SIERRA CLUB
CONNECTICUT

P.O. Box 270595
West Hartford, CT 06127
connecticut.chapter@sierraclub.org

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Connecticut Department of Energy & Environmental Protection
Energy & Technology Policy
10 Franklin Square
New Britain, CT 06051
Via email: DEEP.EnergyBureau@ct.gov

On behalf of Sierra Club Connecticut and our 40,000 members and supporters in the state, thank you for the opportunity to provide public comment regarding accounting for greenhouse gas emissions from the consumption of electricity.

Connecticut's Global Warming Solutions Act (GWSA) requires a 45% reduction in greenhouse gas emissions by 2030 and an 80% reduction by 2050. The GWSA is a statutory recognition of the critical need to reduce pollutants implicated in the climate crisis that is rapidly unfolding before us. Connecticut will fail to meet the mandate of the GWSA if the tracking and reduction of greenhouse gas emissions fails to truly reflect the emissions associated with our state. We offer the following recommendations to account for and reduce emissions.

Accounting only for consumption fails to address greenhouse gas emissions produced within Connecticut by electricity generation for out-of-state sale

Sierra Club Connecticut urges that Connecticut's Greenhouse Gas Inventory account for the greenhouse gas emissions of the electricity consumed in our state, as well as for the greenhouse gas emissions of the electricity generated here. The emission reduction mandates of the GWSA must be applied to both consumption and generation.

Because Connecticut policy has welcomed and encouraged the expansion of fossil gas pipelines, and DEEP has continued to approve fossil fuel power plants even when our state does not need the electricity they will produce, we have become the hub of dirty energy in the region. We consume only 73% of the energy produced here, the rest is exported to other states. As noted in the Integrated Resources Plan, there are 54 large fossil fuel power plants in Connecticut—more than 40 have been constructed here since 1998 and two more are currently proposed in Killingly and Middletown and have received full or tentative approval from DEEP.

DEEP must not limit the mandate of the GWSA to Connecticut's energy consumption; as DEEP must include generation in the Greenhouse Gas Inventory and proactively reduce the greenhouse gases associated with this dirty generation in alignment with the GWSA. There are a number of important reasons for this, including:

1. No other state can site or permit fossil fuel plants in Connecticut. Connecticut DEEP has a responsibility for the greenhouse gas emissions that it has allowed within the borders of our state, and must proactively reduce emissions from these generators.

2. We breathe this air. No matter how much clean energy we import, the damage to our local air remains as long as dirty power is generated here.
3. In order to achieve greenhouse gas emissions reductions from electricity exported to other states every jurisdiction that imports dirty energy produced in Connecticut must use the same greenhouse gas emission accounting methods and have the same (or more ambitious) greenhouse gas reduction mandates. We simply cannot count on that to happen, nor should DEEP authorize fossil fuel generators within Connecticut's borders and then pretend those emissions don't exist or shift them to some other state's balance sheet.

On its website, DEEP should provide the public with easy to find information on each of the large electric generating facilities within Connecticut, their location, the annual greenhouse gas emissions permitted by DEEP.

Emissions from biomass and biofuel must be fully accounted for and subject to the emission reduction mandate of the GWSA

Sierra Club Connecticut opposes DEEP's proposal to remove the CO2 emissions from biomass combustion from the Greenhouse Gas Inventory and treat these emissions as carbon neutral. Biomass is not carbon neutral on any relevant time scale and has very high combustion emissions of carbon dioxide.[1] According to the IPCC, it is inaccurate to "automatically consider or assume biomass used for energy [is] 'carbon neutral,' even in cases where the biomass is thought to be produced sustainably."

DEEP should continue to treat biomass emissions like fossil fuels. Conventional biomass power plants emit 50% more CO2 than coal for the same amount of energy generated. It will take decades to over a century for new tree growth to sequester the CO2 that was released instantaneously through the wood combustion, based on the Manomet Study's findings.[2]

DEEP must continue to include the CO2 emissions from combustion of biomass in the Greenhouse Gas Inventory, and commit to a robust accounting and reduction of those emissions in alignment with the GWSA.

The proposal to take biomass out is also extremely risky and could result in more incentives for biomass burning to power the electric grid, an error that would be amplified as we increasingly move to electrification of our heating systems and our transportation system.

In addition to fully accounting for the emissions from biomass, Sierra Club Connecticut urges a rapid phasedown of the RECs for biomass and removal of biomass as a Class I renewable resource. We urge DEEP to end the current practice of intensive removal and incineration of trees; this practice is antithetical to climate mitigation. The IPCC pathways to limiting

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[1] Partnership for Policy Integrity, Why Forest-Derived Biomass is Not Carbon Neutral in the Relevant Timeframe for New York's Climate Goals (July 29, 2018), https://www.pfpi.net/wp-content/uploads/2021/11/2018-07-29-Appendix-to-Joint-Comments-re-Proposed-CO2-Performance-Standard.pdf

[2] Thomas Walker, *et al*., Manomet Center for Conservation Sciences. Biomass Sustainability and Carbon Policy Study (June 2010). Prepared for the Massachusetts Department of Energy Resources, https://www.mass.gov/files/documents/2016/08/qx/manomet-biomass-report-full-hirez.pdf

temperature rise to 1.5 degrees require *more* forest sinks, not just maintenance of existing forests.

Similarly, DEEP must include biofuels in the Greenhouse Gas Inventory, they should not be treated as carbon neutral.. Depending on the production process, feedstock, and timeframe of the analysis, biodiesel may be responsible for even more GHGs than fossil fuels on an energy-equivalent basis.[3]

Methane leakage is vastly underestimated, reporting in Inventory needs to improve

In its 2021 Global Methane Assessment, the UN reports "Reducing human-caused methane emissions is one of the most cost-effective strategies to rapidly reduce the rate of warming and contribute significantly to global efforts to limit temperature rise to 1.5°C." Fossil gas is primarily made of methane, a powerful greenhouse gas more than 80 times more powerful than carbon dioxide over a 20-year period. Reducing the emission of methane now will have an immediate impact because it is a short term greenhouse gas.

Sierra Club Connecticut urges DEEP to develop a much more rigorous reporting of methane leaks in the Greenhouse Gas Inventory. A number of eye-opening studies have shown that reported methane leak rates are vastly underestimated. The Environmental Defense Fund (EDF) conducted rigorous scientific studies and concluded that methane emissions are 60% higher than EPA estimates of around 1.5%. This included important aerial measurements.[4] In November, a new study[5] showed methane being released from the gas system into Boston's atmosphere is six times higher than estimates used by the Massachusetts Department of Environmental Protection. The Boston study showed total supply chain losses of 3.3 to 4.7% which significantly increases the climate impacts of fossil gas compared to Environmental Protection Agency estimates; study authors found atmospheric methane measurements were approximately three times larger than calculated by usage-based inventories. Two Sierra Club Connecticut studies in 2016[6] and 2019[7] found that methane leaks from the gas pipeline system are underreported. The estimate of methane leaks in Hartford is 0.86 metric tonnes per day (or 313 metric tonnes per year), equivalent to 42,840 cubic feet per day of natural gas, and a daily gas consumption of approximately 214 U.S. households.

Leaks are prevalent throughout the gas system, including meter leaks and leaks inside homes. DEEP should continue to include meter leaks in its reporting. Methane leaks behind the meter are not currently measured or reported, but have been noted as a problem in Connecticut. In a 2014 study of barriers to weatherization in Connecticut, gas leaks were identified as one of the

[3] US EPA, Economics of Biofuels, https://www.epa.gov/environmental-economics/economics-biofuels. ("Depending on the feedstock and production process and time horizon of the analysis, biofuels can emit even more GHGs than some fossil fuels on an energy-equivalent basis.") See also, International Council on Clean Transportation, Biodiesel carbon intensity, sustainability and effects on vehicles and emissions (January 2012) ("In actuality most biodiesel pathways result in higher net emissions than the combustion of conventional diesel fuel.").
[4] https://pubs.acs.org/doi/10.1021/acs.est.5b00410
[5] https://www.pnas.org/content/118/44/e2105804118
[6] https://ctsierraclub.wixsite.com/sierraclub-ct/hartford-mobile-methane-leaks-study
[7] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7560587/

barriers found regularly.[8] Other uncalculated methane leak sources may include but aren't limited to compressor stations, fuel cells, emergency generators.

Thank you for consideration of our comments.

Sincerely,

Samantha Dynowski, State Director
Sierra Club Connecticut

[8]https://efficiencyforall.org/wordpress/wp-content/uploads/2020/08/Health-and-Safety-Barriers-study-final-report3-17-17.pdf