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 CO_2e) 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 CO_2e, 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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