



49 DePaolo Drive · Southington, CT · 06489

**Testimony of Brian Paganini, Vice President and Managing Director**

**Quantum Biopower, LLC**

**Before the Connecticut Energy and Technology Committee**

**March 6, 2018**

***Senate Bill 337: AN ACT CONCERNING A RENEWABLE PORTFOLIO STANDARD, A PROCUREMENT PROCESS AND THE ESTABLISHMENT OF A QUALITY STANDARD FOR RENEWABLE NATURAL GAS AND THE PROCUREMENT OF ELECTRICITY GENERATED FROM A BIOMASS FACILITY***

Senator Winfield, Senator Formica, Representative Reed, Representative Ackert and distinguished members of the Energy and Technology Committee:

My name is Brian Paganini and I am Vice President and Managing Director of Quantum Biopower. Quantum is the developer, owner and operator of the state's only electricity producing anaerobic digester. The Southington facility processes 40,000 tons per year of food waste, by aiding the organic breakdown of the material. It captures methane gas produced from the decomposition process and uses that gas to produce 1 megawatt of renewable electricity. The electricity is fed to the grid and used to power several Southington Town buildings using the virtual net metering program.

I am here today to testify in support of Senate Bill 337, which would create a new Renewable Portfolio Standard (RPS) for natural gas purchases to serve gas customers in Connecticut. The bill also creates a procurement program for Renewable Natural Gas (RNG) and establishes a quality standard RNG must meet to assure utilities that the gas they buy is safe for injection into their pipelines.

The bill has been raised, at least partially, by this Committee's interest in hearing more about anaerobic digestion's ability to produce pipeline quality RNG from the state's organic waste. Quite logically, the Committee leadership's interest was piqued by the idea of making natural gas – any natural gas – locally. As you know, natural gas costs may be low today, but transportation constraints and the underlying fuel itself are subject to wild volatility. Volatility is no friend of regulators.

Quantum's interest in producing gas rather than electricity was piqued the more we learned about energy production via the Southington project development process. In Southington, we have a gas line near the site. We also have waste trucks driving in and out each day. It just never seemed efficient for us to produce electricity. But that's where the incentives were and, we needed to walk before we could run.

But there's no doubt that natural gas is a much more flexible fuel. It can be used for pipeline injection, to power trucks and vehicles, or if needed, to power an engine and produce electricity.



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So why don't we have more RNG? The answer is no surprise: its cost. Like other renewable energy technologies, the capital cost for anaerobic digesters is high. The additional cost for a facility like Southington to produce pipeline quality RNG versus electricity is approximately \$1 million. Given that the primary hurdles for digesters to overcome are on the solid waste side, little serious thought has been given to making the more up-front, capital-intensive energy product. But that thinking may be short sighted.

Given all of these considerations, Quantum commissioned a report in 2017 from the Gas Technology Institute to identify the universe of potential renewable gas in Connecticut, the benefits of RNG and address common concerns about gas quality and safety. The report is entitled: "Renewable Natural Gas: A Valuable Resource for Connecticut," and has been included with my testimony. Among the report's findings are that RNG could:

- Displace 540,000 tons of CO<sub>2</sub>
- Generate 42 MW of renewable electricity
- Displace 29 million gallons of gasoline or 27 million gallons of diesel
- Fuel 7,000 heavy duty vehicles
- Fuel 40,000 passenger vehicles
- Power 40,000 homes or 7.5% of residential gas users
- Generate 300 skilled jobs

Quantum believes RNG is a logical next frontier on the way to Connecticut's renewable energy future. How we get there can take any number of paths. Quantum appreciates and supports SB 337's proposed, RPS-inspired utility purchasing requirement structure. Both heating oil and electricity have renewable requirements and have successfully incentivized renewable sources as a result. The bill contains a proven, solid program structure to begin discussions about this valuable, untapped resource.

Finally, Quantum appreciates the bill's call for an established quality standard for RNG to assure the utilities that their gas pipelines will only receive safe, "pipeline quality" gas.

Thank you for the opportunity to testify before you today. I'd be happy to answer any questions you have.