

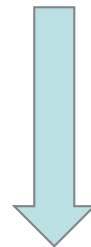
Food Waste to Energy: The Intersection of Climate Change Mitigation, Sustainable Development and Resiliency

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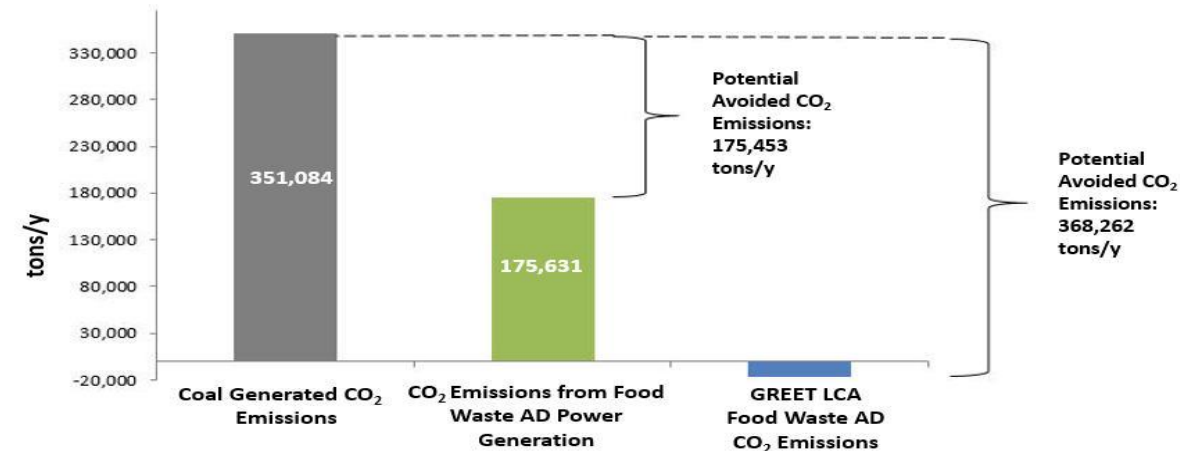


SUMMARY

- Food waste is one of the largest components of the municipal solid waste stream (MSW). Every year in the US, approximately 66 billion tons of food and organic waste is disposed in landfills.
- The quantities of New Jersey's bio-based feedstock resources, clean energy generation and GHG emissions reductions were estimated in 2015. This analysis determined that the amount of food waste generated annually in New Jersey is approximately 704,612 tons.
- The research found that if all the food waste generated in the NJ was efficiently converted into low-carbon energy, NJ could potentially generate an additional 310,000 MWh of low-carbon electricity and avoid 370,000 tCO₂/y.
- However, achieving this potential may be difficult using today's practices where organics are mixed with other constituents of MSW and decompose in the landfills, creating landfill gas (LFG) which is approximately 55% CH₄, and 40% CO₂. LFG collection efficiencies are highly debated and research suggests that modeled collection efficiencies are consistently higher than those calculated from field measurements (average 20%).
- Converting source separated food waste and clean organic waste in a closed and efficient Anaerobic Digestion (AD) system can reduce potential CH₄ leakages and help mitigate climate change by displacing fossil fuel counterparts.



**Food Waste AD Biogas for Power Generation
Potential CO₂ Reductions Comparison**



**Food Waste AD Biogas as Transportation Fuel
Potential CO₂ Reductions Comparison**

