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Doreen Harris
President and CEO
New York State Energy Research and Development Authority
Draft Scoping Plan Comments
17 Columbia Circle
Albany, NY 12203-6399

Basil Seggos
Commissioner
New York State Department of Environmental Conservation
Draft Scoping Plan Comments
17 Columbia Circle
Albany, NY 12203-6399

Re: Draft Scoping Plan Comments

Dear Co-Chair Harris and Seggos:

Thank you for the opportunity to offer comments on the New York State's Draft Scoping Plan. For too long, the waste sector's climate impacts have been ignored. However, the leadership you have shown to focus on this issue has been vindicated by the fact that the waste sector has essentially the equivalent impact on our climate as the electricity sector. As Council's work has proven, over 90% of the impact from the disposal of solid waste comes from landfill emissions.

Covanta is a leader in sustainable materials management providing environmental solutions to businesses and communities across New York and North America. Through our network of facilities and state-of-the-art services, Covanta is helping communities and businesses solve today's most complex environmental challenges. Over the years, Covanta has sustainably diverted over **500 million tons** of waste from landfills. Today, we divert over 7% of the waste remaining after recycling in North America annually.

The reason landfill avoidance is so critical when it comes to fighting climate change is because landfills are a leading source of anthropogenic methane, in the State of New York, the United States and globally.^{1,2} When biodegradable waste is placed in landfills, it breaks down anaerobically, generating methane. While today many landfills have systems in place to capture and combust this methane, either via flares or for energy recovery, it remains a highly imperfect system: landfills only capture a fraction of the gas generated. Landfill gas (LFG) escapes through cracks and imperfections in the surface cap, around wells and penetrations, through leachate collection systems, and through the cap itself. Over the life of waste in a landfill, the efficiency of these

collection systems is estimated to be only **35 – 70%**, leaving up to nearly two thirds of methane uncollected.³⁻⁷

Unbelievably, landfills don't measure their emissions, they model them, and they've been underreporting for years. Direct measurement of landfill methane plumes via aircraft downwind of landfills actual measured emissions from landfills have averaged **twice the amount reported** in GHG inventories.^{8 9 10 11 12 13}

In fact, Waste Management World Magazine reported that, "Landfills may be doing far more harm to the planet than the regulating agencies are aware of, according to a years-long aerial survey commissioned by California air-quality regulators. A survey by researchers at the NASA's Jet Propulsion Laboratory and leak-detection firm Scientific Aviation found that so called "super-emitter" landfills accounted for **43 percent of the measured emissions of the potent greenhouse gas methane** - outpacing the fossil-fuel and agricultural sectors, leaking methane at rates as much as six times the facility-level estimates from the U.S. Environmental Protection Agency, the news agency Reuters reports."¹⁴

Methane, a powerful, short-lived climate pollutant, whose concentration has more than doubled since the pre-industrial era, is second only to CO₂ in terms of impact on our climate. The climate impact of methane is much larger than previously reported and atmospheric concentrations continue to rise. In response to the growing concern about methane and other Short Lived Climate Pollutants, the 20-year GWP has been adopted by California in its *Short-Lived Climate Pollutant Reduction Strategy*¹⁵ and by NY State, in its recent Climate Bill.¹⁶ New Jersey now requires the use of the 20-year GWP.¹⁷

According to the IPCC's 6th Assessment Report, methane is 82 times more potent over 20 years.¹⁸ In the California Air Resources Board's 2017 Short-Lived Climate Pollutant Reduction Strategy, it says, "The use of GWPs with a time horizon of 20 years better captures the importance of the SLCPs and gives a better perspective on the speed at which SLCP emission controls will impact the atmosphere relative to CO₂ emission controls."¹⁹

The Global Methane Assessment, released in May 2021 by the United Nations Environment Programme, concluded that "mitigation of methane is very likely the strategy with the greatest potential to decrease warming over the next 20 years."²⁰

The heightened awareness of the impact of methane has resulted in over 100 countries representing 70% of the global economy joining the Global Methane Pledge, where they've committed to reducing methane emissions by at least 30 percent from 2020 levels by 2030. The pledge also calls for moving towards using best available inventory methodologies to quantify methane emissions, with a particular focus on high emission sources.

In announcing the Global Methane Pledge the White House stated that "Landfills are the second largest industrial source of methane in the United States."²¹ Given this new pledge and heightened awareness of the impacts of methane, we must start to hold landfills accountable for their emissions by measuring their emissions and

implementing policies that will reduce the amount of organic material put into landfills in the first place.

Like all human activity, the management of waste, whether its recycled, composted, processed at an anaerobic digestion or waste-to-energy facility, or dumped in a landfill, has an impact on the environment. However, these technologies have very different impacts.

Waste-to-Energy is recognized as a progressive technology around the world for sustainable waste management that complements recycling and source reduction. The European Union and U.S. EPA recognize Waste-to-Energy as preferable to landfills. In fact, there is not a single state in the country that recognizes that landfills are superior to Waste-to-Energy.

Waste-to-Energy is widely recognized as a technology that helps mitigate climate change. In fact, Waste-to-Energy is the only form of energy generation that actually reduces greenhouse gases. This is due to the avoidance of methane from landfills and recovering metals for recycling while electricity is generated. No other major source of electrical power provides these key services simultaneously.

Given its benefits, WTE has been recognized internationally as a source of GHG mitigation by the following organizations:

- European Union^{22,23}
- Intergovernmental Panel on Climate Change (IPCC)²⁴
- World Economic Forum (WEF)²⁵
- U.S. Environmental Protection Agency^{26,27}
- National Renewable Energy Lab²⁸
- Columbia University²⁹ & Univ. of Buffalo scientists³⁰
- Obama administration Clean Power Plan³¹
- Clean Development Mechanism of the Kyoto Protocol³²
- Voluntary carbon markets³³
- Center for American Progress³⁴
- California's Solid Waste Regulator (CalRecycle)³⁵
- California Air Resources Board (CARB)^{36,37}
- U.S. EPA Scientists³⁸
- Berkeley Law Center for Law, Energy & the Environment³⁹

To further reduce the greenhouse gas and environmental impacts of waste-to-energy, Covanta has invested to find a better use for the ash. Rather than simply sending this material to landfills, we have discovered a way to mine the ash to extract more value from it and reuse many of the components of ash.

The result is small metal fractions that can be recycled, and aggregate that can be reused in construction material, such as hot-mix asphalt for roads and parking lots and concrete for commercial use. Most importantly, the process can reduce the amount of ash needing disposal in landfills by more than 50 percent. Covanta's first ash processing facility, located in Fairless Hills, Pennsylvania, has generated aggregate used in more than 135,000 tons of asphalt.

Through the enhanced metal recycling and the avoidance of mining aggregate, ash processing can further reduce the greenhouse gas and environmental impacts of waste-to-energy.

Given its primary role in managing wastes remaining after recycling, we agree that the Council should follow the lead of the Department of Environmental Conservation and include Waste to Energy (WTE) facilities in the waste management sector. To provide the strongest basis for effective policy development, all GHG sources should be considered together with their primary sector. New York's WTE facilities are a critical part of the state's solid waste management infrastructure, providing 11,000 tons / day of waste management capacity in the state.

We believe the draft scoping plan is an important first step to drive the State to meet its 2050 climate requirements. However, more specific market-based plans will be necessary to reduce the amount of biodegradable waste going to landfills by moving up the waste hierarchy. **The Council should look no further than the European Union's landfill directive. It has been the single most effect policy to reduce greenhouse emissions from the waste sector.** Without such specific waste policies, landfills will grow larger and methane emissions will increase. The State has tried to achieve results imposing energy and other policies on the waste sector and there has been no effect. Waste is unique and many of the policies that have been proposed in the past would actually lead to more landfilling and more emissions.

We look forward to continuing to work with the Council as it moves the State forward to lead the world to dramatically reduce its impact on our climate.

Sincerely,



Michael E. Van Brunt, P.E.

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