

Report Shows Substantial Reductions of Greenhouse Gas Emissions from Biomass-produced Diesel and Renewable Natural Gas

New whitepaper shows BBD, RNG can have meaningful contributions to reaching CLCPA emissions-reduction goals

1/27/2022

[Whitepaper on BBD and RNG](#)

The State University of New York College of Environmental Science and Forestry (ESF) released a whitepaper showing that biomass-based diesel (BBD) and renewable natural gas (RNG) can achieve substantial reductions of greenhouse gas (GHG) emissions and co-pollutant emissions.

The literature review finds that both biomass-based diesel and renewable natural gas have the potential to make meaningful contributions to New York state's climate and human health targets under the Climate Leadership and Community Protection Act (CLCPA). Both alternatives have been identified in the CLCPA and the Climate Action Council's [Draft Scoping Plan](#) as an alternative to displace fossil fuels.

Key findings from the report include:

- The Carbon Intensities (CI) of BBD from waste- and coproduct-based feedstocks are 66%-81% lower than those of petroleum diesel.
- RNG compressed and liquified form produced from landfill gas has CIs with a range that is 30%-44% lower than counterpart fossil fuels, and identical forms generated from swine manure feedstock range in negative emissions.
- After switching to an unblended form of biodiesel (B100) from petroleum diesel, 47%-100% reductions of emissions are reported depending on co-pollutants, except for the slight increase in NOx emissions.
- RNG supply chains achieve low-to-negative co-pollutant emissions, although the emissions typically depend on key factors.

“The United States, and New York specifically, have set ambitious net-zero emissions goals that will require rapid decarbonization, especially from our transportation sector. This whitepaper shows the opportunities available with biomass-based diesel and renewable natural gas, which are proven solutions to reducing greenhouse gas emissions and co-pollutants,” said Dr. Tristan Brown, director of the Bioeconomy Development Institute and Associate Professor of Energy Resource Economics at ESF.

Last year, Brown [was selected](#) to serve on the Energy Intensive and Trade Exposed Industries Advisory Panel to make recommendations to the Climate Action Council (CAC). Earlier this year, several ESF faculty and alumnus [were appointed](#) to the state's Climate Impacts Assessment project by Governor Kathy Hochul.