

Comment on Notice of Intent Regarding Launching a Voluntary Carbon Dioxide Removal Purchasing Challenge; DOE Carbon Dioxide Removal Purchasing (CO2RP) Challenge.

Thank you for the opportunity to comment on the proposal for a DOE Carbon Dioxide Removal Purchasing Challenge. The undersigned organizations, representing millions of members, urge the Department of Energy to abandon this proposal. The proposal is not supported by either science or required by statute. Rather, the proposed purchasing challenge undermines the stated intent of carbon dioxide removal, which is to remove legacy emissions, not to mitigate current emissions. Further, industrial carbon removal is an expensive and risky distraction from effective solutions to the climate crisis to begin with. By setting up what is effectively a carbon offset mechanism, the proposal would also perpetuate environmental injustice, and provide an unwarranted governmental stamp of approval to offset mechanisms, which are facing a well-deserved credibility crisis today.

A. The Notice of Intent misrepresents the science regarding the need for carbon dioxide removal

The Notice of Intent states, “Large-scale carbon dioxide removal (“CDR”) is critical to reach net-zero targets by 2050 and is anticipated to serve an important role as a counterbalance for hard to abate sectors and a mechanism to reduce atmospheric carbon dioxide.” It does not, however, back up this claim with any evidence.

A review of Intergovernmental Panel on Climate Change (IPCC) reports shows that this statement is a misrepresentation of the science, presenting a contested question as unequivocal fact.

In the *Special Report on Global Warming of 1.5 Degrees Celsius*,¹ the IPCC presented a range of modeled pathways to zero emissions by 2050. None of the pathways modeled direct air capture (DAC). Several of the pathways relied on bioenergy with carbon capture and storage (BECCS), another so-called “negative emissions technology.” Some pathways, however, did not rely on BECCS either, and instead modeled deeper, front-loaded reductions in emissions, coupled with more drawdown through ecosystem restoration, resulting in more uptake of atmospheric carbon dioxide by forests, wetlands, and soil. The more recent *Climate Change 2022: Mitigation of Climate Change* report similarly presents pathways without reliance on DAC and BECCS that nonetheless allow us to reach climate targets. It is, therefore, feasible based on model studies to achieve emissions reductions targets without using either DAC or BECCS.

¹ Intergovernmental Panel on Climate Change (IPCC), *Special Report on Global Warming of 1.5 Degrees Celsius*, 2018, Summary for Policymakers, p. 17, available at: https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SPM_version_report_LR.pdf

Further, the IPCC cautions that “CDR deployment of several hundreds of GtCO₂ is subject to multiple feasibility and sustainability constraints,” which we elaborate on more in Section D below.

B. The credit purchasing mechanism is not required by statute

The Department of Energy’s notice of intent does not reference any statutory provision which requires it to take the action proposed here. Rather, the agency justifies its proposal to create a “Voluntary Carbon Dioxide Removal Purchasing Challenge” by citing “several factors [that] are inhibiting the growth of voluntary CDR credit markets,” such as “insufficient incentives” and “high prices.”² In fact, the Office of Fossil Energy and Carbon Management has acknowledged that “the CDR industry essentially does not yet exist” and that emissions “avoidance is the strong priority over removal.”³ Despite this, the NOI notes only that “[a]ll CO₂ RP Challenge participants will be *encouraged* to adopt the position—consistent with DOE’s position—that CDR is best viewed as part of a decarbonization portfolio that first achieves maximum emissions reductions from existing sources.”⁴

Rather than *sua sponte* propping up an industry for which the agency acknowledges “CDR credits are more expensive than emission reduction credits,”⁵ the Department of Energy should be focusing its attention and resources on its “priority” of emissions avoidance. In fact, in legislation establishing the agency, Congress sets its purpose as, *inter alia*, “to promote maximum possible *energy conservation measures* in connection with the activities within their respective jurisdictions,” and “to create and implement a comprehensive energy conservation strategy that will receive the *highest priority* in the national energy program.”⁶ The agency should heed these statutory directives to incentivize direct emissions reduction rather than removal.

C. Pairing a credit purchasing mechanism with carbon dioxide removal undermines the stated intent of a “negative emissions technology”

The Department of Energy acknowledges elsewhere that the purpose of industrial CDR, or Direct Air Capture (DAC), is to remove legacy emissions, acting as a negative emissions technology.⁷ Allowing current emitters of greenhouse gasses to purchase credits to offset their emissions undermines the stated intent of the Department of Energy to use public subsidies to

² 89 Fed. Reg. at 18,628.

³ Dep’t of Energy, Office of Fossil Energy and Carbon Management, *Strategic Vision* (2022), https://www.energy.gov/sites/default/files/2022-04/2022-Strategic-Vision-The-Role-of-Fossil-Energy-and-Carbon-Management-in-Achieving-Net-Zero-Greenhouse-Gas-Emissions_Updated-4.28.22.pdf at 22-23.

⁴ 89 Fed. Reg. at 18,628 n.6 (emphasis added).

⁵ *Id.*

⁶ 42 U.S.C. §§ 7112(2), (4) (emphasis added).

⁷ <https://www.energy.gov/science/doe-explainsdirect-air-capture>

“address legacy carbon dioxide pollution” that “are already in the atmosphere, fueling climate change and extreme weather and jeopardizing public health and ecosystems across the globe.”⁸

Evidently, the Department of Energy has come to the realization that, in spite of government subsidies, industrial CDR remains an economically infeasible technology. According to the Notice of Intent, “DOE recognizes that the pool of CDR credit purchasers must be significantly larger than at present for the industry to scale successfully.” It goes on to say, “If organizations fail to begin purchasing CDR today, the field will fail to scale CDR supply as quickly as needed.” This is a tacit admission on the part of DOE that industrial CDR is infeasible in spite of government subsidies. In spite of this admission, DOE appears willing to undermine its intent of promoting a negative emissions technology by allowing the use of CDR for emissions reduction credits, instead of recognizing that industrial CDR is not scalable. Unwillingness to acknowledge a mistake does not produce good policy outcomes.

D. Carbon dioxide removal is an expensive, energy-intensive, environmentally risky distraction

Industrial carbon dioxide removal is very expensive, with estimates for cost varying from \$60 to \$1,000 per ton of CO₂ removed, with one study estimating a cost range of \$600-\$1,000/ton of CO₂ removed for early-stage plants.⁹ By way of comparison, total U.S. greenhouse gas emissions in 2022 (the most recent year for which we have data from the EPA) were more than 6.3 billion tons.¹⁰ Using the \$600/ton of CO₂ removed estimate (the conservative end of the range from a study specifically looking at early-stage plants), we find that it would cost \$38 billion to remove only 1 percent of these emissions.

It is also highly energy intensive. Operating industrial CDR worldwide at scale may require up to one-sixth of the world’s current energy output of 600 Exajoules per year, and up to 100 percent of electricity generation today.¹¹

Transporting CO₂ in pipelines to underground injection sites creates new environmental risks, since these pipelines are susceptible to catastrophic fractures that can release large amounts of

⁸ U.S. Department of Energy, “Biden-Harris Administration Announces Up To \$1.2 Billion For Nation’s First Direct Air Capture Demonstrations in Texas and Louisiana,” 8/11/2023, available at: <https://www.energy.gov/articles/biden-harris-administration-announces-12-billion-nations-first-direct-air-capture>

⁹ Intergovernmental Panel on Climate Change (IPCC), Climate Change 2022: Mitigation of Climate Change. Working Group III Contribution to the IPCC Sixth Assessment Report, Chapter 12, Cross-sectoral Perspectives, p. 1266, available at: https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf

¹⁰ U.S. Environmental Protection Agency (EPA), Public Review of Draft U.S. Inventory of Greenhouse Gas Emissions and Sinks: 1990-2022, available at: <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks>

¹¹ Intergovernmental Panel on Climate Change (IPCC), Climate Change 2022: Mitigation of Climate Change. Working Group III Contribution to the IPCC Sixth Assessment Report, Chapter 12, Cross-sectoral Perspectives, p. 1266, available at: https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf

CO₂, an asphyxiant gas.¹² Since CO₂ is denser than air, a CO₂ discharge can stay at ground level, posing a serious threat to communities. Incidents such as the CO₂ pipeline ruptures in Mississippi¹³ and Louisiana¹⁴ will become common if industrial CDR is widely adopted. Injecting CO₂ underground can contaminate groundwater, threatening the water supply of communities.¹⁵

The cost, energy intensity, and environmental impacts of industrial CDR are some of the “feasibility and sustainability constraints” that the IPCC has cautioned about, as we note in Section A above.

Furthermore, a number of studies have raised serious concern that investment in industrial CDR could result in a “moral hazard,” acting as a disincentive for emissions reduction, and could lead to overreliance on untested technologies.¹⁶

E. Purchasing credits as an emissions reduction tool perpetuates environmental injustice

When a facility purchases credits to offset its emissions as a greenhouse gas mitigation tool, it does not reduce emissions of other pollutants such as particulate matter and nitrogen oxides along with greenhouse gasses. (As we demonstrate in Section F below, it may not even reduce greenhouse gas emissions effectively.)

By establishing a credit purchasing mechanism that polluters can use to claim reductions in greenhouse gas emissions, the Department of Energy is choosing to encourage polluting facilities to reduce their greenhouse gas emissions in a manner that leaves all other harmful ecological and health impacts of the polluting facility (both direct impacts in the geographic region of the facility, and upstream impacts from the fossil fuel supply chain) essentially unchanged.

This is a conscious choice on the part of the Department of Energy to perpetuate the long, disgraceful legacy of environmental racism and injustice in the United States, at every stage of

¹² Kuprewicz, Richard B., “Accufacts’ Perspectives on the State of Federal Carbon Dioxide Transmission Pipeline Safety Regulations as it Relates to Carbon Capture, Utilization, and Sequestration within the U.S.” prepared for the Pipeline Safety Trust, 3/23/2022, available at:

<https://pstrust.org/wp-content/uploads/2022/03/3-23-22-Final-Accufacts-CO2-Pipeline-Report2.pdf>

¹³ Zegart, Dan, “The Gassing Of Satartia,” HuffPost, 8/26/2021, available at:

https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f

¹⁴ Louisiana Against False Solutions Coalition, “Yesterday’s Carbon Dioxide Leak in Sulphur, LA Highlights the Dangers of Carbon Capture and Storage Infrastructure Emergency Plans Are Not in Place for Residents’ Safety,” press release, 4/4/2024, available at:

<https://www.lagainstfalsesolutions.org/press-releases>

¹⁵ Lawrence Berkeley National Lab, “Potential Impacts of CO₂ Leakage on Groundwater Quality,” available at: <https://eesa.lbl.gov/projects/potential-impacts-of-co2-leakage-on-groundwater-quality/>

¹⁶ Intergovernmental Panel on Climate Change (IPCC), Climate Change 2022: Mitigation of Climate Change. Working Group III Contribution to the IPCC Sixth Assessment Report, Chapter 12, Cross-sectoral Perspectives, p. 1263, available at:

https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf .

the fossil fuel lifecycle from point of production to point of combustion.¹⁷ It is completely unacceptable for DOE to be promoting environmental injustice.

F. DOE should not give its stamp of approval to offsets

Carbon credits and offsets are deregulatory measures that have been proven again and again to lack real world credibility.¹⁸ By creating federal programs that lend credence to carbon offsets schemes and direct air capture, the Department of Energy is furthering the myth that we can simply mitigate pollution in one area by doing something somewhere else, as well as propping up dangerous and inefficient industries with specious financing mechanisms.¹⁹ Furthermore, as we argue in Section E above, these offset schemes will continue industrial pollution in communities already overburdened with pollution by allowing polluters to simply purchase carbon offsets, rather than actually reducing emissions.

The financial service sector, along with their dirty energy partners, are finding it difficult to establish carbon trading markets because investors lack confidence in the credibility of carbon offsets. These actions by DOE will bring a false sense of credibility to these carbon markets by establishing baseline standards with the full weight and power of the US government, while changing nothing about the actual effectiveness of the underlying carbon offsets.

In conclusion, we urge the Department of Energy to withdraw its proposal for launching a DOE Carbon Dioxide Removal Purchasing Challenge, and reevaluate its support for Direct Air Capture.

Initial signatories:

Center for Biological Diversity
Food & Water Watch
Healthy Gulf
Institute for Policy Studies Climate Policy Program

Additional signatories:

1. 1000 Grandmothers for Future Generations
2. 198 methods
3. 350 Bay Area Action

¹⁷ Donaghy, Timothy Q., Noel Healy, Charles Y. Jiang, and Colette Pichon Battle, 'Fossil fuel racism in the United States: How phasing out coal, oil, and gas can protect communities,' Energy Research & Social Science, Vol. 100, June 2023, available at:

<https://www.sciencedirect.com/science/article/pii/S2214629623001640#bb0420>

¹⁸ Twidale, Susanna. "Carbon credit markets ebb as big names retreat." Reuters. September 1, 2023, available at:

<https://www.reuters.com/sustainability/carbon-credit-market-confidence-ebbs-big-names-retreat-2023-09-01/>

¹⁹ The notice itself acknowledges that carbon markets "face challenges related to market transparency and credit integrity." 89 Fed. Reg. at 18,628.

4. 350 Conejo / San Fernando Valley
5. 350 Mass
6. 350 Seattle
7. Alliance of Nurses for Healthy Environments
8. American Jewish World Service
9. Animals Are Sentient Beings, Inc.
10. Better Path Coalition
11. Between the Waters
12. CleanEarth4Kids.org
13. Communications Workers of America (CWA) Local 1081
14. DC Statehood Green Party
15. Des Moines County Farmers and Neighbors for Optimal Health
16. Earth Action, Inc.
17. Earthworks
18. Energy Justice Network
19. Extinction Rebellion Houston
20. Fox Valley Citizens for Peace & Justice
21. Human Nature
22. Institute for Agriculture and Trade Policy
23. Ironbound Community Corporation
24. John Muir Project
25. Long Island Progressive Coalition
26. Marcellus Outreach Butler
27. Midwest Building Decarbonization Coalition
28. Milwaukee Riverkeeper
29. Move Past Plastic
30. Natural Capitalism Solutions
31. NEPA Green Coalition
32. New Yorkers for Clean Power
33. No False Solutions PA Coalition
34. North American Climate, Conservation and Environment(NACCE)
35. Northeast Organic Farming Association of NH
36. Nuclear Energy Information Service
37. Nuclear Information and Resource Service
38. NY Climate Advocacy Project
39. Oil and Gas Action Network
40. Oil Change International
41. Partnership for Policy Integrity
42. Pennsylvania Action on Climate
43. People for a Healthy Environment
44. Rachel Carson Council
45. Rural Vermont
46. Science and Environmental Health Network
47. Seneca Lake Guardian

48. Sisters of St. Dominic of Blauvelt, NY
49. Soil Carbon Coalition
50. Stop the Algonquin Pipeline Expansion
51. The Enviro Show
52. The Quantum Institute
53. TIAA-Divest!
54. United Native Americans
55. Vote Climate
56. Wall of Women
57. Waterspirit
58. Women's Environment and Development Organization (WEDO)