June 17, 2022

Re: Commentary on proposed SEC rule on Enhancement and Standardization of Climate-Related Disclosures for Investors [File Number S7-10-22]

SEC Chair Gary Gensler:

We undersigned organizations appreciate the opportunity to comment on the proposed rule (the "Rule") by the Securities and Exchange Commission (the "SEC" or the "Commission") on the Enhancement and Standardization of Climate-Related Disclosures for Investors. The Rule rightly identifies the urgent need for mandatory climate-related disclosures in order to ensure decision-useful information is provided to investors to enable informed judgments about the impact of climate-related risks on current and potential investments. In particular, these disclosures will be critical in stemming the rising tide of climate-related greenwashing. For this reason, we broadly welcome the proposed Rule.

This comment primarily addresses Question 170 of the Proposed Rule:

> Should we require a registrant to discuss how it intends to meet its climate-related targets or goals, as proposed? Should we provide examples of potential items of discussion about a target or goal regarding GHG emissions reduction, such as a strategy to increase energy efficiency, a transition to lower carbon products, purchasing carbon offsets or RECs, or engaging in carbon removal and carbon storage, as proposed? Should we provide additional examples of items of discussion about climate-related targets or goals and, if so, what items should we add? Should we remove any of the proposed examples of items of discussion?

Recommendation:

- **In recognition of increasing reliance by companies on experimental emissions reduction and removal technologies such as carbon capture, utilization, and storage (CCUS), registrants should disclose, at a minimum, any assumptions about the feasibility, emissions reduction capability, costs, risks, and permanence of CCUS and carbon removal technologies used to reduce or remove emissions within their operational and organizational boundaries or for which they are providing financial support.**
- **Registrants planning to use or currently using CCUS should disclose the current or intended destination of the captured carbon, whether for storage or utilization.**
- **Registrants should disclose the disaggregated emissions and emissions reductions from the carbon capture units, which include: (a) the absolute and relative amounts of emissions captured for the underlying facility or activity to which the technology is applied; (b) the remaining emissions that are not captured; and (c) the additional emissions from powering the CCUS unit.**

Explanation:

We support the SEC requiring a registrant to discuss how it intends to meet climate-related targets, goals, and related claims. This is particularly important where companies' future goals and targets can rest on speculative assumptions that may or may not be viewed as credible by investors. Investors must be able to

ascertain if claimed approaches to 'net zero' or other corporate targets are robust, since whether or not those approaches actually lead to reduction in emissions and transformations away from climate change-causing activities will dramatically impact a registrant's transition risk profile.

We focus this commentary on disclosures related to the use of CCUS, given the significant role that this technology is already playing in companies' climate transition plans. The promise of the technology is that it can reduce, but not eliminate, a significant percentage of emissions that would otherwise be released from fossil fuel combustion or other industrial activity. As such, CCUS is often invoked by corporations seeking to explain how they will reduce emissions from their operations, such as power generation or industrial production, without actually eliminating the sources of those emissions.

The effectiveness of CCUS as an emissions reduction measure is highly dependent on its ability to achieve promised reduction rates and the permanence of the carbon storage. Absent specific disclosures regarding the costs of deploying carbon capture technology and the availability of uses, markets, and/or storage sites for the captured carbon, representations that a corporation will pursue a program of carbon capture to reduce its emissions, or that it will fund others to do so, may mislead investors as to the program's financial feasibility and technological readiness. The failure of pledged CCUS programs to deliver on their stated aims could lead to significantly increased costs for the company, stranded assets, carbon risk, or all of the above.

CCUS is presented as an emission-reduction approach, but the reality is not so simple.[1] The carbon capture process increases on-site energy consumption as well as Scope 3 emissions both up- and downstream. Because CCUS technologies exist to enable continued fossil fuel combustion where otherwise it would be unacceptable (or to provide a source of carbon dioxide for enhanced oil recovery (EOR)), CCUS may extend the economic life of underlying facilities, increasing lifetime emissions overall. Moreover, CCUS projects have a long history of underperformance and cost overruns, despite promises and projections from project proponents (see below for examples). For these reasons, the ability of CCUS to meaningfully contribute to climate goals and net zero plans should be understood as uncertain and warrants heightened scrutiny from the Commission and specific disclosures from registrants.

Carbon capture and compression processes are extremely energy-intensive, generating their own emissions on-site and increasing upstream emissions. Running carbon capture equipment incurs an "energy penalty" of 13-44%, typically around 20-30%, of the energy consumption of the underlying emitting process.[2] This energy penalty necessitates the combustion of additional fuel to achieve the same energy output, or a significantly diminished energy output if the amount of fuel used is held constant. CCUS therefore increases either or both the per-unit or absolute upstream (Scope 3) emissions from fossil fuel production, and can quite dramatically reduce any purported climate benefit. One study that

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[1] Center for International Environmental Law, *Confronting the Myth of Carbon-Free Fossil Fuels: Why Carbon Capture is not a Climate Solution* (July 2021), https://www.ciel.org/wp-content/uploads/2021/07/Confronting-the-Myth-of-Carbon-Free-Fossil-Fuels.pdf.

[2] IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change Ch. 6, at 6-38 (P.R. Shukla et al. eds, 2022), https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_FullReport.pdf. *See also* Budinis, S. et al., *An assessment of CCUS costs, barriers and potential*, 22 Energy Strategy Reviews, 61, 67-68 (2018), https://doi.org/10.1016/j.esr.2018.08.003 (discussing energy and efficiency penalty estimates for coal and gas).

calculated the lifecycle emissions associated with CCUS projects used with energy production from fossil fuels found that "the equipment captured the equivalent of only 10-11 percent of the emissions they produced, averaged over 20 years."[3]

In practice, CCUS projects have repeatedly failed to meet optimistic and ambitious CO2 capture targets set by proponents.[4] In July 2021, Chevron, operator of Australia's only commercial-scale CCUS project, admitted that its self-described "world's biggest CCUS project" failed to meet its five-year capture target of 80% CO2, and is now seeking a deal with regulators on how to make up for millions of tons of CO2 emitted.[5] Other high-profile projects, including Archer Daniel Midland's Illinois Industrial Carbon Capture Project,[6] the Petra Nova[7] and Boundary Dam[8] projects at coal-fired power plants, and the Quest and Air Products capture projects at hydrogen plants,[9] have all missed capture targets advertised by proponents, have claimed high capture rates by only capturing a minute fraction of total facility emissions, or both.

Critically, the role of CCUS in providing carbon dioxide for enhanced oil recovery cannot be ignored. The use of captured carbon for oil production further undermines any climate benefit to CCUS while also introducing additional financial risk. More than 95% of all CCUS capacity deployed in the United States has been used for EOR, with only a single major project capturing carbon dioxide for geological storage.[10] Not only does the climate rationale for CCUS evaporate if captured carbon is used to pump more oil, the role of EOR introduces additional financial risk. Where a CCUS project relies on EOR as part of its business model, low oil prices can lead to a cessation of capture operations as the revenue from carbon dioxide sales does not cover the costs of capture. The one coal-fired power plant with carbon capture equipment in the United States, the Petra Nova project in Texas, shut down for exactly this reason.[11]

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[3] Taylor Kubota, *Stanford Study casts Doubt on Carbon Capture*, Stanford News (Oct. 25, 2019), https://news.stanford.edu/2019/10/25/study-casts-doubt-carbon-capture/, citing Mark Z. Jacobson, *The health and climate impacts of carbon capture and direct air capture*, 12 Energy Envt. Sci. 3567 (2019), https://pubs.rsc.org/en/content/articlelanding/2019/ee/c9ee02709b/unauth#!divAbstract

[4] *See* U.S. Government Accountability Office, Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects (2021), https://www.gao.gov/assets/gao-22-105111.pdf.

[5] Michael Mazengarb, Chevron admits failure of $3 billion CCS facility in Western Australia, IEEFA (July 19, 2021), https://ieefa.org/chevron-admits-failure-of-3-billion-ccs-facility-in-western-australia/.

[6] *See* Jonathan hettinger, *Despite hundreds of millions in tax dollars, ADM's carbon capture program still hasn't met promised goals*, Midwest Center for Investigative Reporting (Nov. 19, 2020), https://investigatemidwest.org/2020/11/19/despite-hundreds-of-millions-in-tax-dollars-adms-carbon-capture-program-still-hasnt-met-promised-goals/.

[7] *See* Nichola Groom, *Problems plagued U.S. CO 2 capture project before shutdown: document*, Reuters (Aug. 6, 2020), ttps://www.reuters.com/article/us-usa-energy-carbon-capture/problems-plagued-u-s-co2-capture-project-before-shutdown-document-idUSKCN2523K8.

[8] *See* Carlos Anchondo, *CCUS 'red flag?' World's sole coal project hits snag*, E&E News (Jan. 10, 2022), https://www.eenews.net/articles/ccs-red-flag-worlds-sole-coal-project-hits-snag/.

[9] *See* David Schlissel et al., Institute for Energy Economics and Financial Analysis, Blue Hydrogen: Technology Challenges, Weak Commercial Prospects, and Not Green (2022), https://ieefa.org/wp-content/uploads/2022/02/Blue-Hydrogen-Presentation_February-2022.pdf.

[10] Global Carbon Capture and Storage Institute, Global Status Update 2021 63 (2021), https://www.globalccsinstitute.com/wp-content/uploads/2021/10/2021-Global-Status-of-CCS-Report_Global_CCS_Institute.pdf.

[11] *See* Groom, *supra* note 7.

Disclosure rules should also contemplate the fact that CCUS projects may also serve to extend the economic life of an underlying emitting source and therefore increase lifetime emissions even while reducing emissions intensity. Of the two coal plants with CCUS operations in North America, CCUS explicitly extended the life of one of them (and as discussed above, the other is no longer operating its carbon capture equipment). The Boundary Dam power station was planning to close, but instead retrofitted with CCUS and is now expected to continue operating for several more decades.[12] Similarly, a coal plant in North Dakota recently reversed its decision to retire and is pursuing a sale and CCS retrofit instead, and the state of Wyoming has mandated coal plants to install carbon capture equipment to stave off retirement.[13] Even though the total and per-unit energy emissions may be lower from the retrofitted facilities, the overall emissions are greater than what the plant would have emitted had it been shuttered (i.e., none). Reporting on GHG emissions from facilities with carbon capture units should therefore also include expectations of emissions over time. Put another way, a registrant should not be able to report emissions reductions where the alternative would have been the closure or retirement of the underlying facility.

CCUS projects also face significant feasibility risks, owing to the substantial costs[14] and land use footprint associated with CCUS infrastructure, and its serious environmental, public health, and safety risks.[15] One study estimates that to scale, the CCUS build-out—including the pipelines and infrastructure required to capture, compress, transport, and store CO2—will need to be 2 to 4 times larger than the current global oil industry.[16] It is for these reasons that there is widespread and growing opposition to CCUS from community, environmental justice, and other groups, which present additional obstacles to the deployment of CCUS projects and infrastructure.

For the reasons stated above, the Rule should require registrants that rely on CCUS to achieve their climate targets to articulate the true costs, feasibility, and potential emissions impacts of their proposed or intended CCUS programs. To ensure investors are not misled into believing that carbon capture is a cure-all for GHG emissions, companies should disclose the disaggregated emissions and emissions reductions from carbon capture units. Disclosures should enable investors

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[12] Karin Rives, *Only still-operating carbon capture project battled technical issues in 2021*, S&P Global (January 6, 2022), https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/only-still-operating-carbon-capture-project-battled-technical-issues-in-2021-68302671.

[13] See Nicholas Kusnetz, In a Bid to Save Its Coal Industry, Wyoming Has Become a Test Case for Carbon Capture, but Utilities are Balking at the Pricetag, InsideClimate News (May 29, 2020), https://insideclimatenews.org/news/29052022/coal-carbon-capture-wyoming/.

[14] *See* Hélène Pilorgé et al., *Cost Analysis of Carbon Capture and Sequestration of Process Emissions from the U.S. Industrial Sector*, 54(12) Envtl. Sci. & Tech. 7524-7532 (2020), https://pubs.acs.org/doi/abs/10.1021/acs.est.9b07930 .

[15] Sandra Steingraber, *Carbon capture and storage fails to mitigate the dangers of fracking*, *in* Concerned Health Professionals of New York and Physicians for Social Responsibility, Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure" (Eighth Edition, 2022), https://www.psr.org/wp-content/uploads/2022/04/compendium-8.pdf. *See also* Beth Warden, *Government report on CO2 pipeline leak in Mississippi could affect South Dakota Pipelines*, Dakota News Now (June 11, 2022), https://www.dakotanewsnow.com/2022/06/12/government-report-co2-pipeline-leak-mississippi-could-affect-south-dakota-pipelines/.

[16] N. Mac Dowell et al., The role of CO2 capture and utilization in mitigating climate change, 7 Nature Climate Change 243 (2017), https://www.nature.com/articles/nclimate3231.

to evaluate and quantify the total emissions over time from CCUS projects, not merely changes in the rate of emissions or carbon intensity, especially where facilities are increasing their expected economic life. CCUS projects and investments should not automatically count as emissions reduction, but rather should be compared to a no-CCUS alternative, especially for facilities with planned or expected retirements.

Signed,

350 New Orleans
A Community Voice
Alliance for Affordable Energy
Better Path Coalition
Berks Gas Truth (PA)
Bold Alliance
Center for Biological Diversity
Center for International Environmental Law
Coalition Against Death Alley
Concerned Citizens of St. John
CURE (Clean Up the River Environment)
Dakota Rural Action
Foundation for Louisiana
Fox Valley Citizens for Peace & Justice
Friends of the Earth
Healthy Gulf
Inclusive Louisiana
Institute for Policy Studies Climate Policy Program
Justice & Beyond Louisiana
Greater New Orleans Climate Reality Project
Greater New Orleans Interfaith Climate Coalition
Gulf Coast Center for Law & Policy
Louisiana Bucket Brigade
Louisiana League of Conscious Voters
Ohio River Valley Institute
Physicians for Social Responsibility Iowa Chapter
Public Employees for Environmental Responsibility
N.O. Musicians Clinic & Assistance Foundation