



April 16, 2024

Hillsborough County Board of County Commissioners
601 East Kennedy Boulevard
County Center, 2nd Floor
Tampa, Florida 33602

Sent via email to boccrec@hillsclerk.com

Public Comment for Item A-15 regarding approving an agreement with LowCarbon America Corporation for a demonstration pilot for carbon capture

Dear Hillsborough County Board:

The NAACP has a longstanding commitment to advocating for historically excluded communities, ensuring their voices are central, particularly in matters of community engagement and environmental justice. The NAACP Center for Environmental and Climate Justice, together with the NAACP State Conference of Florida and its local branches, express profound concern about the proposed LowCarbon mineral carbonation technology project at the Hillsborough County Resource Recovery Facility. Untested technology, even if it claims to reduce carbon, particularly in already burdened communities, must be thoroughly scrutinized. To date, the potential impacts this project could have on frontline communities have been under-assessed, and opportunities for community engagement and participation remain insufficient.

In the staff report, staff shared that “In summary, after reviewing the initial and revised carbon capture pilot project proposals from LowCarbon, staff did not identify fatal flaws or reasons to reject the concept.”¹ However, this rationale goes against widely available research regarding carbon, capture, and storage projects.² Moreover, LowCarbon claims to be solving “global warming...that will realize 2050 carbon neutrality” in the report.³ How can you solve global warming through a process that will likely increase the carbon footprint and cement the County’s reliance on fossil fuels? The NAACP strongly urges the County to reconsider this proposal and center clean energy projects that have been proposed by impacted community members.

¹ Hillsborough County Carbon Capture Utilization and Sequestration Pilot Project Report.

² Mia DiFelice and Oakley Shelton-Thomas, “Why Carbon Storage is a bad idea”, Food and Water Watch, Sept. 2023, available at <https://www.foodandwaterwatch.org/2023/09/06/carbon-storage-bad-idea/>.

³ Hillsborough County Carbon Capture Utilization and Sequestration Pilot Project Report.

The proposal will create more air pollution with non-CO₂ co-pollutants

Given the volatile nature of carbon capture technology, the lack of information creates many other significant environmental concerns.⁴ Indeed, the process leads to the emission of non-CO₂ pollutants due to the increased energy consumption required to convert the CO₂ into its final, inert form and possibly other harmful effects.⁵

Resource recovery facilities that involve incineration or combustion processes emit particulate matter which can contain heavy metals like lead, mercury, cadmium, and arsenic. These air pollutants can cause serious health effects. The carbonation of the CO₂ molecule releases approximately 1.5 kilojoules of heat energy per ton of carbon, necessitating additional energy inputs which, in turn, lead to higher emissions of non- CO₂ pollutants.⁶ In other words, this process will create more air pollution in already overly burdened communities.

Frontline communities cannot be sacrificed for untested, unproven technology

More troubling is that the proposed site is in a historically excluded community, making overly burdened populations a sacrifice zone for this untested technology. The site chosen for this pilot, the Hillsborough County Resource Recovery Facility located at 350 North Falkenburg Road, Tampa, FL, is situated in a Justice40 and Environmental Protection Agency defined disadvantaged community.⁷ Notably, within a one-mile radius of the facility:

- 65% of the population are people of color.
- 34% of the population have less than a high school education.
- 50% are considered low income, with a per capita income of \$26,197.
- The area includes 352 households and five schools.
- It is burdened with 85 water dischargers, three Toxic Release Inventory sites, and nine air pollution sites reporting to the EPA.
- The asthma rates are disproportionately high compared to the state average.

⁴ D. A. Voormeij & G. J. Simandl, Ultramafic rocks in British Columbia: delineating targets for mineral sequestration of CO₂, 23 Summary of Activities, BC Ministry of Energy and Mines 157 (2004) (finding that the mineral carbonation process itself does not itself generate harmful by-products).

⁵ Abass A. Olajire, A review of mineral carbonation technology in sequestration of CO₂, 109 Journal of Petroleum Science and Engineering 365, 384 (2013) (examining the various forms of mineral carbonation technology and its specific processes).

⁶ Ron Zevenhoven & Inga Kavaliauskaite, *Mineral carbonation for long-term CO₂ storage: an energy analysis*, 7(1) INT. J. THERMODYN. 24, 27 (2004).

⁷ EJScreen Community Report (One mile Radius surrounding Hillsborough Resource Recovery Facility), EPA,

https://ejscreen.epa.gov/mapper/mobile/EJSCREEN_mobile.aspx?geometry=%7B%22spatialReference%22%3A%7B%22wkid%22%3A4326%7D%2C%22x%22%3A-82.34022598822612%2C%22y%22%3A27.95480701977145%7D&unit=9035&areatype=&areaid=&basemap=streets&ptitle=350+N+Falkenburg+Rd%2C+Tampa%2C+Florida%2C+33619&distance=1, (last visited Apr. 12, 2024).

These statistics highlight the potential for exacerbated health and environmental injustices stemming from increased emissions, both CO₂ and non-CO₂, related to the project's energy demands. The increased energy demand for CO₂ sequestration will likely exacerbate these emissions, either from the existing facility or others lacking sequestration technology. The potential health impacts on these communities, already disproportionately affected by industrial activities, must be thoroughly examined, and addressed. If the technology works for everyone, why create a pilot in a place that already suffers environmental degradation? The increase in air pollution alone in this proposal should create pause in adding toxins considering the nine air pollution sites nearby.

This is a false solution that will likely increase in CO₂

Next, studies indicate that the current phase of mineral carbonation technology likely creates an increase in CO₂ emissions.⁸ Mineral carbonation processes, like the one LowCarbon proposes in their pilot project, require energy and money to transport suitable initial material to a carbonation reactor, grind this material, heat the reactor system, and store or dispose of the solid CO₂-rich end product.⁹ The overall energy cost depends on many factors, including the transport distance, the type of original silicate rock used, the degree of grinding required to make it soluble, and the quality of the CO₂ stream being captured.¹⁰

Estimates from a study in 2007 concluded that the scale of MCT operations needed to capture the CO₂ emissions from just a single one-gigawatt coal-fired power plant would require moving 55,000 tons of rock per year.¹¹ This massive amount of rock would have to be mined, transported, and eventually stored, which could make such operations impractical. Despite studies identifying this as a problem, these concerns are absent from the staff report submitted to the county.

The issue of whether the proposed pilot, and more seriously, the proposed permanent CCU plant would become a CO₂-positive operation is a very real concern. The MCT process will incur significant CO₂ emissions from transportation, heating, cooling, etc., and the net CO₂ sequestered can only be minimized in ways that will disproportionately impact historically excluded communities.¹²

Minimizing significant CO₂ emissions requires the sequestration system to be located near the power plant, virtually eliminating the need for CO₂ transport.¹³ However, this solution shifts one cost in exchange

⁸ Abass A. Olajire, A review of mineral carbonation technology in sequestration of CO₂, 109 *Journal of Petroleum Science and Engineering* 365, 384 (2013) (examining the various forms of mineral carbonation technology and its specific processes).

⁹ *Id.* at 375.

¹⁰ Edward S. Rubin, *CO₂ Capture and Transport*, 4(5) *ELEMENTS* 311–317 (Oct. 1, 2008) (describing the current status of technologies to capture CO₂ and transport it to a storage site).

¹¹ Gerdemann et al., *Ex Situ Aqueous Mineral Carbonation*, 41(7) *ENVIRON. SCI. TECHNOL.* 2587–2593 (March 1, 2007), <https://doi.org/10.1021/es0619253>.

¹² Abass A. Olajire, *A review of mineral carbonation technology in sequestration of CO₂*, 109 *JOURNAL OF PETROLEUM SCIENCE AND ENGINEERING* 365, 384 (2013) (examining the various forms of mineral carbonation technology and its specific processes).

¹³ F. E. Yeboah, et al., *Cost Assessment of CO₂ Sequestration by Mineral Carbonation*. *ENERGY SYSTEMS LABORATORY* (2006), <https://hdl.handle.net/1969.1/5660>.

for increasing another, by placing the burden of another industrial emitter and plant in an already overburdened community. Alternatively, locating the sequestration process farther from the power plant presents serious problems, as it necessitates transporting the CO₂ via pipeline, which is known to pose significant risks to communities, including leaks both above and below ground. Thus, the process is flawed and will either create sacrifice zones, which is counterproductive to any environmental justice conversation or create more risk to the entire County.

Indeed, environmental activists have raised serious concerns regarding this process as well.¹⁴ To move forward with this project despite the clear implications of a sequestration system from individuals who have outlined serious risks is a careless move. More concerning, there are examples that untested technology of this magnitude is a potentially deadly process.

For example, a carbon dioxide pipeline ruptured in Satartia, Mississippi sending 49 people to the hospital.¹⁵ The county's emergency management team stated that it was luck that ensured people did not die from the leak stemming from the pipeline built as part of a carbon capture and storage project.¹⁶ Carbon dioxide, particularly when combined with water, minerals, and metals in the ground can create a likelihood of groundwater contamination.¹⁷ It is also generally accepted that there is a lack of information and that even simulating different scenarios needs much more research to see the long-term impacts of this risky process.¹⁸ Indeed, a Stanford study demonstrates that this process may not actually help to capture carbon dioxide, but it undoubtedly increases air pollution.¹⁹

While the NAACP acknowledges that we need innovative approaches to reduce carbon, it is imperative to demand clear explanations and assurances that overall CO₂ emissions will not rise, an aspect currently missing from the report. This process will not get the County to a satisfying response the does not create unintended harms for residents. Additionally, frontline communities should not have to continue to be test grounds and sacrifice zones for untested approaches.

¹⁴ FL Activists Call Foul On Climate Scams In Hillsborough County; Call for Clean, Affordable Energy, Food and Water Watch, Jan. 2024, <https://www.foodandwaterwatch.org/2024/01/17/fl-activists-call-foul-on-climate-scams-in-hillsborough-county-call-for-clean-affordable-energy/>.

¹⁵ Dan Zegart, *The Gassing of Satartia*, HUFFPOST, (Aug. 26, 2021), https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f, (last visited Apr. 12, 2024).

¹⁶ D. Zegart, "The Gassing of Satartia" HuffPost, Aug. 2021, *available at* https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f.

¹⁷ Li, Z.; Fall, M.; Ghirian, A. CCS Risk Assessment: Groundwater Contamination Caused by CO₂. *Geosciences* 2018, *available at* <https://doi.org/10.3390/geosciences8110397/>.

¹⁸ Li, Z.; Fall, M.; Ghirian, A. CCS Risk Assessment: Groundwater Contamination Caused by CO₂. *Geosciences* 2018, *available at* <https://doi.org/10.3390/geosciences8110397/>; A. Kolker, "Guest column: A new geological risk for Louisiana?", NOLA, May 2023, *available at* https://www.nola.com/opinions/guest-column-carbon-capture-geological-risk-for-louisiana/article_c6c6c5c8-fa09-11ed-a20c-83df8fcf35b5.html.

¹⁹ Stanford study casts doubt on carbon capture, Stanford News, Apr. 2019, *available at* <https://news.stanford.edu/2019/10/25/study-casts-doubt-carbon-capture/>.

Conclusion and next steps:

For these reasons, we do not agree with moving forward with this pilot project. We also ask that there is an extension of the time for public engagement for at least sixty days. As of now, these are some recommendations that absolutely have to be included for any next steps:

Provide detailed information about the co-pollutants expected to increase due to the project. The staff report states that the pilot system does not require significant energy to operate, however studies of mineral carbonation show that the process does require significant energy demands and nonetheless will require some increase in energy generation.²⁰ Because of this it is imperative to analyze this impact on both CO₂ emissions and increased non-CO₂ air pollutants such as those generated by the resource recovery facility.

Investigate the realistic possibility of increased CO₂ emissions caused by both the pilot and the permanent CCUS plant proposed. LowCarbon spends much of their proposal discussing the benefits of hydrogen, a fossil fuel, in energy generation. But the pilot program has no direct proposal for the hydrogen generation nor any specifics on the creation of hydrogen infrastructure. Further clarification must be made regarding plans to build new fossil fuel infrastructure that could significantly disrupt and disproportionately harm low-income communities, regardless of their purported superiority over the dirtiest of fossil fuels like coal.

Community Engagement and Participation. It is vital to include the voices and perspectives of our community members in decision-making processes for energy-based and carbon removal projects. We request that the council implements an inclusive and transparent public participation process, providing ample opportunities for meaningful engagement, especially for communities of color.

In conclusion, the NAACP stands united in our commitment to a sustainable future and a just transition to clean energy. We believe that the County has not adequately addressed critical issues regarding pollution and environmental justice; topics vital for the well-being of our community. We request that the Commissioners carefully consider our recommendations and take decisive action to protect the rights, health, and future of all residents, especially those who have historically been excluded.

We hope that the County recognizes the gravity of this decision and potential harm for frontline communities. We request that the County does not move forward with this project and consider next steps that actually center the most impacted communities.

Please do not hesitate to reach out with any additional questions that you may have.

Sincerely,

Abre' Conner

Abre' Conner

Director, Center for Environmental and Climate Justice
NAACP

²⁰ Ron Zevenhoven & Inga Kavaliauskaite, *Mineral carbonation for long-term CO₂ storage: an energy analysis*, 7(1) INT. J. THERMODYN. 24, 27 (2004).

Adora Nweze

Adora Obi Nweze
State President
Florida Conference of the NAACP

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