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California Air Resources Board 1001 I Street P.O. Box 2815 Sacramento, California 95812

Re: September 4, 2018 Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation

Thank you for the opportunity to provide comments in response to the California Air Resources Board's (CARB's) September 4th Proposed Amendments to the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms Regulation (the "Proposed Regulation"). We fully support CARB's continuing work to reduce greenhouse gas emissions in the state. Covanta operates two waste-to-energy ("WTE") facilities in the state that help reduce GHG emissions by diverting MSW from landfills, a leading source of the potent GHG methane in California.

We firmly believe that the cap & trade program must be designed to ensure equitable treatment across all facilities and technologies operating within a given sector. Therefore, we oppose the proposed inclusion of WTE facilities in the program and the proposed allowance mechanism for WTE facilities as the current proposal fails to provide equitable treatment or the transition assistance needed to avoid an undue economic impact of the two remaining WTE facilities in CA. Instead, we ask that CARB apply the cap and trade program uniformly within the waste management sector by providing full transition assistance to WTE facilities until such time as the entire sector can be brought into the cap-and-trade program.

Although WTE facilities generate electricity, they are primarily waste management facilities, comparable to a landfill that is equipped with a landfill gas to energy system. The Stanislaus and Long Beach facilities both report their GHG emissions to CARB under the North American Industrial Classification System (NAICS) code 562213 for Solid Waste Combustors and

Incinerators. This is a subset of NAICS code 5622 for Waste Treatment and Disposal, which also includes 562212 for Solid Waste Landfills. Both facilities operate under Solid Waste Facility Permits issued by CalRecycle. Waste management tip fees represent the vast majority of operating revenues at WTE facilities. In 2017, energy represented only 19% of total operating revenues for Covanta.¹

CARB's Board has specifically called for equity within the waste management sector in a series of board resolutions:

"The Executive Officer shall identify and propose regulatory amendments, as appropriate, so that AB 32 implementation, including the cap-and-trade regulation, aligns with statewide waste management goals, provides equitable treatment to all sectors involved in waste handling, and considers the best available information."²

[T]he Board directs the Executive Officer to work with CalRecycle, other agencies and stakeholders, and propose by 2013 a comprehensive approach for the most appropriate treatment under the Cap-and-Trade program for all end-of-life management options for Municipal Solid Waste, including but not limited to, landfills, waste-to-energy, composting, and recycling to be implemented starting January 1, 2015."³

The Proposed Regulation does not meet this call for equity in the waste management sector. CARB staff acknowledges this in its Initial Statement of Reasons, stating that "this approach provides equitable treatment of facilities *in the waste-to-energy sector* [emphasis added] and accurately allocates allowances for the purpose of transition assistance through vintage 2024." Equity within the waste-to-energy sector has never been the issue for the two remaining WTE facilities in California. These two facilities are over 300 miles apart from each other and operate in completely different markets.

The Proposed Regulation also fails to meet the logical intent of the most recent Board Resolution to provide for transition assistance, the original goal of which is to "avoid imparting undue initial economic gain or loss to covered entities through allocation."⁴

"[T]he Board directs the Executive Officer to work with the three existing waste-to-energy facilities that are covered by the Cap-and-Trade program to provide transition assistance for a compliance obligation beginning in 2018 and ending when landfill diversion is required to achieve a 75 percent diversion rate by 2025."

As currently proposed, we estimate the overall financial impact to the two WTE facilities to be \$62 M over the 12 year period from 2018 – 2030, equivalent to raising tip fees by approximately \$6.40 / ton. Landfills will face no such compliance obligation.

Even without the requirement to purchase allowances, WTE facilities are under financial pressure. According to CalRecycle's 2015 report, WTE "is actually a more expensive alternative to landfilling in California when compared to the statewide median as well as the surrounding

landfills."⁵ The Commerce Refuse-to-Energy Facility, permanently closed on June 26, 2018 citing the cost of continuing to operate. All of the waste is now going to landfills and generating addition GHG emissions. Furthermore, we have no ability to pass costs through to our solid waste or electricity customers.

WTE facilities were initially exempted on the basis of science and to ensure parity of treatment across the waste management sector. With CalRecycle's recognition of the GHG benefits of WTE relative to landfilling (see excerpt below), it was clear that including WTE in the cap and trade program while landfills were excluded would result in unequal treatment within the waste sector, and potentially result in leakage of GHG emissions from a capped source, WTE, to an uncapped source, landfilling.

"Published LCA studies and best available published direct measurement data support CalRecycle staff's general conclusions. CalRecycle staff concludes that the three existing California WtE facilities provide net avoided methane emissions over waste otherwise disposed in a California landfill. The net avoided emissions exceed non-biogenic emissions from burning of the fossil fuel-based components such as plastic in the WtE facility."⁶

Since the initial exemption of the existing WTE facilities in 2012, the recognition of WTE as a source of GHG mitigation has grown. In 2014, CARB itself, concluded that WTE offers GHG reductions relative to landfilling:

"Preliminary staff estimates ... indicate that combusting waste in the three MSW Thermal facilities in California results in net negative GHG emissions, ranging from -0.16 to -0.45 MT CO2e per ton of waste disposed, when considering that the waste would otherwise be deposited in landfills resulting in higher emissions."⁷

In 2013 and 2014, the Center for American Progress and Third Way have both reviewed WTE and validated its GHG benefits.^{8,9} In addition, the Joint Institute for Strategic Energy Analysis (JISEA) operated on behalf of the U.S. Department of Energy's National Renewable Energy Laboratory, the University of Colorado-Boulder, the Colorado School of Mines, the Colorado State University, the Massachusetts Institute of Technology, and Stanford University published a report in 2013 after a review of solid waste management options for Boulder's municipal solid waste concluded WTE was a better option than landfilling:

"We find that MSW combustion is a better alternative than landfill disposal in terms of net energy impacts and carbon dioxide (CO2)-equivalent GHG emissions.

"Life cycle assessment studies published in the literature have generally been consistent in suggesting that MSW combustion is a better alternative to landfill disposal in terms of net energy impacts and CO2-equivalent GHG emissions. The results from this study match that expectation.

In this report, WTE leads to a higher reduction in emissions compared to land fill-to-energy disposal per kWh production." $^{\!\!10}$

Then in 2016, Berkeley Law released a report earlier this year in response to a request from the Governor's office, looking at the merits and demerits of energy recovery options for wastes remaining after reaching the state's 75% recycling goal. The authors conclude that:

"Harvesting these leftover materials as solid waste energy sources could provide multiple environmental benefits:

- complementing intermittent renewable energy, such as wind and solar, to offset fossil fuelbased energy sources and associated greenhouse gas emissions; [and]

– avoiding landfill emissions of methane (a potent greenhouse gas that is 28-34 times as strong as carbon dioxide over 100 years) by diverting wastes to energy, particularly organic wastes;"¹¹

In its 1st update to the Climate Change Scoping Plan, CARB explicitly recognized the risk of higher GHG emissions from uneven treatment in the waste management sector:

"Another approach is to add MSW Thermal facilities to the Cap-and-Trade program in 2015, while leaving other Waste Sector sources out. Under this approach, MSW Thermal plants would have an incentive to reduce their GHG emissions over time through control of input feedstock and other techniques. However, a challenge with implementing this approach is that MSW Thermal plants have a modest potential to reduce their GHG emissions. Over time, they may have to purchase more emissions credits, making them increasingly less competitive compared to traditional landfills. *This approach would likely result in more GHG emissions if it results in an increase in MSW going to landfills*." [emphasis added]

CARB already understands how to provide equity within the waste management sector. In the same document, CARB noted two approaches that would provide a level playing field, both of which rely on treating the waste management sector the same way under the cap and trade program:

"<u>Remove MSW Thermal Facilities from Cap-and-Trade post-2015</u> Under this option, MSW Thermal facilities would be removed from the Cap-and-Trade Regulation for the foreseeable future. This approach would put MSW Thermal facilities on a level playing field within the Waste Sector, where none of the methods of handling MSW would be subject to the Cap-and-Trade Regulation. ...

Add MSW Thermal Facilities and Other Waste Sector Sources to Cap-and-Trade in 2015 Under this approach, MSW Thermal facilities and other options for handling waste (such as landfills) would be subject to the Cap-and-Trade Regulation. This would provide a level playing field for power generation and potentially avoid increases in waste disposal at landfills from a reduction in combustion of MSW."

We recognize that the steps the California Legislature and CARB have taken to divert organics from landfilling will impact the composition of the waste stream that is managed in WTE, including SB 1383. However, we do not think it is appropriate to presume the results of these actions, or their effect on the GHG benefits of WTE relative to landfilling. Therefore, we initially proposed a solution to CARB in comments dated January 20, 2017, which we refined in subsequent discussions, that would have taken organics diversion into account. Under our proposed approach, WTE's exposure to the cap and trade program would have increased based on the actual organics diversion achieved in practice, on the basis of CalRecycle's regular statewide waste characterization studies. The proposal was rejected, not on its merits, but because the regulation wasn't designed to accommodate the approach.

In addition to the GHG benefits described above, California's WTE facilities provide other important benefits. The facilities in Long Beach and Stanislaus are the only two locations in California permitted to destroy narcotics. Since 1988, SERRF has destroyed 11.2 million pounds of confiscated narcotics and drug paraphernalia for over 121 cities, counties, state, and federal law enforcement agencies. In 2016, Stanislaus processed over 216 tons of confiscated narcotics, firearms and drug paraphernalia for over a 100 cities, counties, state and federal law enforcement agencies.

California's two remaining WTE facilities operate well within their permit requirements and have taken steps over the years to reduce their environmental impacts:

- In 2011, the Long Beach facility voluntarily commenced operation of an activated carbon injection system, which reduced mercury (Hg) and dioxin emissions by 86%.^a
- In 2017, the Stanislaus facility filed a permit application to install proprietary Low NOx technology with new lower NOx limits. The \$4 \$5M capital investment will result in an estimated 30% reduction in annual NOx emissions, once complete. This will reduce formation of PM2.5 in San Joaquin Valley, a nonattainment area for fine particulate.
- In 2013, the Stanislaus facility installed a non-ferrous metal recovery system and upgraded its ferrous metal recovery system. Annually, the two WTE facilities in California recover over 18,000 tons of metal for recycling that would have otherwise been lost in landfills, saving, on a lifecycle basis, over 41,000 tons of CO₂e every year relative to producing metals from virgin materials.

By including WTE in the cap and not including landfills, CARB will create the perverse effect of incentivizing more waste to landfills resulting in increased GHG emissions. To resolve this issue, we ask for equitable treatment in the waste management sector, called for in board resolutions

^a The average concentration of Hg and dioxins / furans emissions over 2008-2010 were 33.0 μ g / dscm and 6.8 ng / dscm respectively, prior to installation of the carbon injection system. Average emission concentrations over the most recent three-year period, 2015-2017 were 4.5 μ g / dscm and 1.0 ng / dscm, respectively, representing reductions in emission concentrations of 86.3% for mercury and 85.6% for dioxins / furans.

from 2011 and 2012. Consistent with CARB's own conclusions, a level playing field is best achieved by treating the entire waste management sector the same, either within, or outside of, the cap-and-trade program. CARB's ability to bring landfills under the cap and trade program is restricted until at least 2025 by SB 1383. As a consequence, we propose that the best path forward is to provide allowances equal to the covered emissions from the state's two WTE facilities as the necessary transition assistance needed to avoid an undue economic loss to WTE as a covered entity relative to landfills.

Thank you very much for the opportunity to comment. Please let us know if you have any additional questions and thank you for your work on this important issue.

Sincerely,

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² State of California Air Resources Board (2011) Resolution 11-32 https://www.arb.ca.gov/regact/2010/capandtrade10/res11-32.pdf

⁸ Center for American Progress (2013) Energy from Waste Can Help Curb Greenhouse Gas Emissions <u>http://www.americanprogress.org/wp-content/uploads/2013/04/EnergyFromWaste-PDF1.pdf</u>

¹ See p34 of Covanta Holding Corporation (2018) 2017 Annual Report and 10-K.

³ State of California Air Resources Board (2012) Resolution 12-33 <u>https://www.arb.ca.gov/cc/capandtrade/res12-33.pdf</u>

⁴ CARB (2010) Initial Statement of Reasons, Appendix J: Allowance Allocation

⁵ CalRecycle (2015) Landfill Tipping Fees in California <u>https://www2.calrecycle.ca.gov/Publications/Download/1145</u>

⁶ CalRecycle. 2012. CalRecycle Review of Waste-to-Energy and Avoided Landfill Methane Emissions. Available at: <u>http://www.calrecycle.ca.gov/Actions/PublicNoticeDetail.aspx?id=735&aiid=689</u>

⁷ See Table 5 of California Air Resources Board (2014) *Proposed First Update to the Climate Change Scoping Plan: Building on the Framework, Appendix C – Focus Group Working Papers, Municipal Solid Waste Thermal Technologies*

⁹ Third Way (2014) *Power Book: Energy from Waste*, <u>http://powerbook.thirdway.org/filter-web-app/energy-from-waste</u>, accessed November 26, 2014.

¹⁰ Joint Institute for Strategic Energy Analysis (2013) *Waste Not, Want Not: Analyzing the Economic and Environmental Viability of Waste-to-Energy (WTE) Technology for Site-Specific Optimization of Renewable Energy Options.* <u>http://www.nrel.gov/docs/fy13osti/52829.pdf</u>

¹¹ Berkeley Law Center for Law, Energy & the Environment (2016) *Wasting Opportunities: How to Secure Environmental & Clean Energy Benefits from Municipal Solid Waste Energy Recovery.* https://www.law.berkeley.edu/research/clee/research/climate/waste-to-energy/