

# Beyond Abatement

## Securing a Full Phase Out of Fossil Fuels at COP 28

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*“Continuing with business-as-usual for oil and gas while hoping a vast deployment of carbon capture will cut the emissions is fantasy”*

Fatih Birol, Executive Director, International Energy Agency

# Key messages to Parties

- Current and planned fossil fuel production and use are incompatible with agreed temperature limits. COP28 must deliver an agreement for a just and equitable phase out of fossil fuel production and use, as well as at least a tripling of renewable energy and a doubling of energy efficiency.
- Parties should refrain from adopting an outcome that casts doubt on the scale of the decline in fossil fuel production and use that is needed to limit warming to 1.5°C. This means rejecting the use of an “unabated” qualifier or an outcome that centers on “fossil fuel emissions”.
- The fossil fuel declines required by 2030 to limit warming to 1.5°C cannot be achieved through deployment of so-called “abatement” technologies such as Carbon Capture and Storage (CCS), as:
  - “Abatement” technologies are currently poorly defined and parties have widely divergent interpretations of what constitutes abatement;
  - The current main use of CCS is to increase fossil fuel production and is actively being used to justify further fossil fuel expansion, in turn raising the risk of catastrophic overshoot of 1.5°C and irreversible climate impacts;
  - CCS has a long track record of failure and has at most a very marginal role to play in decarbonizing the global energy system;
  - Even if abatement technologies were deployed at their maximum feasible level and functioned as designed, they would not be a substitute for the need to fully phase out all fossil fuels and would do nothing to address the other non-climate harms from fossil fuels, such as health impacts, local environmental harm, and human rights violations.
- While some parties may be tempted to negotiate guardrails and definitions for abatement, it is likely that such negotiations will only yield outcomes that end up legitimizing the scale-up of CCS and other technologies and weakening the necessary signal on fossil fuel phase out.
- In negotiating a compromise outcome, parties are advised to explore alternative language options that preserve a strong signal on the need to phase out all fossil fuels in line with the 1.5°C limit without using the “unabated” qualifier or legitimizing large-scale deployment of purported abatement technologies, such as carbon capture. Guiding questions are provided to assess textual options.

## Introduction: COP28 needs to deliver a strong and unambiguous signal on the end of the fossil fuel era

Recent IPCC reports and other scientific literature, as well as major UN and International Energy Agency (IEA) reports, have shown that limiting warming to 1.5°C requires an immediate end to fossil fuel expansion and a phase out of fossil fuel production and use, as well as a large-scale ramp up in renewable energy deployment and energy efficiency gains. COP28 must deliver a strong agreement on a full, fast, fair, and funded phase out of all fossil fuels.

Debates on the use of the “unabated” qualifier and the role of so-called abatement technologies in

meeting climate goals are likely to be central to the mitigation negotiations at COP28. This note outlines the grave risks the inclusion of such a term poses to the energy transition and offers suggestions on how to craft the right signal while avoiding legitimizing the large-scale roll out of so-called “abatement” technologies.

## “Abatement” is currently poorly defined, and parties have a wide range of views about what it entails

- The term “abatement” currently has no official definition. The most widely used definition is derived from a footnote in the IPCC’s Sixth Assessment Report Synthesis<sup>1</sup>. While the term “unabated” is generally understood to mean

<sup>1</sup> “Unabated fossil fuels refers to fossil fuels produced and used without interventions that substantially reduce the amount of GHG emitted throughout the life cycle; for example, capturing 90% or more CO<sub>2</sub> from power plants, or 50–80% of fugitive methane emissions from energy supply.” IPCC, 2023, Synthesis Report of the IPCC Sixth Assessment Report (AR6), p. 28

“without carbon capture and storage”, it is not specific or exhaustive enough to serve as a basis for a formal COP decision.

- Confusion is being promoted by the fossil fuel industry and has been leveraged by a number of parties to pursue technologies that they are framing as “abatement”, despite these technologies delivering inadequate levels of mitigation and prolonging fossil fuel use. This is the case, for instance, in relation to Japan’s support for ammonia co-firing in coal power plants.<sup>2</sup>
- Carbon offsets do not constitute abatement technologies and are not legitimate mitigation tools.<sup>3</sup>
- Some parties are arguing that CCS might be needed to deal with so-called ‘hard to abate’ sectors. That discussion currently mostly serves as a distraction from the urgent task at hand of phasing out fossil fuels. What is considered ‘hard-to-debate’ depends on political and economic assumptions that have implications for global equity. The action necessary to achieve climate objectives has to be transformative not incremental.
- Some government policies already explicitly rule out abatement as a term that can be usefully applied to upstream and midstream projects.<sup>4</sup>

### **CCS has a proven track record of failure and cannot deliver meaningful mitigation at the scale and pace needed to limit warming to 1.5°C**

- CCS is not a tool to limit warming to 1.5°C, it is a threat to our collective ability to do so.
- The fossil fuel industry has a 50-year history of overpromising and under-delivering on CCS. The UN Production Gap report stresses that “80% of pilot CCS projects over the last 30 years have failed, with annual capacity from operational projects resulting in dedicated CO<sub>2</sub> storage currently amounting to less than 0.01 GtCO<sub>2</sub>/yr”<sup>5</sup>.
- The promised capture rates of CCS facilities have rarely been delivered in practice, meaning that there is a gap between the promises of the industry and its ability to actually capture the emissions it generates.<sup>6</sup>

- CCS has been described by the IPCC as the highest cost, least potential mitigation option in the near term<sup>7</sup>, which negates its relevance as a driver of the urgent and large-scale mitigation that is needed this decade<sup>8</sup>. The rapid deployment of wind and solar energy with a concurrent managed phase out of fossil fuels is a far superior solution to decarbonize the global energy system.
- The IEA finds that existing and proposed CCS projects would result in just over 300 Mt of CO<sub>2</sub> capture capacity per year by 2030 (compared to 46 Mt in 2022) if fully realized<sup>9</sup>. Almost 80% of this capacity is still in the planning stage, with uncertain viability. Even if this projection was met, CCS facilities would only have capacity to capture about 1% of current annual global fossil fuel related emissions by 2030.

### **A COP decision that legitimizes the use of “abatement” technologies risks leading to more fossil fuel lock-in and, ultimately, overshoot and more loss and damage harms**

- Recent research has shown that about three quarters of the CO<sub>2</sub> captured annually by carbon capture facilities globally is reinjected in oil fields in order to increase oil production, meaning that this technology is currently propping up increased fossil fuel production and use.<sup>10</sup> Moreover, CCS is being used to justify the development of new offshore oil and gas fields, which are incompatible with the 1.5°C limit<sup>11</sup>.
- In recent years, the oil and gas industry has made no secret of how it sees CCS and related carbon removal technologies that rely on CCS as an enabling technology (e.g. Direct Air Capture) as a lifeline for their fossil fuel assets in a climate-constrained world. Occidental Petroleum CEO Vicki Hollub recently declared that [“If we focus on emissions, I think there is a way to continue the production of oil and gas for the foreseeable future.”](#)
- It is therefore clear that a COP28 decision endorsing “abatement” could lead to a build up of new long-lived infrastructure to produce, use,

2 <https://www.transitionzero.org/insights/advanced-coal-in-japan>

3 [https://eprints.lse.ac.uk/112803/1/GRI\\_do\\_carbon\\_offsets\\_offset\\_carbon\\_paper\\_371.pdf](https://eprints.lse.ac.uk/112803/1/GRI_do_carbon_offsets_offset_carbon_paper_371.pdf)

4 <https://natural-resources.canada.ca/home/guidelines-for-canadas-international-support-for-the-clean-energy-transition/24797>

5 [https://assets.publishing.service.gov.uk/media/6065ca548fa8f515b14ee6b1/Guidance\\_-\\_Aligning\\_Uf...rt\\_for\\_the\\_clean\\_energy\\_transition\\_-\\_March\\_2021\\_.pdf](https://assets.publishing.service.gov.uk/media/6065ca548fa8f515b14ee6b1/Guidance_-_Aligning_Uf...rt_for_the_clean_energy_transition_-_March_2021_.pdf)

6 [https://productiongap.org/wp-content/uploads/2023/11/PGR2023\\_web.pdf](https://productiongap.org/wp-content/uploads/2023/11/PGR2023_web.pdf)

7 <https://ieefa.org/resources/carbon-capture-crux-lessons-learned>

8 See IPCC, AR6, WGIII, Climate Change 2022: Mitigation of Climate Change, Figure SMP.7, at 38; and [https://www.ciel.org/wp-content/uploads/2022/04/IPCC-Unsummarized\\_Unmasking-Clear-Warnings-on-Overshoot-Techno-fixes-and-the-Urgency-of-Climate-Justice.pdf](https://www.ciel.org/wp-content/uploads/2022/04/IPCC-Unsummarized_Unmasking-Clear-Warnings-on-Overshoot-Techno-fixes-and-the-Urgency-of-Climate-Justice.pdf)

9 <https://www.ipcc.ch/report/ar6/wg3/figures/summary-for-policymakers/figure-spm-7/>

10 <https://www.iea.org/data-and-statistics/data-tools/ccus-projects-explorer>

11 IEEFA, Carbon Crux

12 [https://www.ciel.org/wp-content/uploads/2023/11/Deep-Trouble\\_The-Risks-of-Offshore-Carbon-Capture-and-Storage\\_CIEL\\_November\\_2023.pdf](https://www.ciel.org/wp-content/uploads/2023/11/Deep-Trouble_The-Risks-of-Offshore-Carbon-Capture-and-Storage_CIEL_November_2023.pdf)

and burn fossil fuels as well as the extension of existing infrastructure. Even if it functioned exactly as promised, CCS cannot deliver mitigation at the pace and scale needed to limit warming to 1.5°C - even if it were just applied to existing fossil fuel facilities and operations, not used to justify new ones.

- ‘Abating’ CO2 emissions does nothing to mitigate the non-climate related harms of fossil fuel production and use, such as human rights abuses, air and water pollution, and health impacts.

### **Parties should oppose any outcome that casts doubt on the scale of the decline in fossil fuel production and use that is needed to limit warming to 1.5°C.**

- Abatement technologies are not a substitute for a full phase out of fossil fuels, nor a legitimate justification to delay the phase-out of fossil fuels. Recent research has shown that, even if CCS and carbon dioxide removal technologies were deployed at their maximum feasible scale according to the IPCC, coal, oil, and gas would still have to decline by 99%, 70%, and 84% respectively by 2050 to limit warming to 1.5°C<sup>12</sup>.
- The 2023 Production Gap Report concurs, highlighting that “given risks and uncertainties of CCS and CDR, countries should aim for a near total phase-out of coal production and use by 2040 and a combined reduction in oil and gas production and use by three-quarters by 2050 from 2020 levels, at a minimum. The potential failure of these measures to become sufficiently viable at scale (...) call for an even more rapid global phase-out of all fossil fuels.”
- **As a result, parties are advised to resist the adoption of the “unabated” qualifier or any outcome that centers on reducing “fossil fuel emissions”, which would signal a deprioritization of the need to phase out fossil fuel production and use in line with science.**

The “unabated” qualifier creates substantial risks of legitimizing further fossil fuel infrastructure being built and mitigation failure and overshoot. Strong definitions and guardrails could partially reduce, but not eliminate these risks.

- Such definitions and guardrails should, at a minimum, include all of the following points:
  - A clear definition of “abatement” that excludes upstream and midstream fossil fuel projects as infrastructure where abatement is not a relevant term and that limits it to very limited use downstream cases where it might be applied (e.g. in the complete absence of any feasible alternatives to avoid or eliminate the source of fossil fuel emissions).
  - An explicit exclusion of measures used to increase oil and gas production or to reduce CO2 emissions in the power sector.
  - An explicit recognition that “abatement” is not a substitute for replacing fossil fuels with renewables.
  - A complete exclusion of offsets.
  - A requirement that any CCS achieves >95% effective capture rate and long-term storage without leakage or contamination over at least the next century, including enforcement requirements that put the burden of proof and liabilities on the operators.
  - Clarification that hydrogen or ammonia with CCS (“blue”) is neither clean nor a climate solution.
- Parties should also be aware that even fairly stringent definitions may be interpreted by the fossil fuel industry as support for more subsidies for CCS and as mere guidelines, while still legitimizing the use of abatement technologies.
- **Such strict definitions and guardrails are likely to be resisted by proponents of abatement and parties opposing the phase out of fossil fuels.** A number of parties have expressed strong support for the “unabated” qualifier, and, more generally, for the large-scale deployment of abatement technologies as a substitute to the **complete** phase out of fossil fuels. They are likely to make their support for any outcomes on fossil fuels contingent on the use of the qualifier.
- These parties are likely to strongly resist the inclusion of strong guardrails and definitions in a COP decision and to demand a technology-neutral approach, mirroring the COP28

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<sup>12</sup> <https://www.nature.com/articles/s41467-023-41105-z>

Presidency's push for parties to support "all technological solutions in accordance with the science"<sup>13</sup>.

- There is currently no dedicated negotiation track for parties to agree on a technical definition of "abatement". Should negotiations revolve around defining the term, this could lead to three likely scenarios, none of which would yield positive outcomes:
  - The "unabated" qualifier is adopted without definition.
  - It is adopted with a reference to the IPCC definition, despite its lack of specificity and comprehensiveness. The wording in the IPCC's 6th Assessment report summary for policy makers has already been used to justify more investment in CCS by its proponents<sup>14</sup>.
  - Negotiations turn to the adoption of politically negotiated high level guardrails which: 1) are unlikely to be stringent enough to prevent this term being used to justify further fossil fuel expansion, 2) will likely contain vague wording and be open to interpretation, and 3) could be used to justify additional investments in and support for 'abatement' technologies.
- Therefore, it is likely that negotiations around definitions of and guardrails for "abatement" will only yield outcomes that end up legitimizing the scale up of CCS and other technologies and thus weakening the much needed signal on fossil fuel phase out.

**Parties are therefore encouraged to explore alternative compromise language that does not include the "unabated" qualifier and preserves the clarity of the signal on fossil fuel phase out. Guiding questions for a strong signal on a 1.5°C aligned fossil fuel phase out at COP28:**

COP28 must deliver a strong formal outcome that spells out the end of the fossil fuel era. The "unabated" qualifier would weaken that signal. These guiding questions can help parties draft and assess compromise language to maintain a clear signal on a phase out of fossil fuels without legitimizing large-scale reliance on abatement technologies.

- **Does the language provide a clear sense of urgency?** The transition away from fossil fuels needs to start immediately, not in the distant future. A delayed transition is not compatible with rapidly shrinking carbon budgets for 1.5°C.
- **Does the language provide a clear trajectory and timeline?** Language should signal a complete or near-complete elimination of fossil fuels and specify a 1.5°C aligned timeline for this transition to be completed.
- **Does the language cover the full scope of fossil fuels?** It must cover all fossil fuels and all sectors need to be covered. Focusing on the power sector alone does not send a signal on the need to phase out oil.
- **Does the language explicitly or implicitly endorse large-scale reliance on abatement technologies?** Can it be used to justify fossil fuel expansion or slow down the phase out?
- **Does the language have clear guidance on implementation at national level?** NDCs will need to be updated on the basis of the guidance from the COP and to reflect 1.5°C aligned fossil fuel phase out pathways.
- **Does the language embed equity and justice?** Expansion of fossil fuel infrastructure needs to end everywhere immediately but rich, diversified fossil fuel producing countries will have to phase out production fastest and massively scale up their public funding on fair terms for the global energy transition.

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**This briefing is a living document which will be updated as COP28 negotiations unfold.**

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*Oil Change International is a research, communications, and advocacy organization focused on exposing the true costs of fossil fuels and facilitating the coming transition towards clean energy.*

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<sup>13</sup> COP28 Presidency, Letter to Parties, 17 October 2023 <https://www.cop28.com/letter-to-parties>

<sup>14</sup> <https://www.globalccsinstitute.com/wp-content/uploads/2023/05/CCS-in-the-IPCC-Sixth-Assessment-AR6-Synthesis-Report-2-4.pdf>