Biochar and Sustainability in NYS: A Brief Overview

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NYS Food Waste Mandate

• Most recent NYS budget mandates that food waste must be either donated or recycled

• Hotels, supermarkets, colleges, large restaurants, and other facilities producing >2 tons food waste/week/location (outside of NYC) must send any non-donated food waste to “organics recyclers”

• Mandate is intended to limit emissions resulting from organic waste in landfills and incinerators
New York State Climate Leadership and Community Protection Act (NYS CLCPA)

• Passed in June 2019, this state legislation requires reductions to statewide anthropogenic GHG emissions relative to 1990 baseline (238.3 million Mg CO₂e) of:
  • 40% by 2030
  • 85% by 2050

• NYS GHG emissions are to be “net zero” by 2050:
  • Remaining 15% of emissions (unavoidable fossil emissions due to further reductions being technically infeasible) are to be offset by carbon-negative “GHG emission offset projects”
    • Equal to 35.7 million Mg CO₂e, or amount emitted by 7.8 million cars annually
GHG Emission Offset Projects

• Offset projects must be “real, additional, verifiable, enforceable, and permanent.”

• Electric generation sources of emissions are not eligible for offset projects

• Legislation proscribes two pathways from qualifying as GHG emission offset projects:
  • Biofuels used for energy or transportation purposes; and
  • Waste-to-energy, including incineration and pyrolysis (emphasis added)
    • Currently unclear which definition of “waste” is being used
NYS CLCPA, continued

• Creates a “State Climate Action Council” that is tasked with creating a scoping plan within two years and subsequent interim updates

• Scoping plan must identify and recommend “measures to achieve long-term carbon sequestration and/or promote best management practices in land use, agriculture, and forestry.”

• Scoping plan must consider these measures in context of:
  • (1) Economic and social benefits of GHG emission reductions; and
  • (2) Costs of implementing proposed emissions reduction measures

• Analytical methodologies such as integrated techno-economic analysis/life cycle assessment could play an important role
Biochar’s Potential Roles

• Long-term carbon capture and sequestration (especially when paired with fast-growing feedstocks on marginal lands)
• Land remediation and/or restoration
• Reduced fertilizer consumption (and carbon intensity) in the agricultural sector
• Green building infrastructure
Questions?

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