This paper intends to contribute to the next steps of the global debate of how to transition away from fossil fuels as agreed at COP28 by proposing scenarios, recommendations and reflections on targets for phasing out the extraction of oil and gas.

Upcoming meetings of the G7 and G20 can discuss what a fossil fuel phase out in “a just, orderly and equitable manner” means, building momentum for countries to include fossil fuel phase out commitments in their updated climate targets, ahead of the climate summit in Brazil in 2025.

Key points:

- Feasible 1.5°C scenarios require both oil and gas production to decline by 65% by 2050, compared to 2020 levels, but current projected production is set to rise by 260% and 210%, respectively in this period.
- Orderly transition plans for the sector are long overdue, but are the natural next step after the COP28 consensus to transition away from fossil fuels in Dubai.
- Countries and companies aiming to fully use their oil and gas resources chase diminishing returns and risk USD 1.4 trillion in stranded assets.
- By delaying a managed decline of fossil fuel production, countries are increasing the costs of achieving a just and equitable transition.
- Instead of competing for the perceived benefits of oil and gas extraction, countries can collaborate to agree on principles for a just and equitable fossil fuel phase out that reduces the economic and social impacts of any delays.
- Multilateral forums such as the G7 and G20 are best placed to provide the vision and leadership on how to phase out oil and gas production. COP30 can become a significant milestone to show what a just and equitable transition looks like at a global level.
- Most approaches to achieve a fossil fuel phase out share significant commonalities around the principles of justice and alignment with the Paris climate agreement and climate science.
- With USD 2.4 trillion green transition investment required annually through 2030 in emerging and developing economies (other than China), climate finance is the key enabler of phase out planning.
- All countries should halt the opening of new oil and gas fields while a coordinated global phase out of fossil fuels is negotiated.

The scientific urgency to act

The scientific evidence is unequivocal, the next years are crucial to keep the 1.5°C temperature goal enshrined in the Paris Agreement within reach. The UN’s

Intergovernmental Panel on Climate Change (IPCC) has stated clearly that global greenhouse gas emissions need to peak before 2025 and be reduced by 43% by 2030.

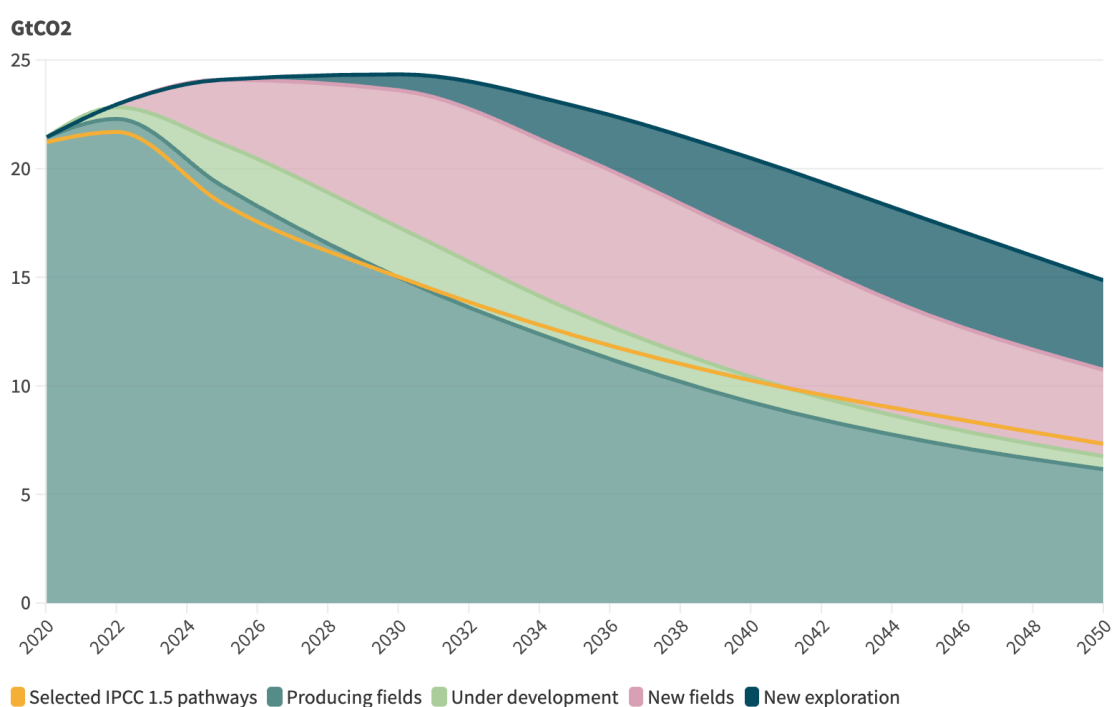
Fossil fuels are the major contributors to global warming, a fact finally recognised by all countries at COP28, which agreed to “Transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science”.¹

There is a clear urgency to set transition pathways to drastically reduce fossil fuels: Projected cumulative future CO₂ emissions from existing fossil fuel infrastructure would already exceed the remaining 1.5°C carbon budget, unless they are abated.²

Business as usual is thus not an option. To stay within a 1.5°C carbon budget, 40% of ‘developed’ reserves of coal, oil and gas would need to be left unextracted. Developed oil and gas fields alone account for more than four fifths of the 1.5°C budget.³

Oil and gas production should decline by 15% and 30%, respectively, by 2030 and 65% by 2050, compared to 2020 levels, according to analysis of feasible 1.5°C scenarios by the International Institute for Sustainable Development.⁴

Fig. 1: Oil and gas production from new and existing fields vs a 1.5°C aligned pathway



Source: IISD - Navigating Energy Transitions: Mapping the road to 1.5°C
Data extracted using Automeris.io, which produces estimated data based on published graphs.



Existing fossil fuel extraction projects are already sufficient to meet demand in scenarios where warming is limited to 1.5°C.⁵ Any new oil and gas extraction projects would exceed this, putting the temperature goal of the Paris climate agreement at risk.

¹ UNFCCC “[Decision CMA.5, Outcome of the First Global Stocktake](#).” UNFCCC, 2023.

² IPCC, “[Climate Change 2023: Synthesis Report: Summary for Policymakers](#).” IPCC, 2023.

³ Trout, K. et al. “[Existing fossil fuel extraction would warm the world beyond 1.5°C](#).” Environmental Research Letters, 17, no. 6 (2022).

⁴ Bois von Kursk et al, “[Navigating energy transitions: Mapping the road to 1.5°C](#).” IISD, 2022.

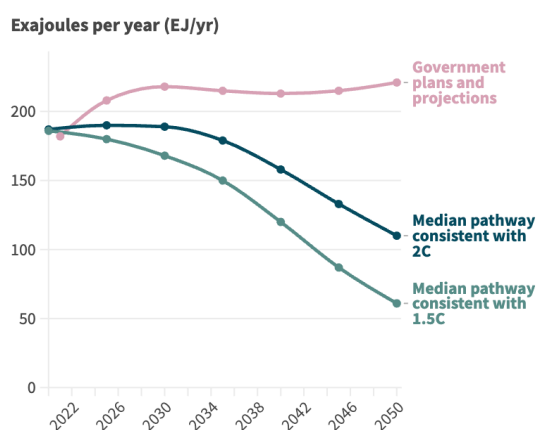
⁵ Green F. et al. “[No new fossil fuel projects: The norm we need](#)”, Science, May 2024.

Unless meaningful policy measures and finance decisions are taken, governments could produce around 110% more fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C.⁶ This makes it evident that current trajectories for oil and gas production are completely incompatible with the goals of the Paris Agreement. Instead, all countries can be encouraged to set out their plans to transition away from fossil fuels in their next round of updated Nationally Determined Contributions (NDCs), due in 2025.

Without action, oil and gas production is forecast to be 29% and 82% higher, respectively, than the median 1.5°C pathway in 2030. By 2050, the respective percentages will grow to 260% and 210%.

Fig. 2: Oil and gas production forecasts and scenarios

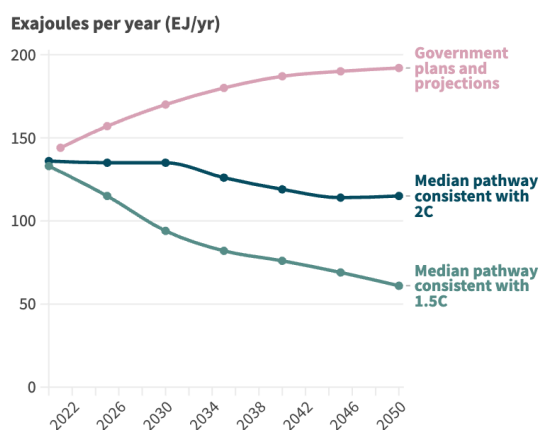
Oil production



Source: SEI et al; "The Production Gap: Phasing down or phasing up?"



Gas production



Source: SEI et al; "The Production Gap: Phasing down or phasing up?"



Defining just, orderly and equitable transition pathways is thus imperative. This discussion is happening at a time when extreme climate events are breaking records, making it evident to citizens and leaders that climate action is inevitable and urgent. These extreme climate events affect vulnerable communities the most and become a great obstacle in reducing inequalities.

The economics continue to be made to favour oil and gas production and consumption. Global fossil fuel subsidies amounted to USD 1.6 trillion in 2022, according to the OECD and IISD.⁷ It is high time to implement the agreement at COP28 to "Phasing out inefficient fossil fuel subsidies that do not address energy poverty or just transitions, as soon as possible".⁸

A transition away from fossil fuels is still hindered by countries each trying to benefit from their resources the longest rather than working towards a collectively managed transition. But this approach is misguided as the economic benefits of fossil fuel production will be limited and diminishing as the energy transition accelerates. If all countries seek to maximise oil and gas production in the face of falling demand, the economic and social costs of the transition will increase.

⁶ SEI, Climate Analytics, E3G, IISD, and UNEP. "[The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises.](#)" UNEP, 2023.

⁷ OECD & IISD "[Fossil Fuel Subsidy Tracker.](#)" Accessed June 2024.

⁸ UNFCCC "[Decision CMA.5, Outcome of the First Global Stocktake.](#)" UNFCCC, 2023.

Oil firms and investors also face significant risks from the energy transition, with the total value of stranded assets under a scenario where warming is limited to 2°C estimated at USD 1.4 trillion.⁹

Instead of competing for the perceived benefits of oil and gas extraction, countries can collaborate to agree on principles for a just and equitable fossil fuel phase out that reduces the economic and social impacts of any delays. Without coordination and effective policies, these climate impacts will end up being disproportionately borne by the poorest, most marginalised and least able to transition. Some initiatives such as the Beyond Oil and Gas Alliance and the Fossil Fuel Non-Proliferation Treaty have proposed approaches to this end.

Multilateral forums such as the G7 and G20 can discuss what a fossil fuel phase out in “a just, orderly and equitable manner” means, building momentum for countries to include fossil fuel phase out commitments in their updated climate targets, ahead of the climate summit in Brazil in 2025. Following the scientific evidence would require immediately halting the opening of new oil and gas fields as a first step.

Methodologies to define a just and equitable transition

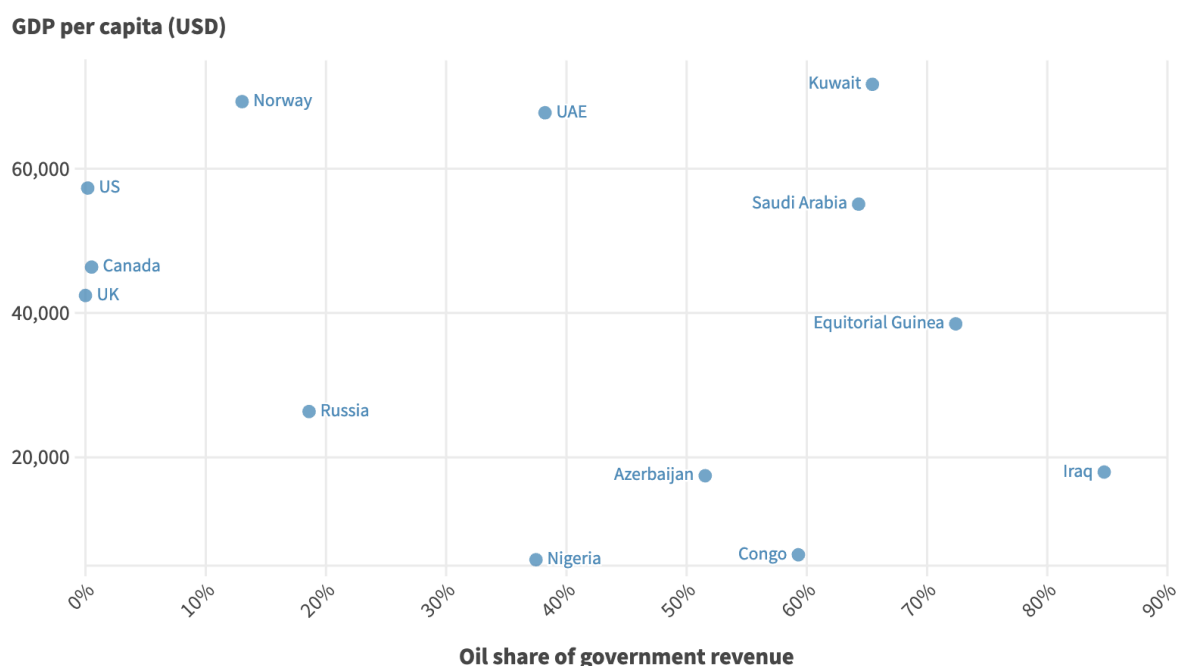
A variety of approaches have been identified to achieve a fossil fuel phase out, many of which share significant commonalities around the principles of justice, fairness and alignment with the Paris climate agreement and climate science.¹⁰ The majority cite one of the foundational principles of the UNFCCC process – that of common but differentiated responsibilities and respective capabilities.

As an example, assessing countries by their ability to finance the transition – measured in GDP per capita and the extent to which government income comes from oil – shows that countries like the UK, US and Canada would face relatively low challenges to transition (according to these criteria) and have significant financial capacity for it. Whereas countries like Iraq, Congo and Equatorial Guinea face significant challenges and have little financial resources to mitigate the impacts of the transition (see Figure 3).

⁹ Semieniuk, G., Holden, P.B., Mercure, J.F. et al. “[Stranded fossil-fuel assets translate to major losses for investors in advanced economies](#).” Nat. Clim. Chang. 12, 532–538 (2022).

¹⁰ While broad agreement on the importance of an equitable phase out between countries, different methodologies have been proposed for assessing the responsibilities and capabilities of individual countries. Proposed criteria include each country’s development according to the Human Development Index, accrued benefit from past fossil fuels production, historical cumulative per-capita production, GDP per capita, and share of GDP per capita derived from non-oil and gas sectors. See Calverley, C. & Anderson K. “[Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets](#)”, University of Manchester, 2022; Civil Society Equity Review, “[An Equitable Phase Out of Fossil Fuel Extraction](#)”, Civil Society Equity Review, 2023; Muttitt, G. and Kartha, S. “[Equity, climate justice and fossil fuel extraction: principles for a managed phase out](#)”, Climate Policy, vol 20 (2020); Pye, S. et al “[An equitable redistribution of unburnable carbon](#)”, Nature Communications, volume 11 (2020).

Fig. 3: Transition capacity of selected countries by GDP per capita and oil share of government revenue



Source: Muttitt, G. and Kartha, S. “Equity, climate justice and fossil fuel extraction: principles for a managed phase out.” Data from IMF 2017 • Data extracted using Automeris.io, which produces estimated data based on published graphs. Capacity to fund a just transition increases as per capita GDP rises, while the difficulty of transitioning increases as oil's share of government revenues increases.



A recent study, endorsed by over 200 organisations including Climate Action Network International and the International Trade Union Congress produced a comprehensive approach to assess which countries are least socially dependent on fossil fuel extraction. The study – the Civil Society Equity Review¹¹ – identifies three criteria:

1. the share of primary energy consumption that is met from domestically extracted fossil fuels,
2. the share of government revenues that comes from fossil fuel extraction, and
3. the share of the workforce employed in fossil fuel extraction.

Underpinning this analysis is the principle that the pace of the phase out should be driven by reducing the social costs and maximising the social benefits of transition, rather than purely by a country’s stage of development or historic responsibility.

The two tables below highlight options of what just, orderly and equitable transition pathways could look like. They can form the basis for a discussion in multilateral forums such as the G7 and G20 and UNFCCC on what criteria should be used to assess a just phase out of fossil fuel production.

¹¹ Civil Society Equity Review, “[An Equitable Phase Out of Fossil Fuel Extraction.](#)” Civil Society Equity Review, 2023.

Table 1: Equitable oil and gas phase out assessed on country's non-oil and gas GDP per capita

Country grouping - non-oil GDP/capita	Member countries	2030 reduction	Phase out year
Highest capacity < USD 50,000	19 (including USA, UK, Norway, Canada, Australia, UAE)	74%	2034
High capacity ~ USD 28,000	14 (including Saudi Arabia, Kuwait, Kazakhstan)	43%	2039
Medium capacity ~ USD 17,000	11 (including China, Brazil, Mexico)	28%	2043
Low capacity ~USD 10,000	19 (including Indonesia, Iran, Egypt)	18%	2045
Lowest capacity ~USD 3,600	25 (including Iraq, Libya, Angola, South Sudan)	14%	2050

Source: Calverley, C. & Anderson K. "Phaseout Pathways for Fossil Fuel Production Within Paris-compliant Carbon Budgets"



Table 2: Equitable oil and gas phase out using the Civil Society Equity review framework (selected countries)

Country	2030 oil reduction	2030 gas reduction	Oil phase out year	Gas phase out year
United States	81.00	82.00	2031	2031
China	80.00	80.00	2031	2031
U.A.E.	64.00	75.00	2033	2032
Indonesia	66.00	62.00	2033	2033
Brazil	58.00	79.00	2034	2031
Saudi Arabia	27.00	59.00	2041	2034
Iraq	8.00	63.00	2050	2033
Algeria	24.00	16.00	2050	2048

Source: Civil Society Equity Review, "An Equitable Phase Out of Fossil Fuel Extraction"



The role of financing in the transition

As well as defining what just and equitable approaches mean, agreement on the financial support to get there would be critical to a successful implementation. Multilateral conversations can therefore focus on developing principles and pathways that are just and equitable, matched by financial support for those countries that need it. This would reflect countries' capacities and constraints, the necessity to provide finance, as well as predictability for workers and communities.

A range of proposals are on the table on climate finance, among them the necessity for Developed Countries (defined as Annex I countries under the UNFCCC) to provide support and the suggestion that countries with the greatest ability to pay (defined as those with per capita capacity above the global average) contribute. More recently, there have been calls

for the fossil fuel industry to pay for climate finance, as proposed by the EU, and the idea of a fossil fuel levy by incoming COP29 presidency Azerbaijan.¹²

A broader reform of financial systems that includes the international financial institutions is also under way – and will be critical – but progress has been too slow given the resources needed. The economic and financial opportunities resulting from a transition to climate neutrality can only be unlocked in low-income countries with access to sufficient finance and if debt no longer stands in the way of sustainable development.

The scale of existing climate finance is estimated at USD 1.3 trillion annually, according to the Climate Policy Initiative.¹³ This is still less than the USD 1.5 trillion paid in direct fossil fuel subsidies among 82 of the largest economies in 2022 (OECD).¹⁴ It is also just over half of the USD 2.4 trillion green transition investment required annually through 2030 in emerging and developing countries (other than China), according to the UN's high level expert group on climate finance.¹⁵

The G20 and G7 can play important roles in the process of creating financial mechanisms to allow low-income and vulnerable countries to decarbonise their energy systems and adapt to the impacts of an increasingly extreme climate. COP29 should result in a new collective quantified goal (NCQG) on climate finance that addresses mitigation, adaptation, and loss and damage.¹⁶

Timelines for planning the energy transition

Managing local needs and collective action requires a combined bottom-up and top-down approach to define a just, orderly and equitable transition away from fossil fuels. The run-up to COP30 is the time to make progress on setting out pathways to transition away from fossil fuels. The G7 and G20 summits in June and November 2024, respectively, offer key touchpoints to lay the foundations for global action on the transition away from fossil fuels. These summits offer the opportunity for major economies to signal their intent to phase out oil and gas production, and begin building international consensus around how to ensure that it is just and equitable.

Agreements at these summits could lay the groundwork for a bottom-up approach, where countries commit to end the expansion of oil and gas extraction, set fossil fuel phase out dates as well as demand reduction goals for 2035 in their next NDCs, to be submitted 9-12 months ahead of COP30.

The top-down approach can be guidance on what “just, orderly and equitable” means internationally, building on the progress made through countries’ individual commitments. It is vital that new, fossil-free economic models are established globally and alternative income sources found for fossil-dependent economies. This approach should also aim to address any shortcomings in bottom-up targets and ensure these are aligned with what is required to limit warming to 1.5°C and achieve a just transition.

The G7 and G20 have an opportunity to give an impetus to this debate, not least as the high-income countries among their members have a historic responsibility to lead on

¹² John Ainger, Jennifer A Dlouhy and Akshat Rathi, (2024, May 30) “[COP29 Host Azerbaijan Working on Proposal to Levy Fossil Fuels](#).” Bloomberg News.

¹³ Buchner, B. et al, “[Global Landscape of Climate Finance 2023](#).” Climate Policy Initiative, 2023.

¹⁴ OECD, “[Cost of Support Measures for Fossil Fuels Almost Doubled in 2022 in Response to Soaring Energy Prices](#).” OECD, 2023.

¹⁵ Independent High-Level Expert Group on Climate Finance, “[Finance for climate action: Scaling up investment for climate and development](#).” LSE, 2022.

¹⁶ UNFCCC, “[From Billions to Trillions: Setting a New Goal on Climate Finance](#).” UNFCCC, 2024.

emissions reduction and provide financial support. Their leadership could pave the way for a broader debate and action in the UNFCCC context.

Leadership needed from the G7 and G20

Widespread support for immediate government action to address climate change exists in most countries, with 71% of people in G20 countries agreeing that action is necessary. Concerns about escalating weather extremes, care for future generations, and dissatisfaction with government inaction are significant elements of messages that drive support for climate action. Research indicates majority support for policies like ending fracking (61%) and phasing out fossil fuels (56%) across G20 countries.¹⁷

With sufficient global leadership, societal support can be built on the imperative of phasing out fossil fuels to avert current and future climate impacts to protect people and nature. Progressing the debate will be facilitated by global leadership on:

- Affirming the scientific finding that any new oil and gas projects are incompatible with and threatening the 1.5°C warming goal.
- Highlighting that both supply-side and demand-side policies need to contribute to a transition away from fossil fuel use, in line with science.
- Recognising the IEA Net Zero Emissions scenario findings that a number of higher-cost projects would need to be retired before the end of their commercial life due to falling demand in the 2030s.¹⁸
- Acknowledging that the UNFCCC must play a vital role in agreeing on terms for a just, orderly and equitable transition away from fossil fuels, in line with climate science, based on principles of common but differentiated responsibilities and respective capabilities; supporting just transitions for workforce; reducing extraction fastest where social costs of transition are least and ensuring respect for human rights and biodiversity.

Furthermore, in terms of practical steps, the G7 and G20 can play a crucial leadership role by committing to:

- Ending the licensing of new coal, gas and oil projects,
- Setting clear end dates for coal, gas and oil use per sector,
- Committing to phasing out coal by 2030 (G7) or 2035 (developing countries) and setting out how much demand and supply will be reduced for coal, gas and oil by 2035 in their upcoming NDCs,
- Supporting other countries on their just and orderly transition away from fossil fuels,
- Phasing out fossil fuel subsidies as soon as possible, as agreed at COP28,
- Showing leadership as the G7 on the overall finance reform to accelerate a just energy transition in low-income countries, especially through access to renewable energy,
- Using the G20 to set out concrete steps on the financial reforms and financing mechanisms required to share the costs of the transition fairly, committing to scaling up finance as a matter of urgency with tangible outcomes, including through innovative sources of finance such as a tax on fossil fuel companies' revenues.

¹⁷ Potential Energy "[Later is Too Late](#)." Potential Energy, 2023.

¹⁸ IEA "[Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach](#)." IEA, 2023.