

Aviva Aron-Dine
Acting Assistant Secretary for Tax Policy
CC:PA:01:PR (REG-119283-23), Room 5203
Internal Revenue Service
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

Re: REG-119283-23, Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit

Dear Acting Assistant Secretary for Tax Policy, Aviva Aron-Dine,

The following comments on section 45(Y) and 48(E) of the Internal Revenue Code tax credit proposed rules are submitted by the New Jersey Environmental Justice Alliance and have signatory support from both partner environmental organizations and grassroots, community-based organizations serving incinerator communities across New Jersey.

The New Jersey Environmental Justice Alliance (NJEJA) is a twenty-two year old organization, and the only statewide environmental justice (EJ) organization in New Jersey. Our mission is to improve the quality of life and increase upward mobility opportunities for EJ communities, low-income and Of Color communities, many of whom experience disproportionate burdens as a result of systemic racism and exclusionary governmental structures. We are the only statewide EJ organization in New Jersey, and as such, our work covers a wide range of areas, including clean energy policy, clean energy technology/production, air pollution reduction, emissions and cumulative impacts, waste infrastructure and zoning, as well as tax policy, funding mechanisms, and technological/infrastructural investments. At the heart of our work are the values of environmental justice and the belief that all people everywhere have a right to breathe clean air, live in clean environments, and be active participants in governing practices.

We respectfully submit these comments in order to: underscore the definition of clean energy; clarify the interpretation of qualified facilities; recommend alterations to the proposed emissions calculations; and address the environmental justice concerns related to carbon capture.

These proposed rules, which have been designed to promote clean energy production in the United States, cannot and should not be interpreted to allow incinerators and other combustion and gasification (C&G) facilities which have historically demonstrated themselves to be highly polluting facilities, to qualify for these credits. In doing so, the Department of Treasury and the Internal Revenue Service have the opportunity to narrow the scope of the *Clean Electricity Investment Tax Credit* and the *Clean Electricity Production Tax Credit* to ensure that such credits

are granted to qualified facilities which truly produce clean energy by producing zero greenhouse gas co-pollutant emissions as well as zero greenhouse gas emissions, and adequately address environmental justice concerns.

Clean Energy Through An Environmental Justice Lens

The federal government has made significant strides in subsidizing clean energy infrastructure, production, utilization, and storage due to the passage of the Inflation Reduction Act and the Bipartisan Infrastructure Law. As such, we are able to increase the pace of the nation's transition towards clean, renewable technologies. Such a transition would not be possible without critical investments made at the federal and state level. However, it is crucial that such investments are targeted towards truly clean, renewable energy production.

To set a working definition of clean energy from an environmental justice perspective, we first highlight that terms such as clean energy, green energy, renewable energy, etc. must be treated as the same. All such terms, as well as any other used to describe energy production that may come under consideration as eligible for these credits, must describe energy that contributes neither to climate change or to local air pollutants. Therefore, we consider solar and wind power to be the primary forms of clean energy.

Technologies which rely on woody biomass, incineration from solid waste, methane from landfills, pyrolysis, hydrogen fuel, hydrogen combustion/co-firing, carbon capture utilization and storage/carbon capture and storage (CCUS/CCS), nuclear, renewable natural gas, and liquid natural gas (LNG) in order to produce electricity are not and should not be considered clean or renewable by any standard. Projects and facilities which market themselves as clean through successful greenwashed narratives also must not be considered eligible for such credits.

Finally, while we recognize that the IRA requires the consideration of a “net rate of greenhouse gas” emissions,¹ we are generally very skeptical of the utilization of “net zero” measurements, offsets, trading mechanisms, and any other calculation which balances emissions through net measurements as they have been utilized in most contexts, particularly for carbon. As NJEJA has noted in other comments to agencies at the state level, there is not significant consensus as to whether these calculation methodologies are successful in reducing CO₂ emissions.² Furthermore, such methodologies do not guarantee a reduction in greenhouse gas co-pollutants from plants located in EJ communities.

¹ 26 U.S.C. § 45Y(b)(2)(B)

² Sheats, Nicky. “Comments on the Draft 2019 New Jersey Energy Master Plan.” New Jersey Environmental Justice Alliance, September 16, 2019.
<https://njeja.org/wp-content/uploads/2021/08/Comments-on-the-Draft-2019-New-Jersey-Energy-Master-Plan-2019.pdf>.

As such, we urge the Department of the Treasury to recognize the purpose of the 45Y/48E tax credits: to fund clean energy projects and thereby advance Justice40 principles, support environmental justice communities, and decrease emissions levels.

Proposed Emissions Calculations

Including GHG Co-Pollutants

The proposed regulations for the 45Y/48E tax credits are primarily focused on the reduction of greenhouse gas (GHG) emissions. The proposed regulation defines greenhouse gas emissions rates to be:

“the amount of greenhouse gases emitted into the atmosphere by a facility in the production of electricity, expressed as grams of CO₂e per kWh. Section 45Y(e)(1) defines CO₂e per kWh for purposes of section 45Y to mean, with respect to any greenhouse gas, the equivalent carbon dioxide (as determined based on global warming potential) per kWh of electricity produced. Section 45Y(e)(2) defines greenhouse gas for purposes of section 45Y to have the same meaning given such term under section 211(o)(1)(G) of the Clean Air Act (CAA) (42 U.S.C. 7545(o)(1)(G)) as in effect on August 16, 2022.”³

While a carbon centric approach may be utilized to mitigate the effects of anthropogenic climate change, it does not adequately address the effects of greenhouse co-pollutant emissions on local air pollution.

Any emissions calculations made should include GHG co-pollutant emissions⁴, including but not limited to sulfur dioxide, nitrogen oxides, and fine particulate matter. Based on our definition of clean energy, such facilities producing clean electricity should have emissions rates of greenhouse gases and co-pollutants that is not greater than zero. This ensures that electricity production does not contribute to climate change and global greenhouse gas emissions, nor does it increase the levels of local air pollution.

³ Department of the Treasury. "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit." Federal Register Vol. 89, no. 107 (June 3, 2024):47793. <https://www.govinfo.gov/content/pkg/FR-2024-06-03/pdf/2024-11719.pdf>.

⁴ Environmental Protection Agency, "Power Plants and Neighboring Communities," Clean Air Power Sector Programs, January 24, 2021, <https://www.epa.gov/power-sector/power-plants-and-neighboring-communities>.

Including GHG co-pollutants in the definition ensures that facilities producing clean electricity can decrease their impact on surrounding communities and prioritize harm reduction while still producing clean electricity and power.

Supplemental Emissions

Regarding emissions calculations, we are particularly concerned that the definition excludes:

“(1) emissions from back-up generators that are primarily used in maintaining critical systems in case of a power system outage or for supporting restart of a generator after an outage; (2) emissions from routine operational and maintenance activities that are integral to the production of electricity, including, but not limited to, emissions from internal combustion vehicles used to access and perform maintenance on remote electricity generating facilities or emissions occurring from heating and cooling control rooms or dispatch centers; (3) emissions from a step-up transformer that conditions the electricity into a form suitable for productive use or sale; (4) emissions that occur before commercial operations commence or after commercial operations terminate, including, but not limited to, on-site emissions occurring from construction or manufacturing of the facility itself, emissions from the offsite manufacturing of facility components, or emissions occurring due to siting or decommissioning; (5) emissions from infrastructure associated with the facility, including, but not limited to, emissions from road construction for feedstock production.”⁵

Although electricity generating facilities may argue that these elements of production may not be seen as critical steps in electricity generation, their role in production and distribution are not of any less significance. For instance, should operational and maintenance activities be disrupted, an energy producing facility may need to shut down and pause production. Therefore, routine maintenance is a vital component to electricity generation. In another example, without distribution infrastructure, the bolstering of clean electricity generation facilities has been in vain. Therefore, emissions from these supplementary elements must be factored into the definition of emissions rate. As such, emissions do not sit in isolation, but have an aggregated impact on the surrounding communities; it is imperative that these regulations account for the total emissions from energy production facilities. Likewise, any component of production owned and operated by the qualifying facility should not produce emissions greater than zero.

⁵ Department of the Treasury. "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit." Federal Register Vol. 89, no. 107 (June 3, 2024):47801. <https://www.govinfo.gov/content/pkg/FR-2024-06-03/pdf/2024-11719.pdf>.

Alternative Fates and Geographical Analysis

Finally, we encourage the Department of the Treasury and the Internal Revenue Service to revise their proposed regulations and include a geographical analysis within their emissions calculations and determinations in examining the alternative fates analysis.

According to the proposed regulations, an alternative fate analysis would be “used to estimate the emissions from the use of each feedstock were it not for the feedstock’s new use due to the implementation of the policy.”⁶ Determinations on avoided emissions only factor in utilization, and not impact on surrounding communities or how such emissions may increase, and therefore impact, local air pollution and correlated health outcomes. The impact of proposed utilization must include geographical analysis, thus employing a cumulative impacts framework, in order to understand if alternative fates are indeed more or less beneficial than proposed utilizations.

An alternative fates analysis must include consideration for the community and employ a geographical element in order to adequately address the cumulative impacts of multiple pollution-emitting facilities in one particular area. In the proposed regulation example, there is a comparison between the fate of woody biomass to “be left standing or laying in a forest, pile burned, or used to create a timber product.”⁷ Analyzing the end fate of burning the woody biomass must include analytics on where this facility is located in proximity to the surrounding community, particularly if that community has been identified as an environmental justice community via state and/or federal screening tools. Such identification as an environmental justice community provides additional data on local air pollution and existing emissions rates of facilities in that area. These existing emissions have a cumulative impact on the surrounding and host communities, contributing to total greenhouse gas emissions rates as well as local air pollution.

Furthermore, as allies in other environmental organizations have pointed out, such analysis, while potentially beneficial, can only work effectively if and when the Department of the Treasury ensures that they have examined a full suite of alternative fates.⁸ This is of particular importance when examining suggested usage of landfill methane gas. Analysis of alternative fates which only included burning or flaring the diverted methane gas yields an inaccurate

⁶ Department of the Treasury. "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit." Federal Register Vol. 89, no. 107 (June 3, 2024):47804.
<https://www.govinfo.gov/content/pkg/FR-2024-06-03/pdf/2024-11719.pdf>.

⁷ Department of the Treasury. "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit." Federal Register Vol. 89, no. 107 (June 3, 2024):47809.
<https://www.govinfo.gov/content/pkg/FR-2024-06-03/pdf/2024-11719.pdf>.

⁸ Friends of the Earth et al., “Notice 2022-49, Request for Comments on Certain Energy Generation Incentives – 45Y Tax Credit Must Strengthen, Not Diminish, Justice40,” November 4, 2022,
https://foe.org/wp-content/uploads/2022/11/Treasury-RFI-Align-45Y-with-Justice40_2.pdf.

picture. Other fates, more in line with environmental justice principles, could and should include alternatives that factor in rerouting organic waste from landfills.⁹

Qualified Facilities

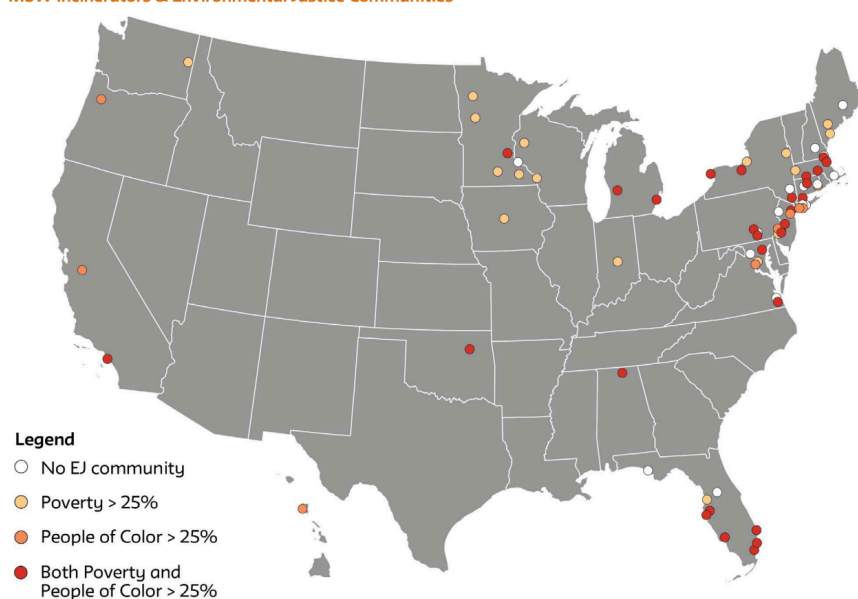
According to the 45Y(b), a qualified facility is meant to be a facility “owned by the taxpayer that is used for the generation of electricity, that is placed in service after December 31, 2024, and for which the greenhouse gas emissions rate (as determined under section 45Y(b)(2)) is not greater than zero.”¹⁰

We stress the final requirement of the definition: that any facility which could be considered qualified for these credits does not exceed a greenhouse gas emission rate greater than zero. This is of particular importance when examining incinerators and other C&G facilities.

Incinerators

Nationally, 79% of MSW incinerators are sited in environmental justice communities. New Jersey currently has four authorized incinerators¹¹, all of which are located in environmental justice communities. These incinerators are located in Camden County, Essex County, Gloucester County, and Union County.

MSW Incinerators & Environmental Justice Communities

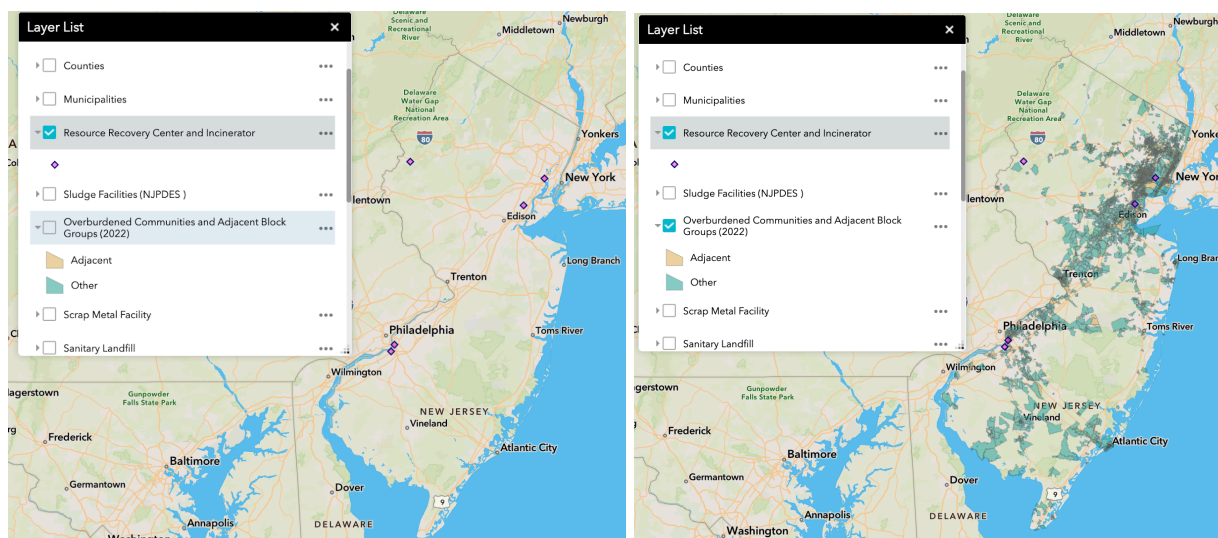


Incinerators in Decline | Tishman Environment and Design Center

⁹ Changing Markets Foundation, Environmental Investigation Agency, and Global Alliance for Incinerator Alternatives, “Methane Matters: Towards a Global Methane Agreement,” March 2022, <https://changingmarkets.org/wp-content/uploads/2022/11/CM-Online-report-layout-Methane-Matters-Towards-a-global-methane-agreement-part-02-V02.pdf>.

¹⁰ Department of the Treasury. "Section 45Y Clean Electricity Production Credit and Section 48E Clean Electricity Investment Credit." Federal Register Vol. 89, no. 107 (June 3, 2024):47793. <https://www.govinfo.gov/content/pkg/FR-2024-06-03/pdf/2024-11719.pdf>.

¹¹ “Authorized New Jersey Incinerators,” New Jersey Department of Environmental Protection, accessed July 30, 2024, <https://www.nj.gov/dep/dshw/rtrtp/njaincin.htm>.



Right Image: Locations of Resource Recovery Centers and Incinerators according to the N.J. Department of Environmental Protection EJMap

Left Image: Locations of Resource Recovery Centers and Incinerators laid over Overburdened Communities and Adjacent Block Groups (2022) according to the N.J. Department of Environmental Protection EJMap

Marketed as an opportunity to divert waste from landfills and convert it into “clean” electricity, incinerators rely heavily on governmental subsidies in order to make their facilities financially viable. However, the narrative that incinerators are “clean” is entirely false. Research has found that incinerators are one of the most unclean forms of energy production, and emit several types of pollutants which not only increase local air pollution but contribute heavily to negative health outcomes for the surrounding communities, many of whom are environmental justice communities. A 2021 report from the Tishman Center at the New School found that “ten of the twelve incinerators that emit the greatest total amount of lead emissions (annually), are in environmental justice communities.”¹² Of the two incinerators that are the highest emitters of lead annually, both in New Jersey. In 2014 alone, the Essex County Resource Recovery incinerator in Newark emitted over 600 pounds of lead and was the highest incinerator polluter. The incinerator in Camden was second, emitting 380 pounds of lead.

Pollutants from incinerators can and often do include: dioxins, heavy metals, chlorine, polystyrenes, sulfur oxides, nitrogen oxides, lead, and PFOS/PFOA. Other pollutants from incinerators can include mercury, particulate matter (PM) 2.5, and nitrogen oxides (NO). Such

¹² Ana Baptista and Adrienne Perovich, “U.S. Municipal Solid Waste Incinerators: An Industry in Decline” (The New School, May 2019), https://static1.squarespace.com/static/5d14dab43967cc000179f3d2/t/5d5c4bea0d59ad00012d220e/1566329840732/CR_GaiaReportFinal_05.21.pdf.

pollutants lead to a multitude of negative health outcomes in the surrounding communities, with emissions levels far exceeding zero.¹³

In addition to the pollution levels from these facilities that are already allowed under existing permits are the emissions levels which exceed the allowable levels and constitute permit violations. “Pollutants that appear the most often as violations include carbon monoxide, sulfur dioxide, and particulate matter. These violations may be the result of incomplete combustion, equipment malfunction or other compromised conditions within the facility.”¹⁴ Such violations demonstrate this technology is not suitable for clean energy credits. There is too much variability in ensuring that pollution levels are kept to permit-set levels, let alone demonstrating an emissions level of both GHG and GHG co-pollutants not greater than zero.

Furthermore, according to a 2021 Earthjustice report, incinerators “can emit more air pollutants than coal plants per unit of energy— up to 18 times more lead, 14 times more mercury, 6 times more smog-forming nitrogen oxides, 5 times more carbon monoxide, 4 times more cadmium and hydrogen chloride, and 2.5 times more greenhouse gases.”¹⁵ If the purpose of the 45Y and 48E tax credit is to fund clean electricity production, then these credits cannot be applied to facilities which are fundamentally more polluting than forms of electricity production already considered not to be clean.

With this understanding, it is critical that incinerators be excluded from qualifying for these clean energy credits. Likewise, all forms of thermal technologies, including pyrolysis, solvolysis, waste to fuel, and any other chemical conversation process¹⁶, in a facility producing electricity must also be categorically excluded from qualification. Such facilities have similarly demonstrated risks and pollution problems as incinerators. In doing so, the Department of the Treasury and the Internal Revenue Service are utilizing investments to bolster truly clean energy production which does not contribute to emissions levels and reduces harm to environmental justice communities.

Facilities Utilizing Carbon Capture

In consideration of carbon capture and sequestration (CCS) or carbon capture, utilization and storage (CCUS) for both C&G facilities as well as Non-C&G facilities, we urge the Department

¹³ Peter W. Tait et al., “The Health Impacts of Waste Incineration: A Systematic Review,” *Australian and New Zealand Journal of Public Health* 44, no. 1 (February 2020): 40–48, <https://doi.org/10.1111/1753-6405.12939>.

¹⁴ Baptista and Perovich, “U.S. Municipal Solid Waste Incinerators: An Industry in Decline.”

¹⁵ Jonathan Smith, Jasmine Jennings, and Victoria Tejada, “New Jersey’s Dirty Secret” (Earthjustice, February 2021), https://earthjustice.org/wp-content/uploads/nj-incinerator-report_earthjustice-2021-02.pdf.

¹⁶ Andrew N. Rollinson and Jumoke Oladejo, “Chemical Recycling: Status, Sustainability, and Environmental Impacts” (Global Alliance for Incinerator Alternatives, June 4, 2020), <https://doi.org/10.46556/ONLS4535>.

of the Treasury and Internal Revenue Service to ensure that any facility receiving the 45Y/48E tax credit not employ CCS/CCUS in any part of their electricity generation and production. Environmental justice communities across the United States have been firm in advocating that CCS and CCUS not be considered clean, green, or part of renewable energy nor the clean energy transition. The risks are too high, as leakage, rupture, and migration of injected carbon poses significant and substantial risks to surrounding populations and local animal/plant life. Examples such as Yazoo County, Mississippi, where 45 people were hospitalized as a result of a carbon pipeline leakage in February 2020 demonstrate the severe danger of CCS/CCUS to public and environmental health.¹⁷ In all, CCS projects bring no real benefit to environmental justice communities and local air pollution rates, and show a significant probability risk that they may actually increase co-pollutant emissions in over-burdened EJ communities.¹⁸

Additionally, framing CCS/CCUS as part of successful climate change mitigation plans and clean electricity would demonstrate an overlook of CCS/CCUS technology's associated energy penalty as well its sustained history of failing to achieve promised capture rates. Some studies have found “energy penalties of between 15% and 44% for CCS generally (not specific to the power sector).”¹⁹ Although more data is needed to understand the energy penalties specific to the power sector, the emissions related to CCS/CCUS throughout its entire life cycle, including buildout, infrastructure, storage, and potential utilization should be factored into emissions calculations of any facility seeking to use CCS/CCUS within its production model.

In addition to energy penalties associated with attempting to use CCS/CCUS, facilities in the United States have not been proven to successfully reach the promised capture rates.²⁰ According to a 2023 WHEJAC report, the Petra Nova plant in Texas predicted a 90% capture rate, but “estimates of real capture rates are at about 55-58 percent and further monitoring data is needed to verify Petra Nova’s claim of a 90 percent capture rate.”²¹ Likewise, a 2024 report on an Illinois CCS plant found that despite receiving \$281 million in Department of Energy grants, the

¹⁷ Dan Zegart, “Gassing Satartia: Carbon Dioxide Pipeline Linked To Mass Poisoning,” HuffPost, August 26, 2021, https://www.huffpost.com/entry/gassing-satartia-mississippi-co2-pipeline_n_60ddea9fe4b0ddef8b0ddc8f.

¹⁸ Furbank, Lani. “Carbon Capture and Storage (CCS): Frequently Asked Questions.” *Center for International Environmental Law*, Center for International Environmental Law, 26 Apr. 2023, www.ciel.org/wp-content/uploads/2023/02/Carbon-Capture-and-Storage-FAQ.pdf.

¹⁹ Yukyan Lam, Jennifer Ventrella, and Ana Baptista, “Environmental Justice Concerns with Carbon Capture and Hydrogen Co-Firing in the Power Sector” (The New School, June 2024), <https://njeja.org/wp-content/uploads/2024/07/CCS-EJ-White-Paper.pdf>.

²⁰ Bruce Robertson and Milad Mousavian, “Carbon Capture to Serve Enhanced Oil Recovery: Overpromise and Underperformance” (Institute for Energy Economics and Financial Analysis, March 2022), https://ieefa.org/sites/default/files/2022-05/Carbon-Capture-to-Serve-Enhanced-Oil-Recovery-Overpromise-and-Underperformance_March-2022.pdf.

²¹ “White House Environmental Justice Advisory Council Recommendations: Carbon Management Workgroup,” November 17, 2023, https://www.epa.gov/system/files/documents/2023-11/final-carbon-management-recommendations-report_11.17.2023_508.pdf.

project captured merely 10-11% of the plant's emissions.²² Employment of these technologies is costly and ineffective at best, but dangerous and seriously harmful at worst. However, even assuming that CCS/CCUS technologies were effective in their outlined goal, these projects do not successfully address the problems of local air pollution and decrease the emissions of GHG co-pollutants.

Conclusion

Recognizing the need for rapid scaling of clean energy production and distribution, we support the unlocking of federal tax credits to invest and support the clean energy transition. We urge the Department of the Treasury and the Internal Revenue Services to:

- Implement these proposed regulations with an environmental justice centered definition of clean energy;
- Incorporate greenhouse gas co-pollutant emissions into the emissions rate calculations;
- Expand the included emissions calculated in the emissions rate;
- Ensure robust analysis of alternative fates and include a geographic analysis;
- Clarify the definition of qualified facilities to be sure that facilities such as incinerators, wood-burning power plants, and other polluting C&G facilities which cannot demonstrate greenhouse gas emissions rates not greater than zero are ineligible for the 45Y/48E tax credits;
- Hear and address the environmental justice concerns associated with CCS/CCUS technologies.

(Signatories on the following page)

²² Brendan Gibbons, "In Illinois, a Massive Taxpayer-Funded Carbon Capture Project Fails to Capture about 90 Percent of Plant's Emissions," Oil and Gas Watch News, April 25, 2024, <https://news.oilandgaswatch.org/post/in-illinois-a-massive-taxpayer-funded-carbon-capture-project-fails-to-capture-about-90-percent-of-plants-emissions>.

Signed By:

The New Jersey Environmental Justice Alliance

Co-Signatories:

Beyond Plastics

Camden for Clean Air

Center for Environmental Transformation

Center for the Urban Environment of the John S. Watson Institute for Urban Policy and Research
at Kean University

Don't Gas the Meadowlands Coalition

Earthjustice

Empower New Jersey

Environment New Jersey

New Jersey Forest Watch

Surfrider Foundation

Tishman Environment and Design Center at The New School

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Director of Policy

New Jersey Environmental Justice Alliance