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RE: Response to Waste Infrastructure Request for Information

To Whom It May Concern:

Following is in response to the Department's February 9, 2023, Request for Information for Connecticut Materials Management Infrastructure facilities to help move the State to a more sustainable, cost effective, waste management system. Quantum Biopower is proud to be a key partner in Connecticut's buildout of new waste management facilities with its Southington anaerobic digestion facility. By working collaboratively with the Department, Quantum was able to build the first of its kind, food waste-only anaerobic digester in Connecticut, managing 40,000 tons of food waste annually, and making renewable energy, nutrient rich fertilizer and mulch products from food waste materials. In addition, our Southington facility recaptures and diverts packaging, like cardboard, glass and aluminum cans, and sends those to companies that recycle and reuse them.

It is the strategic goal of Quantum Biopower to continue to finance, build and operate state-of-the art facilities that literally squeeze value from the organic waste stream for reuse, recycling, and repurposing in Connecticut. Whether it is anaerobic digestion, new material manufacturing, recapture technologies retrofitted to existing facilities or new intermediate facilities, Quantum stands ready to meet the challenges before us today to transform Connecticut back into a model of sustainable waste management systems.

Quantum Biopower has several concepts we believe will provide the kind of infrastructure necessary to address food waste and organics diversion challenges, and to recapture the gas from the already occurring and natural process of waste decomposition and use it to displace the need for some of the State's conventional gas supply, either as a trucking or aviation fuel, or electric generation. In any case, making fuels from organic matter is a no-brainer. The decomposition happens anyway, so it is best to deploy recapture methods where possible and destroy more potent gases, like methane in the process. Quantum does this at its Southington facility today and the influx of new organics material to that site in the future will allow for more diversification of the fuel sources produced. There are certainly many possibilities and actively evolving technologies on the renewable energy side of the waste management system. All should be pursued, and Quantum is anxious to just that.

However, Connecticut's main problem is, before the gas can be captured, the organic waste itself has to be captured and accumulated. Quantum's lived experience with organic waste generators over the past

several years of operation has given our team unique insight to the barriers to organics diversion as they exist today. Collection can take a few different forms to encourage generators to participate but each is tailored to the size generator, the ease with which residents can adjust to new separation behavior and the cost and availability of pick up and drop off services. Today, less than fifteen percent of the food waste that enters the Southington facility's gates in from Connecticut. In fact, it isn't a stretch to imagine that the Southington facility could be augmented to manage most if not all of the state's food waste stream – certainly over the next 10-15 years. Digestion capacity isn't our problem. Getting the food waste material from the generator is the problem.

Finally, Quantum's responses below are extremely limited as it does not appear that any proposals offered would ultimately be considered confidential by the Department. Therefore, there is not much by way of specific solutions we can responsibly offer. What is important to note is that Quantum's accomplishments and experience over the past ten years working with municipalities and the Department as well as other stakeholders, speaks for itself. Quantum further does not envision the need for public financing of any of its investments, once the State demonstrates its commitment to organics diversion policy, although if more volume leads to the production of additional gas, there may be opportunity for additional energy sales through a Department-initiated procurement of energy and/or RECs.

Thank you for the opportunity to offer these limited responses.

Sincerely,  
Brian Paganini, VP and Managing Director  
Quantum Biopower, LLC

## RFI Responses

### **Site Characteristics and Facility Details**

Quantum does plan to build additional facilities to address the access and cost issues the regions and municipalities currently face. We hope that the Governor's Waste bill passes this session so that municipalities are empowered to join to commit to new facilities for organics management.

Quantum is aware of its needs for utility connection, site size and other needed characteristics to locate facilities in the state and is happy to discuss those details with municipalities and regions interested in hosting infrastructure. Quantum is open to leasing land or purchasing land in the state to locate facilities once there is a demonstrated commitment to diverting food waste. Quantum does not anticipate the need for state grants or financing resources. However, Quantum will pursue an energy and REC off-take agreement through the Department's procurement authority for new energy generated from increased capacity in Southington.

### **Procurement of Anaerobic Digesters**

DEEP should not consider new procurements for digesters because there isn't enough waste collected to justify another procurement. The state has enough capacity to manage source separated organics and, unless more organic waste is generated, existing facilities will end up cannibalizing one another. This is not the ideal outcome if the goal is a robust system of well-functioning facilities.