

C0. Introduction

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C0.1

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**(C0.1) Give a general description and introduction to your organization.**

Covanta Holding Corporation (Covanta) is a world leader in sustainable materials management. Our end-to-end platform provides services that range from waste material handling, reuse, recycling, energy recovery, secure product destruction, industrial wastewater treatment and disposal, waste-to-product (such as waste to cement kiln feed and animal bedding), on-site cleaning services, and transportation services.

The company owns and operates Waste-to-Energy (WTE) facilities, Material Processing Facilities (MPFs), transfer stations, and residual management facilities. Our facilities provide options that are environmentally superior to landfilling, recover resources for the global economy and provide significant reductions in GHG emissions.

Our expanded service offerings provide our clients with alternatives to meet their zero-waste, zero-waste-to-landfill, circular economy and sustainability goals. As clients reduce, reuse, recycle and recover materials and energy, they reduce environmental impacts associated with materials and waste in our society. Ultimately, we seek not only to divert materials from landfills, but to find fully sustainable waste management solutions that consider economics and the environment.

C0.2

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**(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.**

**Reporting year**

**Start date**

January 1 2022

**End date**

December 31 2022

**Indicate if you are providing emissions data for past reporting years**

No

**Select the number of past reporting years you will be providing Scope 1 emissions data for**

<Not Applicable>

**Select the number of past reporting years you will be providing Scope 2 emissions data for**

<Not Applicable>

**Select the number of past reporting years you will be providing Scope 3 emissions data for**

<Not Applicable>

C0.3

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**(C0.3) Select the countries/areas in which you operate.**

Canada

United States of America

C0.4

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**(C0.4) Select the currency used for all financial information disclosed throughout your response.**

USD

C0.5

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**(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.**

Equity share

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	US22282E1029

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Board-level committee	Our Board has direct oversight of our sustainability strategy. Specifically, as directed in the committee's charter, our Environmental Justice and Sustainability Committee is responsible for review and oversight of sustainability and corporate social responsibility initiatives, performance, and reporting; and developments and trends regarding public policy affecting the Corporation. Specifically, with regard to climate, the committee assesses and reviews changes in public policies pertaining to climate, including the evolving development of cap & trade programs, progress on goals and targets pertaining to GHG emissions and content of our corporate sustainability report, including that pertaining to addressing climate change.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – all meetings	Reviewing and guiding strategy Overseeing the setting of corporate targets Monitoring progress towards corporate targets	<Not Applicable>	Quarterly, the Chief Sustainability Officer reviews pertinent aspects of the sustainability program with the Environmental Justice and Sustainability Committee, including climate change and GHG emissions. This regular interaction is important to ensure recognition of potential risks and opportunities regarding climate change.  In 2022, for example, the discussion with the Environmental Justice and Sustainability Committee included a review of our sustainability-linked financing, which is aligned with GHG reductions through more sustainable waste management, and our goal to develop a science-based target.  In addition, climate change and policy are identified as a risk in our risk matrix, which is reviewed semi-annually with our risk management committee.

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1 Yes	Our board members are assessed by their professional and/or leadership experiences in the areas of safety & health, environment & climate change, community engagement, and materials management. One of the 6 board members holds a leadership position at EQT Partners Inc. Infrastructure fund, which thematically seeks out companies with strong sustainability performance. At least two more board members have extensive experience in renewable energy and environmental risk management. Specifically, Elliott Laws was previously a Justice Department and EPA attorney and now provides strategic counselling and management advice on environmental and energy policy issues.	<Not Applicable>	<Not Applicable>

C1.2

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**(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.**

**Position or committee**

Chief Sustainability Officer (CSO)

**Climate-related responsibilities of this position**

Integrating climate-related issues into the strategy

Setting climate-related corporate targets

Monitoring progress against climate-related corporate targets

Assessing climate-related risks and opportunities

Managing climate-related risks and opportunities

**Coverage of responsibilities**

<Not Applicable>

**Reporting line**

CEO reporting line

**Frequency of reporting to the board on climate-related issues via this reporting line**

Quarterly

**Please explain**

The EVP / Chief Sustainability Officer (CSO) has overall responsibility for the entire sustainability program, including the assessment, management, and strategy development for climate related issues. The CSO reports directly to Covanta's CEO and to the board quarterly through the Sustainability and Environmental Justice board committee. Climate related issues are monitored by the respective departments, consistent with the type of issue. For example, changes in legislative or regulatory policies pertaining to climate change are monitored by the Government Affairs group, within the Sustainability team. Regional operations leadership is responsible for meeting targets for waste that we recycle and reuse. The executive leadership reviews these KPIs monthly.

In addition to climate change issues, the CSO is responsible for all elements of Covanta's sustainability program, Community Affairs, Environmental Compliance, Permitting, Government Affairs and environmental testing. The responsibilities of the position make it ideally suited to address risks and opportunities to climate change, as well as to coordinate the organizations' response.

Reporting to the CSO are the VP Environmental Affairs, VP Federal Government Relations, and VP State and Corporate Relations. Total staff is over thirty full-time employees.

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**C1.3**

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**(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?**

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	

**C1.3a**

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**(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**

**Entitled to incentive**

Environment/Sustainability manager

**Type of incentive**

Monetary reward

**Incentive(s)**

Bonus - % of salary

**Performance indicator(s)**

Increased value chain visibility (traceability, mapping, transparency)

Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)

**Incentive plan(s) this incentive is linked to**

Short-Term Incentive Plan

**Further details of incentive(s)**

The company has assigned specific personnel to manage the company's progress and status regarding climate change and each of those individuals receives an annual bonus based on individual performance wherein their success in climate change would be among the factors considered.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**

Specific individuals in the company are tasked with implementation of initiatives that, among other benefits, result in net GHG emissions reductions. These employees are evaluated on their individual performance on these initiatives, among other responsibilities.

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**Entitled to incentive**

Corporate executive team

**Type of incentive**

Monetary reward

**Incentive(s)**

Bonus - % of salary

**Performance indicator(s)**

Progress towards a climate-related target

Increased share of revenue from low-carbon products or services in product or service portfolio

**Incentive plan(s) this incentive is linked to**

Short-Term Incentive Plan

**Further details of incentive(s)**

Covanta's executive leadership team (including regional leadership) is responsible for meeting monthly KPI targets, including certain materials recycling targets (e.g. metals recycled, total waste recycled, total WTE throughput). Leadership is responsible for meeting monthly plan figures and adjusting operations in their regions to improve.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**

Covanta's material management business achieves GHG reductions by diverting waste from landfilling. Targets pertaining to growth of the business, either same store growth or new facilities, results in incremental greater overall GHG emissions reductions. Specifically, Covanta set a sustainability goal to "increase the amount of sustainably managed waste" through energy recovery and other recycling and reuse operations by 2.5% relative to a 2020 baseline by the end of 2025.

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**Entitled to incentive**

Management group

**Type of incentive**

Monetary reward

**Incentive(s)**

Bonus - % of salary

**Performance indicator(s)**

Progress towards a climate-related target

**Incentive plan(s) this incentive is linked to**

Short-Term Incentive Plan

**Further details of incentive(s)**

Covanta's Metal Management group has been tasked with the overall growth of our metals recovery efforts, including both the quantity and quality of metals recovered from the ash remaining after the combustion process.

Individuals on this team receive an annual bonus based on individual performance, including efforts to improve efficiency and profitability of metals recovery.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**

Covanta recovers approximately 500,000 tons of metal a year for recycling. The metals recovered for recycling save significant amount of GHG emissions. For each ton of aluminum recovered, for example, 10 tons of GHGs as CO2e are saved relative to manufacturing aluminum from raw materials. Covanta's Metal Management Group is responsible for a large share of the company's GHG emissions reduction initiatives, and a large part of our success against our annual Sustainability Linked Financing Targets.

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## C2. Risks and opportunities

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### C2.1

**(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

**C2.1a**

**(C2.1a) How does your organization define short-, medium- and long-term time horizons?**

	From (years)	To (years)	Comment
Short-term	0	3	
Medium-term	3	5	
Long-term	5	20	

**C2.1b**

**(C2.1b) How does your organization define substantive financial or strategic impact on your business?**

For purposes of determining risks and opportunities pertaining to climate change, we define substantive financial or strategic impact as impacts that could be expected to create a material financial impact consistent with relevant financial reporting and disclosure standards, impact our ability to operate our current facilities or pursue development opportunities, or create a significant change in the demand for our products or services.

**C2.2**

**(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.**

**Value chain stage(s) covered**

Direct operations  
Upstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

Annually

**Time horizon(s) covered**

Short-term  
Medium-term  
Long-term

**Description of process**

Risks are reviewed and managed by Senior Leadership and the Risk Committee of our Board of Directors. Risks are categorized into six main topics, including Environmental / Social / Governance (ESG), Operational, Financial, Information Technology, Macro, and General / Other. Each risk is assigned an impact category, either to EBITDA or Enterprise Value, likelihood, a risk owner, mitigation plan, and a lead from our executive leadership team. Identification of climate related risks, as well as mitigation plans, are the responsibility of the Chief Sustainability Officer and her team.

**Value chain stage(s) covered**

Upstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

Annually

**Time horizon(s) covered**

Short-term  
Medium-term

**Description of process**

While carbon costs imposed by policy will have the most direct impact, concerns over climate change could increase or decrease the demand for our products and services. Our business management team normally responsible for waste procurement is responsible for reviewing the impact of climate-related market changes in collaboration with our sustainability and government affairs team. Our approach is to develop estimated market prices, taking into account a variety of factors, including climate-related impacts and associated policies. We also evaluate the uneven application of such impacts on the waste market, to elucidate any disparities of impact on WTE versus landfilling.

For example, Connecticut, New Jersey, and California have moved forward with policies to require diversion of organics from landfill to recycling options (e.g. composting, anaerobic digestion) for large-quantity generators of food waste. Our assessment of these market risks was multi-dimensional and include a review of potential impact on tip fees (the price paid to Covanta for management of waste) as well as the potential opportunity from an investment in organics management infrastructure.

**C2.2a**

**(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?**

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	WTE is a net source of GHG mitigation relative to the business-as-usual practice of landfilling, as recognized by many international organizations and protocols, including the EU, U.S. EPA, and CDM methodologies. However, WTE facilities also have stack emissions of CO2 which can be subject to regulation if not viewed consistently against other forms of waste management (e.g. landfilling). Regulations can also impact our industry indirectly, by changing the types of wastes that are remaining after waste reduction and recycling efforts are exhausted. For example, during the reporting year, we specifically evaluated the allowance allocation provisions of California's GHG reporting program (AB32) for financial impacts on our WTE facilities in California and the Regional Greenhouse Gas Initiative (RGGI), which affects our limited fossil-fuel fired steam generation backup assets at one of our facilities in New York State.
Emerging regulation	Relevant, always included	WTE is a net source of GHG mitigation relative to the business-as-usual practice of landfilling, as recognized by many international organizations and protocols, including the EU, U.S. EPA, and CDM carbon offset methodologies. However, WTE facilities also have stack emissions of CO2 which can be subject to regulation if not viewed from a systemic level. Because of the potential exposure, we are constantly evaluating our exposure to emerging regulations, legislation, and policy. For example, in 2021, we closely assessed the potential impacts of evolving policies under the New York State's Climate Leadership and Community Protection Act, including the NY Department of Environmental Conservation's proposed and adopted State-wide Greenhouse Gas Emission Limits regulation Oregon's Climate Protection Program and Virginia's Carbon Trading Rule.
Technology	Relevant, always included	Waste-to-energy (WTE) is a net source of GHG mitigation relative to the business-as-usual practice of landfilling, however, there are emerging technologies which could offer even more GHG-efficient means of managing wastes remaining after waste reduction and recycling efforts have been exhausted. To date, these technologies have not been proven to be practical and/or economic at scale. However, we keep abreast of technological development to evaluate risk to our business. Recently, the interest around replacement of fossil fuels for transportation has driven proposals for waste to liquid fuels conversion. In this specific area, current risk is low given low fuel pricing and technological challenges in conversion of a heterogeneous feed stock like waste into a liquid fuel.  In 2022, our focus continued to be on the recovery of additional metals and materials from our residue stream. For example, we continued to engage university and/or private enterprise teams which were awarded funding from the U.S. Department of Energy's Advanced Research Programs Agency - Energy's funding opportunities for Mining Incinerated Ash Disposal Streams (MIDAS) and Waste into X (WiX). Both funding opportunities advance the idea of a more circular economy, where the return of useful materials into the economy helps reduce overall GHG emissions.  We were also awarded funding from the U.S. Department of Energy's (DOE) National Energy Technology Laboratory (NETL) to support a four-year carbon dioxide (CO2) capture and storage pilot project with the Prairie Research Institute (PRI) at the University of Illinois Urbana-Champaign (U of I). The pilot project would be the first of its kind in the U.S.
Legal	Relevant, always included	We closely watch legal developments, particularly those related to attribution of damages to specific entities. While WTE is a source of carbon mitigation, legal precedent could impact how our industry is viewed.  In 2022, we closely followed the continuing discussion around the Securities and Exchange Commission (SEC) regulations on sustainability reporting. As a private company we are not directly impacted by SEC reporting requirements, however these new rules continue to impact the standard and expectation of ESG reporting that we are paying attention to. We are also paying close attention to the Renewable Fuel Standard (RFS) program. In 2022, we submitted comments advocating for the inclusion of WTE in the program, given that it is a preferable means of disposal compared to landfilling. The current inclusion of landfill gas in the program and exclusion of WTE incentivizes landfilling and dissuades all other sustainable solid waste management options including WTE, recycling, composting, anaerobic digestion, and reuse.  Other legal cases of interest include recent suits against the EPA to reconsider the 2009 Endangerment Findings, which gave the agency the authority to regulate certain GHGs under the Clean Air Act.
Market	Relevant, always included	The market for the goods and services we provide can change based on the perception of our technology, i.e., WTE, which in turn can help to mitigate GHG emissions in the waste management sector. In addition, changes in products purchased and used by consumers and businesses that eventually wind up as waste can change based on climate initiatives. For example, CA passed SB 1383 in 2016, aimed at diverting 50% organics from landfills by 2020 and 75% by 2025. While regulations did not get promulgated until 2022, and the state is far off its targets, the bill is changing the market dynamics in CA for organics management. WTE can provide a more GHG efficient means of managing organics diverted from landfills in the interim while additional composting and anaerobic digestion capacity is built.
Reputation	Relevant, always included	Many of our customers rely on us to provide sustainable waste management services and a low carbon alternative to landfilling of municipal solid waste (MSW) and certain non-hazardous industrial, institutional, and commercial waste streams. However, some parties oppose the consideration of WTE in efforts to reduce the carbon intensity of waste management. For example, some proponents of Zero Waste efforts do not distinguish between landfilling and WTE despite international recognition of WTE as a source of GHG mitigation. Consequently, we closely evaluate reputation risks related to climate, and our role in helping reduce GHG emissions from the waste management sector.  In addition, a growing recognition of the disproportionate burden faced by some environmental justice communities has caused increased attention to all air emissions sources, including WTE facilities. Failure to meet emissions limits or concerns of emissions of WTE facilities could impede future development. In 2020, we supported New Jersey's first-of-its-kind landmark Environmental Justice legislation, which aims to address cumulative environmental impacts in overburdened areas. We were the only corporation to advocate for its passage, by speaking on behalf of the bill in the state assembly, publicizing our support via advertisements, a website and op-eds. Currently, we are pursuing permit renewal processes within the state that include substantially increased public participation processes to align with the EJ bill, and its associated executive orders and regulations, as applicable.
Acute physical	Relevant, sometimes included	Covanta owns/operates a portfolio of relatively modern facilities, the oldest of which began operation in 1987. The facilities were built to modern hurricane standards and should be able to withstand these and other weather-related events.  However, a few of our facilities in the United States are located on estuaries that could become affected by storm surge, and increased severity and frequency of storms can cause other disruptions to operations. Specific risks assessed include the disruption of local electrical grid requiring facility shut-down, disruption of supply chains in getting critical raw materials to the facility, and disruption of waste flows into the facility necessitating curtailment of operations.
Chronic physical	Relevant, sometimes included	Covanta owns/operates a portfolio of relatively modern facilities, the oldest of which began operation in 1987. The facilities were built to modern hurricane standards and should be able to withstand these and other weather-related events. Rising sea level attributable to climate change could become a long-term issue at several facilities; however, significant impacts are unlikely because the useful life of existing facilities would be expended by the time this phenomenon might result in sufficient sea level rise to impact these facilities. The more likely scenario is an increased risk in storm-related flooding.  A few of our facilities in the United States are located on estuaries that could become affected by storm surge, and in fact were affected during Hurricane Sandy that impacted the northeast during fall 2012. Impacted facilities were reviewed for the exposure of critical infrastructure (e.g. electrical switchgear, back-up generators) to flood waters. These risks are not reviewed for facilities that are not located in areas of flooding risk. However, new business development opportunities have been evaluated for increased flood risk.

**C2.3**

**(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

**C2.3a**

**(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Risk 1

**Where in the value chain does the risk driver occur?**

Direct operations

**Risk type & Primary climate-related risk driver**

**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

As is the case with all combustion processes, our facilities emit CO2, however WTE is recognized as a net GHG mitigation technology, because it:

- avoids methane emissions from landfills
- avoids CO2 emissions from fossil fuel power plants using wasted material as solid fuel;
- and avoids GHG emissions from mining and metal processing because it recovers and recycles metals from waste.

For policy makers at the local level who make decisions on sustainable waste management alternatives, we believe that using WTE instead of landfilling will result in significantly lower net GHG emissions, while also introducing more control over the cost of waste management and supply of local renewable electrical power. We are actively engaged in encouraging policy makers at state and federal levels to enact legislation that supports WTE as a superior choice for communities to avoid both the environmental harm caused by landfilling waste and reduce local reliance on fossil fuels as a source of energy.

Many of these same policy considerations apply equally to other renewable technologies. The extent to which such potential legislation and policy initiatives will affect our business will depend in part on whether WTE and our other renewable technologies are included within the range of clean technologies that could benefit from such legislation.

Several jurisdictions are looking at carbon policies, including Oregon and Pennsylvania. New York passed the Climate Leadership and Community Protection Act in 2019 which will require significant reductions in GHG emissions in the state by 2050. In 2020, New York state continued the process of developing specific policies and regulations to implement the legislation. Because we have 6 facilities in the state, we have been actively engaged in the regulatory development process, including through participation in a state-led waste sector working group by appointment by the state’s environmental regulator and through comments on the State’s proposed cap & invest program and solid waste plan. The State has recognized that the main source of GHG emissions from the waste sector is methane from organic waste decomposition in landfills. Given WTE’s international recognition as a means of reducing GHG emissions by avoiding methane from the waste management sector, we expect WTE facilities have an important role to play in the transition to a net zero economy; however, the exact impact on our business in New York is uncertain at this time.

**Time horizon**

Medium-term

**Likelihood**

Very unlikely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, an estimated range

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

60000000

**Potential financial impact figure – maximum (currency)**

80000000

**Explanation of financial impact figure**

As described elsewhere, waste-to-energy, engineered fuels for the cement industry, recycling, and other forms of sustainable waste & end-of-life materials management are widely recognized as sources of GHG mitigation, especially in North America, which is overwhelmingly dependent on landfills for the majority of end-of-life materials management. In fact, we see our business as having significant opportunity. However, there is always a risk that public policy does not align with scientific understanding of issues. Therefore, we have assessed a potential downside impact, albeit one that is very unlikely, based on cap & trade policies in place in California, and in development in New York State. Given that policies are in early stages of development in New York, we have used a surrogate to estimate potential costs.

Prior to passage of the Climate Leadership and Community Protection Act, the New York Independent System Operator (NYISO) was developing a potential carbon pricing scheme to be implemented in the wholesale power markets. Despite WTE’s recognized benefits relative to landfilling, NYISO’s proposal had included WTE, but excluded landfills. While further development of the carbon pricing scheme has stalled in light of the new climate bill, an analysis of the NYISO’s proposal revealed that the annual impact to the WTE industry in NY State could range from \$50M - \$70M / year, translating to a \$17 - \$24 / ton impact on solid waste disposal facilities. Such a financial impact would result in market pressures to increase landfilling, despite their higher lifecycle GHG emissions.

**Cost of response to risk**

1000000

**Description of response and explanation of cost calculation**

Our overwhelming priority in responding to this risk is to engage with policymakers to ensure that carbon policies are aligned with lifecycle GHG emissions associated with various means of waste management. Our engagement consists of meeting with policy officials and regulators, participation in research groups, including the Environmental Research and Education Foundation (EREF) and Waste-to-Energy Research and Technology Council (WTERT) that engage in GHG analysis of waste management options, and sustainability reporting. We have also committed to develop a Science-based Target (SBT) by 2022 to provide a long-range plan for how WTE fits within an overall goal to reduce GHG emissions from waste management. We anticipate that this SBT will help inform long-term policy planning to achieve state-level reductions in GHG emissions from the waste sector. We have also begun tracking the development of carbon capture and sequestration technologies that can be deployed at WTE facilities over the long-term.

**Comment**

Current costs of management of this risk are not significant relative to our normal costs of business.

**Identifier**

Risk 2

**Where in the value chain does the risk driver occur?**

Downstream

**Risk type & Primary climate-related risk driver**

Market	Changing customer behavior
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**Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

The most effective means of reducing GHG emissions from solid waste management is to move the material up the waste management hierarchy (more preferred tiers), focusing on recycling. Such a movement should be focused on diverting wastes from landfilling, as has effectively been done in the European Union. As demand for landfilling decreases, pricing for post-recycled solid waste management could decrease due to an overabundance of waste management capacity in the market. Balancing this effect are expected decreases in available landfill capacity, and the tremendous remaining opportunity in the United States for further landfill diversion – annually, the U.S. still landfills approximately 250 million tons of municipal solid waste per year.

Despite the potential benefits of expanded recycling and landfill diversion, the market for post recycled waste management services remains very strong. Policies developed to date to reduce landfilling, including food waste diversion efforts in California and Connecticut have not had material impact on post-recycled waste disposal. In fact, despite its efforts to increase recycling and divert organics, landfills are growing their share of the waste market in California. Furthermore, we are working to educate policymakers on the dangers of not addressing excess landfill capacity as they look at means of diverting waste up the waste management hierarchy and the importance of aligning policies with the goals of the solid waste management hierarchy.

**Time horizon**

Medium-term

**Likelihood**

Very unlikely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

We routinely model and project trends in waste pricing on company revenues. At this time, we do not expect a material negative impact on revenues from change in demand for our services. In fact, we see this as a significant opportunity for our business as our current customers and other businesses continue to transition to more sustainable forms of waste management.

**Cost of response to risk**

**Description of response and explanation of cost calculation**

We are not providing a cost, but instead examples of how we are responding to the risk.

We continue to engage with policy makers at the local, state, and federal levels to help design effective energy and waste policies that will encourage the use of MSW for electricity generation after recycling options have been exhausted. We also continue to engage to help design policies that provide a level playing field in the solid waste management sector on the basis of environmental impact. For example, we recently argued for the comparable treatment of Waste-To-Energy and landfilling under New Jersey’s food waste diversion bill. Initial versions of the bill exempted landfills, despite published research revealing that landfills are the least preferred option for food waste management, remaining after recycling, composting, and anaerobic digestion efforts.

In addition, we are working to diversify our management options in responses to waste management requests for proposals. For example, in recent proposals in Connecticut, Arizona, and New York we included concepts of complete sustainable waste management “parks”, as part of a teamed approach to complement energy recovery. Such options will become increasingly important as communities and states seek ways to reduce GHG emissions from waste management. We are also developing a new total ash processing facility in Honolulu, HI that will further reduce environmental impacts, including lifecycle GHG emissions, from energy recovery by finding additional beneficial reuse options for materials removed from non-hazardous combustion ash. This is especially important for the island of Hawaii, that lacks local waste management resources and raw materials such as aggregate for road building.

**Comment**

**Identifier**

Risk 3

**Where in the value chain does the risk driver occur?**

Upstream

**Risk type & Primary climate-related risk driver**

Acute physical	Flood (coastal, fluvial, pluvial, groundwater)
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**Primary potential financial impact**

Decreased revenues due to reduced production capacity

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Continued operation of our facilities can be subject to interruptions in the supply of waste. While storms can create additional wastes that need proper management, they



can also disrupt transportation networks. Grid outages can prevent certain facilities not equipped with "black-start" capabilities from returning to operation.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

While we judge this risk to be likely, outages caused by grid failure or supply chain interruptions are generally of relatively short duration (hours to several days). Furthermore, there can be some opportunity to recover lost capacity by shifting planned outages or moving waste to other facilities in our network.

**Cost of response to risk**

**Description of response and explanation of cost calculation**

We are not providing a cost, but instead examples of how we are responding to the risk.

We have reviewed our facilities and identified certain opportunities to resume operations more quickly after an interruption. For example, we installed a water-tight bunker around the emergency generator used to restore start-up power at our Essex County facility to eliminate the need to have grid power before start-up. We evaluate opportunities to reduce this risk by assessing the potential loss of revenue from plant disruptions and capital cost requirements for micro-grid connections, black plant start capabilities, or other capital improvements.

**Comment**

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C2.4

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**(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

Yes

C2.4a

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**(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.**

**Identifier**

Opp1

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

Covanta is a leader in sustainable materials management providing environmental services to businesses and communities. We offer a way to divert wastes from landfills and, increasingly, reduce GHG emissions from waste management through our Material Processing and Waste to Energy Facilities, as well as our growing network of industry partners. We also offer other sustainable waste management services with lower carbon footprints than WTE, including in-house zero waste management services. We can deploy teams to industrial sites to work with their existing contacts and our own resources to reduce waste from our client's processes. In 2021, EQT infrastructure acquired Covanta with a shared vision for a safer, cleaner and more prosperous future through sustainable waste management thereby ensuring no waste is ever wasted. Since the completion of the acquisition, Covanta has acquired 8 new businesses, expanding our sustainable materials management offerings, both in terms of geography and management technologies, including wastewater treatment, alternative fuels, and waste-to-product services. Our continued growth in this area is largely driven by the market demand to mitigate climate change and the carbon impacts of materials management.

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

We are not providing a financial figure.

However, zero landfill goals have been a significant driver in the growth of our recycling and reuse service offerings.

**Cost to realize opportunity**

**Strategy to realize opportunity and explanation of cost calculation**

We are not providing a cost, but instead examples of how we are realizing this opportunity.

In addition to our focus on WTE and related waste sourcing activities, we are actively expanding our service offerings through acquisitions. Specifically, we have grown our offerings in commercial/industrial wastewater treatment, alternative fuel blending for cement kilns and various recycling and reuse outlets (oil, product packaging, animal bedding, pallets) to help our customers further reduce their environmental footprint. As part of our sustainability-linked financing terms, we have committed to both grow our wastes processed sustainably (SLF KPI 1) by 2.5%, and wastes recycled and reused (SLF KPI 2) by 25% relative to a 2020 baseline by 2025.

**Comment**

---

**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Downstream

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Resource substitutes/diversification

**Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

**Company-specific description**

WTE facilities can be a resilient source of energy and waste management for communities. When weather and other natural events disrupt the grid, WTE facilities can remain operational, managing both routine waste and the resulting debris from those events, regardless of whether the grid is able to receive the power it can generate.

**Time horizon**

Medium-term

**Likelihood**

More likely than not

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

We are not providing a financial impact figure. The variety of different possible project types make forecasting the financial impact difficult to determine, but the recognition of the role that waste-to-energy (WTE) facilities can play in community resiliency could have a material impact.

**Cost to realize opportunity**

**Strategy to realize opportunity and explanation of cost calculation**

We are not providing a cost, but instead examples of how we are realizing this opportunity.

Our WTE facilities are designed to operate 24/7, even during times of crisis, to provide a baseload electricity. During Hurricane Ida in the summer of 2021, per NJDEP's request, our employees kept our Essex plant running as an essential service to ensure that local residential waste continued to be managed properly

**Comment**

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**Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Direct operations

**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Primary potential financial impact**

Increased revenues resulting from increased production capacity

**Company-specific description**

We have received permit approvals from the County of Pasco in Florida, in order to expand the waste processing capacity at the Pasco County Resource Recovery Facility (PCRRF).

By constructing one additional municipal waste combustor (MWC), adjacent to the existing three MWC units, the facility's solid waste processing will increase by a nominal design rated capacity of 475 tons per day (TPD). This will help address the increased municipal solid waste (MSW) generation associated with the growing population. Once constructed, Unit 4 will be the newest MWC in the U.S., following the construction of the West Palm Beach 2, FL facility in 2015.

**Time horizon**

Medium-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium-low

**Are you able to provide a potential financial impact figure?**

No, we do not have this figure

**Potential financial impact figure (currency)**

<Not Applicable>

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

We are not providing a financial impact figure.

**Cost to realize opportunity****Strategy to realize opportunity and explanation of cost calculation**

The application is currently under review by Florida DEP. We have responded to a round of comments from that State, and anticipate a draft approval within the coming months.

**Comment**

We are not providing a cost, but instead examples of how we are realizing this opportunity

As of 2023, permits for the expansion have been received and we are in contract negotiations to begin construction.

### C3. Business Strategy

#### C3.1

**(C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world?****Row 1****Climate transition plan**

Yes, we have a climate transition plan which aligns with a 1.5°C world

**Publicly available climate transition plan**

No

**Mechanism by which feedback is collected from shareholders on your climate transition plan**

Not applicable as our organization does not have shareholders

**Description of feedback mechanism**

<Not Applicable>

**Frequency of feedback collection**

<Not Applicable>

**Attach any relevant documents which detail your climate transition plan (optional)****Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future**

<Not Applicable>

**Explain why climate-related risks and opportunities have not influenced your strategy**

<Not Applicable>

#### C3.2

**(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?**

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Important but not an immediate priority	<p>Covanta has not yet completed a climate-related scenario analysis because of the already recognized role of WTE in reducing GHG emissions, including by Clean Development Mechanism, the IPCC, and the World Economic Forum.</p> <p>We have performed several analyses that have quantified the role that more sustainable waste management can play. For example, our engineers co-authored a 2009 paper that assessed how implementing the waste management hierarchy of the U.S. EPA and EU (i.e., in order of decreased preference: reduce, reuse, recycle, recover energy and disposal) to the extent proven by global leaders like Germany, Austria and the Netherlands could reduce overall GHG emissions. The analysis found that by 2050, more sustainable waste management could reduce global GHG emissions by 1 Gigatonne of carbon equivalents per year. (See Bahor et al., Integrated waste management as a climate stabilization wedge, Waste Management &amp; Research, 2009: 27: 839-849.)</p> <p>We recently performed a similar analysis for the waste sector in the United States. The analysis found that with improved waste reduction efforts, increased recycling (especially organics recycling), and a shift from landfilling to WTE, the waste sector has the potential to cut U.S. net GHG emissions by upwards of 700 million metric tons of CO2 per year by 2050. That's on par with shuttering 90 percent of coal plants or removing three-quarters of gasoline vehicles from U.S. roads.</p> <p>The analyses, however, did not relate those emissions reductions to a specific scenario, such as the 1.5°C or lower scenario referenced by CDP. We believe scenario analysis could be a very useful exercise to help demonstrate how more sustainable waste management, including the use of WTE for the materials remaining after recycling, could help meet climate change objectives, as well as better inform our short- and long-term business strategy.</p>

**C3.3**

**(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.**

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Providing sustainable waste, materials, and energy services to our customers is the cornerstone of our business. Each of our service offerings responds to customer demand for sustainable waste management services that are superior to landfilling according to the "waste hierarchy" and assists our customers in meeting their own zero-waste, zero-waste-to-landfill, circular economy, and other sustainability goals. These goals, and the waste management hierarchy itself, are designed to reduce the environmental impacts of waste management, including the emission of GHGs. Each of our service offerings is focused on providing cost effective and sustainable solutions that leverage our extensive network of WTE and Materials Processing facilities (MPFs), and transfer stations in North America.</p> <p>Alternative Fuel processing is a recent area of growth and opportunity for us, that is helping to decarbonize the cement industry, one of the most carbon intensive industries in the world. This fuel, made of non-recyclable waste materials, replaces coal in the cement manufacturing process while diverting waste from landfill. Our acquisition of CIRCON and Buffalo Fuels / SGS has catapulted our position in this growing market.</p> <p>As part of our sustainability-linked financing (SLF), we committed to increase both tons diverted from landfilling, and well as increase tons recycled and reused, both of which are inextricably linked with the services that we provide that help reduce societal GHG emissions relative to business as usual practices.</p>
Supply chain and/or value chain	Yes	<p>Our primary business of energy recovery reduces the volume of waste by up to 90%. Recovering metals from the waste is an important part of our business and climate story. The production of metals from raw materials is very GHG-intensive. Further, finding more uses for the remaining inert ash is becoming increasingly more important. As society moves toward a carbon constrained economy, we expect that the value of metals and other recoverable materials in the residue will increase. As such, we have invested heavily in equipment and technology to improve our metal recovery efficiency.</p> <p>In furtherance of that direction, we have been focusing on our ash. We launched our pilot Total Ash Processing System (TAPS) in 2021 and operated for over a year. This system, located in Fairless Hills, Pennsylvania, adjacent to our metals processing facility, separated the combined ash from WTE facilities into its component parts enabling increased recycling of small metal fractions and recovery of aggregate for reuse as construction material.</p> <p>We have also submitted a Beneficial Use Determination (BUD) application to develop reuse outlets for aggregate recovered from WTE ash in New York. We are in the preliminary stages of developing a similar application in Hawaii. Like the TAPS project, these would enable the recovery of aggregate for reuse as construction material while further reducing the volume of residue requiring disposal.</p> <p>Recovery of additional metal for recycling helps reduce GHG emissions associated with production of metals from raw materials. The diversion of residue from landfilling also helps reduce the GHG impacts associated with transportation and the placement of residue in the landfill.</p>
Investment in R&D	Yes	<p>We have recently partnered with several university research teams in their proposals to secure funding through the U.S. Department of Energy's Advanced Research Program Agency – Energy (ARPA-e) to pursue advanced metal recovery and ash beneficial use. These technologies, if successful, will help recover additional metal for recycling, including precious and rare earth elements, resulting in further lifecycle GHG emissions reductions from materials management. Furthermore, use of ash as a potential cement replacement or admixture can help with cement decarbonization.</p> <p>In partnership with the University of Illinois, we were granted DOE funding from for a carbon capture pilot to be installed at one of our Waste to Energy facilities. With 60-65% of the carbon in waste derived from biogenic sources, WTE offers a very attractive opportunity to help achieve net removals of carbon from the atmosphere through the capture and sequestration and/or use of biogenic carbon. Waste sources of biomass are particularly attractive, as they do not contribute to land use change.</p>
Operations	Yes	<p>We have, at several of our sites, implemented capital projects designed to harden critical infrastructure against flooding that is potentially exasperated by sea-level rise and/or the increased frequency of storm events. We have also made capital investments to help improve the ability of certain facilities to operate during periods of local grid outages. We anticipate that climate change could lead to increased intensity and duration of storm events that could make power disruptions more likely.</p>

**C3.4**

**(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Capital expenditures Capital allocation Acquisitions and divestments Access to capital Assets	<p>Our company's mission is to provide more sustainable waste management services. Increasingly, sustainable waste management is inextricably linked to reducing GHG emissions. As such, climate-related risks, and to an even greater extent, opportunities, have been a key factor in capital allocation, revenues, capital expenditures, acquisitions and divestitures, and assets.</p> <p>Most importantly, our decision to pursue sustainably-linked financing (SLF) is a direct reflection of the role that we see climate playing in financial planning. As the first leveraged buyout (LBO) completed with SLF, EQT's acquisition of Covanta capitalized on the greenhouse gas mitigating aspects of Covanta's business, as well as the further GHG emissions reductions that could be achieved through growth in the business, specifically in tons diverted from landfilling through energy recovery, recycling, and other sustainable materials management services. We believe that such an approach provided as additional opportunities in the market to find attractive financing.</p> <p>A large part of our strategy to meet SLF targets and expand our service offerings to customers relies on mergers and acquisitions. As of June 2023, Covanta has acquired 8 new businesses, expanding offerings in wastewater treatment, alternative fuels, transportation, and waste-to-product operations. For example, our alternative fuels business provides low carbon fuels to the cement industry, helping to decarbonize this very emissions intensive sector. In addition to expanding our service offerings, these acquisitions have expanded our footprint in North America, granting access to markets in new regions.</p> <p>The addition of these services to Covanta's existing portfolio of environmentally sustainable solutions enables the company to significantly expand its carbon neutral capabilities for customers while simultaneously optimizing existing assets such as our Waste-to-energy and Material Processing operations.</p>

**C3.5**

**(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?**

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	Yes, we identify alignment with our climate transition plan	<Not Applicable>

**C3.5a**

**(C3.5a) Quantify the percentage share of your spending/revenue that is aligned with your organization's climate transition.**

**Financial Metric**

Revenue/Turnover

**Type of alignment being reported for this financial metric**

Alignment with our climate transition plan

**Taxonomy under which information is being reported**

<Not Applicable>

**Objective under which alignment is being reported**

<Not Applicable>

**Amount of selected financial metric that is aligned in the reporting year (unit currency as selected in C0.4)**

**Percentage share of selected financial metric aligned in the reporting year (%)**

100

**Percentage share of selected financial metric planned to align in 2025 (%)**

100

**Percentage share of selected financial metric planned to align in 2030 (%)**

100

**Describe the methodology used to identify spending/revenue that is aligned**

We are not providing a revenue figure, however, 100% of our revenue is aligned with our organization's climate transition plan, which is to reduce the climate impacts of waste management by moving materials up the waste management hierarchy for our clients. All revenue from waste management services (>60%) is therefore aligned with this transition plan. We also generate revenue from sold electricity. Under both federal and state programs, including state-level renewable portfolio standards, the entirety of our electrical output is considered renewable. We plan to continue growing our sustainable waste management service offerings, and therefore plan to maintain 100% alignment between our revenue and climate transition plan.

**C4. Targets and performance**

**C4.1**

**(C4.1) Did you have an emissions target that was active in the reporting year?**

Intensity target

**(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).****Target reference number**

Int 1

**Is this a science-based target?**

No, but we anticipate setting one in the next two years

**Target ambition**

&lt;Not Applicable&gt;

**Year target was set**

2017

**Target coverage**

Business activity

**Scope(s)**

Scope 3

**Scope 2 accounting method**

&lt;Not Applicable&gt;

**Scope 3 category(ies)**

Category 1: Purchased goods and services

**Intensity metric**

Other, please specify (Metric tons CO2e per thousand short tons of MSW processed)

**Base year**

2016

**Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)**

10.12

**Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)**

&lt;Not Applicable&gt;

**Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)**

18.5

**Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)**

10.12

**% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure**

97

**% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure**

<Not Applicable>

**% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure**

50

**% of total base year emissions in all selected Scopes covered by this intensity figure**

50

**Target year**

2022

**Targeted reduction from base year (%)**

10

**Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]**

9.108

**% change anticipated in absolute Scope 1+2 emissions**

0

**% change anticipated in absolute Scope 3 emissions**

-2

**Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)**

9.1

**Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)**

<Not Applicable>

**Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)**

18.4

**Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)**

9.1

**Does this target cover any land-related emissions?**

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**% of target achieved relative to base year [auto-calculated]**

100.790513833992

**Target status in reporting year**

Achieved

**Please explain target coverage and identify any exclusions**

The calculation of purchased goods is based on the consumption of relevant raw materials, including lime, carbon, limestone, urea, ammonia, steel, and Inconel metal and published emission factor data. The target is calculated on an equity share basis for WTE facilities, only. This target was originally set based on scope 3 emissions from WTE operations, which at the time represented 100% of our calculated company-wide S3 (purchased goods and services) inventory. As we continued to refine our scope 3 inventory, this target was redefined as "business activity-specific" rather than "company-wide" in order to remain consistent with the original boundaries. WTE operations represent 97% of emissions for this particular scope 3 category.

**Emissions factors and sources:**

Lime= 0.768 ton CO2 / ton lime (source: NREL LCA Database) Carbon = 0.13 ton CO2 / ton GAC (source: CH2MHill Life Cycle Assessment of Greenhouse Gases for the Product: Amended Silicates) Limestone= 0.103 ton CO2 / ton limestone (source: University of TN Center for Clean Products (2008) Limestone Quarrying and Processing: A Life-Cycle Inventory) Urea= 0.002 ton CO2 / gal. urea (source: Kool et al (2012) GHG Emissions of N, P and K fertilizer production, Table 13) Ammonia= 2.56 ton CO2 / ton NH3 (source: Kool et al (2012) GHG Emissions of N, P and K fertilizer production, Table 13) Steel= 1.82 ton CO2 / ton steel tubing (source: ATHENA 2002) Inconel (average) = 5.86 ton CO2/ton Inconel (source: avg based on Inconel 600, 625, 718 emissions factors from SpecialMetals.com)

**Plan for achieving target, and progress made to the end of the reporting year**



<Not Applicable>

**List the emissions reduction initiatives which contributed most to achieving this target**

The Waste-to-energy (WTE) business is itself a source of GHG mitigation. Net Carbon offsets are achieved as a result of increased waste processed. An absolute target to reduce GHG emissions associated with raw material consumption would not be compatible with the overall goal to grow the business (which, given WTE's recognition as a source of GHG mitigation, results in overall GHG reductions). We set the goal as an intensity target to promote efficient raw material usage while increasing throughput, ultimately resulting in greater economy-wide GHG emissions.

The reduction in intensity from 2016 through the goal year (2022) is mostly due to efficient reagent use at WTE facilities.

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## C4.2

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**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**

Target(s) to reduce methane emissions

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### C4.2b

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**(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.**

**Target reference number**

Oth 1

**Year target was set**

2021

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Other, please specify	Other, please specify (Total wastes recycled or reused (short tons))
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**Target denominator (intensity targets only)**

<Not Applicable>

**Base year**

2020

**Figure or percentage in base year**

937000

**Target year**

2025

**Figure or percentage in target year**

1171000

**Figure or percentage in reporting year**

1092000

**% of target achieved relative to base year [auto-calculated]**

66.2393162393162

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

Meeting this target helps us expand the low carbon waste management offerings we provide to our clients, both by expanded our service offerings to include wastewater treatment, waste depackaging, composting, and recycling, as well as recover additional metals from those wastes we receive for energy recovery. In general, recycling reduces GHG emissions relative to making new products from virgin materials and resources.

**Is this target part of an overarching initiative?**

Reduce short-lived climate pollutants

**Please explain target coverage and identify any exclusions**

This is one of our two sustainability-linked financing commitments. This goal is to increase our total wastes recycled or reused 25% by 2025 relative to a 2020 baseline of 937 thousand tons. Tonnage is assessed on an operational control + equity interest basis. Recycled and reused wastes include both metals that we recover from our combustion ash, as well as waste recycling or reuse services we offer to our clients. This is inclusive of, but not limited to, water pre-treatment, non-ferrous and ferrous metal recycling, composting & anaerobic digestion, and e-waste recycling.

**Plan for achieving target, and progress made to the end of the reporting year**

66% of this target has been achieved in 2022 (The CDP automatic calculator incorrectly indicates a reversal of progress).

We anticipate further gains with the expansion of our sustainable materials management services via acquisitions and organic growth. As of July 2023, Covanta has acquired 8 new businesses, expanding service offerings in waste water treatment, waste-to-product, and more. Waste reduction, reuse and recycling is recognized as generally reducing GHG emissions relative to both disposal (landfilling) and energy recovery.

**List the actions which contributed most to achieving this target**

<Not Applicable>

**Target reference number**

Oth 2

**Year target was set**

2021

**Target coverage**

Company-wide

**Target type: absolute or intensity**

Absolute

**Target type: category & Metric (target numerator if reporting an intensity target)**

Other, please specify	Other, please specify (Total Sustainably Processed Waste (thousand short tons))
-----------------------	---

**Target denominator (intensity targets only)**

<Not Applicable>

**Base year**

2020

**Figure or percentage in base year**

20904

**Target year**

2025

**Figure or percentage in target year**

21427

**Figure or percentage in reporting year**

21015

**% of target achieved relative to base year [auto-calculated]**

21.2237093690249

**Target status in reporting year**

Underway

**Is this target part of an emissions target?**

Diverting wastes from landfills will help reduce overall country and region GHG emissions from the waste management sector, particularly methane.

**Is this target part of an overarching initiative?**

Reduce short-lived climate pollutants

**Please explain target coverage and identify any exclusions**

This is one of our two sustainability-linked financing commitments. This goal is to increase our total sustainably processed wastes by 2.5% by 2025 relative to a 2020 baseline of 20.9 million tons. Tonnage is assessed on an operational control + equity interest basis. Sustainably processed tons include wastes processed through WTE as well as any additionally recycled or reused tons as described in the previous goal..

**Plan for achieving target, and progress made to the end of the reporting year**

Our progress will largely be driven by expanded services, as identified in the previous response, particularly in the alternative engineered fuels (AEF) space. Our acquisition of CIRCON, the largest acquisition in Covanta history, has expanded our AEF footprint in North America. Additionally, expanded WTE capacity will continue to support the growth of this KPI.

**List the actions which contributed most to achieving this target**

<Not Applicable>

**C4.3**

**(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.**

Yes

**C4.3a**

**(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	0	0
Implementation commenced*	1	74000
Implemented*	1	3400
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

**Initiative category & Initiative type**

Other, please specify	Other, please specify (Raw material Efficiency)
-----------------------	---

**Estimated annual CO2e savings (metric tonnes CO2e)**

3400

**Scope(s) or Scope 3 category(ies) where emissions savings occur**

Scope 3 category 1: Purchased goods & services

**Voluntary/Mandatory**

Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**

0

**Investment required (unit currency – as specified in C0.4)**

0

**Payback period**

<1 year

**Estimated lifetime of the initiative**

3-5 years

**Comment**

We will not provide a cost savings, however, this initiative requires no investment.

Efficient use of reagent results in a reduction in year over year reagent use, driving cost savings and Scope 3 emissions reductions. This calculation is based off the change in usage in Lime, Ammonia, Urea and Carbon at our equity share plants, only.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Financial optimization calculations	Many of the GHG emissions reductions opportunities that are within our control are aligned with financial signals. A greater return on metals recovery projects that results from higher separation efficiency also optimizes lifecycle GHG emissions reductions.
Other	We have embarked on a rigorous Continuous Improvement program aimed at making our operations more efficient. Many of the opportunities for optimizing efficiency also reduce lifecycle GHG emissions.
Dedicated budget for other emissions reduction activities	Our Covanta Metals Management group was specifically created to identify and implement projects to recover additional metals from the ash remaining after the combustion process at our waste-to-energy facilities. These projects both create additional revenue for Covanta and generate lifecycle GHG emissions reductions as a result of the additional metal recovered for recycling. The use of recycled metal saves significant amounts of GHG emissions relative to using raw materials.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

Yes

C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.**

**Level of aggregation**

Product or service

**Taxonomy used to classify product(s) or service(s) as low-carbon**

Other, please specify (Lifecycle methodology, USEPA MSW DST)

**Type of product(s) or service(s)**

Other	Other, please specify (Waste Management)
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**Description of product(s) or service(s)**

Our core business, waste-to-energy, is widely recognized as a source of GHG mitigation. These facilities, and other like them around the world, are recognized internationally as a source of Greenhouse gas (GHG) emissions mitigation and low carbon energy generation, including by the U.S. EPA; U.S. EPA scientists; the Intergovernmental Panel on Climate Change ("IPCC"); the World Economic Forum; the European Union; CalRecycle; California Air Resources Board; and the Joint Institute for Strategic Energy Analysis (NREL). WTE facilities generate carbon offsets credits under both the Clean Development Mechanism (CDM) of the Kyoto Protocol and voluntary carbon offset markets. WTE was recognized as a compliance option for reducing GHG emissions from electricity generation in the final version of the Obama Administration's Clean Power Plan promulgated in 2015. New WTE facilities were eligible to generate Emission Rate Credits (ERCs). Existing facilities were not a covered source and were considered a source of zero carbon energy under the program.

**Have you estimated the avoided emissions of this low-carbon product(s) or service(s)**

Yes

**Methodology used to calculate avoided emissions**

Other, please specify (Lifecycle methodology, USEPA MSW DST)

**Life cycle stage(s) covered for the low-carbon product(s) or services(s)**

End-of-life stage

**Functional unit used**

Tons of MSW processed

**Reference product/service or baseline scenario used**

Landfilling

**Life cycle stage(s) covered for the reference product/service or baseline scenario**

End-of-life stage

**Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario**

18200000

**Explain your calculation of avoided emissions, including any assumptions**

On average, the U.S. EPA has determined that WTE facilities reduce GHG emissions by 1 ton of CO2 equivalents (CO2e) for every ton of municipal solid waste (MSW) diverted from landfill and processed. By eliminating emissions that would have otherwise occurred, WTE is the only major source of electricity that reduces GHG emissions. Furthermore, WTE can generate carbon offset credits under the Kyoto Protocol's Clean Development Mechanism and the Verified Carbon Standard. Two U.S. WTE facilities, eligible due to their recent expansion, have sold carbon offset credits into the voluntary market. WTE was also eligible to generate emission rate credits under the Obama Administration's Clean Power Plan. WTE contributes to the reduction of GHGs in the environment by:

- generating energy that otherwise would likely be generated by fossil-fueled facilities;
- diverting solid waste from landfills where it would have emitted methane for decades, even when factoring in landfill gas collection; and
- recovering metals for recycling, saving the GHGs and energy associated with the production of products and materials from virgin inputs.

**Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year**

100

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**C5. Emissions methodology**

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**C5.1**

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**(C5.1) Is this your first year of reporting emissions data to CDP?**

No

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**C5.1a**

**(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?**

**Row 1**

**Has there been a structural change?**

Yes, an acquisition  
 Yes, a divestment

**Name of organization(s) acquired, divested from, or merged with**

Covanta Europe (now Encyclis) was divested from Covanta. Eight new businesses were acquired by Covanta in 2022/2023: CIRCON, Miller Environmental Transfer, Biologic, Globalcycle, Globalcycle remediation, Buffalo Fuels, SGS and Frontier Fibers.

**Details of structural change(s), including completion dates**

In 2022, European assets were divested from Covanta, creating a standalone Waste-to-Energy platform in Europe (Encyclis). These assets include WTE facilities operating in Dublin, Italy and the U.K., as well as 3 facilities in the U.K. under new construction. The impact of the 8 new acquisitions are not yet reflected in this CDP response; they will be included in future responses when they are fully integrated into the business.

**C5.1b**

**(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?**

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

**C5.1c**

**(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?**

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Row 1	No, because we do not have the data yet and plan to recalculate next year	<Not Applicable>	All new facility emissions should be evaluated; if facility emissions exceed 1% of total S1+2 emissions, they should be included in the inventory. Facilities contributing less than 1% of emissions may be included or estimated.	No

**C5.2**

**(C5.2) Provide your base year and base year emissions.**

**Scope 1**

**Base year start**

January 1 2011

**Base year end**

December 31 2011

**Base year emissions (metric tons CO2e)**

4347342

**Comment**

Base year emissions updated to reflect update to 20-year GWP of N2O and CH4 used in our inventory.

**Scope 2 (location-based)**

**Base year start**

January 1 2011

**Base year end**

December 31 2011

**Base year emissions (metric tons CO2e)**

34610

**Comment**

**Scope 2 (market-based)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

Scope 3 category 1: Purchased goods and services

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 2: Capital goods

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 6: Business travel

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

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**(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

US EPA Center for Corporate Climate Leadership: Indirect Emissions From Purchased Electricity

US EPA Mandatory Greenhouse Gas Reporting Rule

C6. Emissions data

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C6.1

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**(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?**

**Reporting year**

**Gross global Scope 1 emissions (metric tons CO2e)**

4417301

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

C6.2

---

**(C6.2) Describe your organization's approach to reporting Scope 2 emissions.**

**Row 1**

**Scope 2, location-based**

We are reporting a Scope 2, location-based figure

**Scope 2, market-based**

We have operations where we are able to access electricity supplier emission factors or residual emissions factors, but are unable to report a Scope 2, market-based figure

**Comment**

Covanta generates electricity for export to the grid. However, we do, on occasion, purchase electricity from the grid to sustain operations during maintenance outages or for other purposes. Our 2021 purchased electricity was equivalent to less than 1% of our total gross electrical generation. For the location-based figure, we report using the average grid factors from U.S. EPA's eGRID tool which are a data-based set of emission factors for individual power control regions in the U.S.

We are able to access public electricity supplier emissions factors in order to calculate the market-based figure, however, we do not have renewable contracts from our suppliers, as required by the CDP. We do not actively source renewable electricity because it is supplemental to our generation, making up less than a percent of our total gross generation.

C6.3

---

**(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?**

**Reporting year**

**Scope 2, location-based**

19279

**Scope 2, market-based (if applicable)**

<Not Applicable>

**Start date**

<Not Applicable>

**End date**

<Not Applicable>

**Comment**

C6.4

---

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?**

Yes

C6.4a

---

**(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.**

**Source of excluded emissions**

Regional Offices

**Scope(s) or Scope 3 category(ies)**

Scope 1

Scope 2 (location-based)

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant



**Relevance of market-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of Scope 3 emissions from this source**

<Not Applicable>

**Date of completion of acquisition or merger**

<Not Applicable>

**Estimated percentage of total Scope 1+2 emissions this excluded source represents**

0

**Estimated percentage of total Scope 3 emissions this excluded source represents**

<Not Applicable>

**Explain why this source is excluded**

An assessment of our Morristown corporate office, our largest office, found total Scope 1 and Scope 2 emissions to be approximately 0.01% of our total Scope 1 and Scope 2 emissions. Other offices are significantly smaller than our Morristown office. Furthermore, many of our remaining office locations are co-located with our operating facilities, where their GHG emissions are counted in the existing inventory as part of our operating facilities.

**Explain how you estimated the percentage of emissions this excluded source represents**

An assessment of our largest office, located in Morristown, NJ included the impacts of electricity and gas use. The impact represented about a tenth of a percent of our overall Scope 1&2 emissions. Our other offices are significantly smaller and will have an even smaller impact, totaling to much less than a percent.

---

**Source of excluded emissions**

HFCs and PFCs

**Scope(s) or Scope 3 category(ies)**

Scope 1

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of market-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of Scope 3 emissions from this source**

<Not Applicable>

**Date of completion of acquisition or merger**

<Not Applicable>

**Estimated percentage of total Scope 1+2 emissions this excluded source represents**

0

**Estimated percentage of total Scope 3 emissions this excluded source represents**

<Not Applicable>

**Explain why this source is excluded**

A detailed review of facility-level GHG emissions completed in 2008 estimated emissions of HFCs and PFCs, predominately from the servicing of air conditioning equipment, to represent approximately 0.01% of our total Scope 1 GHG inventory. No changes have occurred to our operations since 2008 that would fundamentally change the magnitude of the expected emissions of HFCs and PFCs.

**Explain how you estimated the percentage of emissions this excluded source represents**

A detailed review of facility-level GHG emissions completed in 2008 estimated emissions of HFCs and PFCs, predominately from the servicing of air conditioning equipment, to represent approximately 0.01% of our total Scope 1 GHG inventory. No changes have occurred to our operations since 2008 that would fundamentally change the magnitude of the expected emissions of HFCs and PFCs.

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**Source of excluded emissions**

SF6 Emissions

**Scope(s) or Scope 3 category(ies)**

Scope 1

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of market-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of Scope 3 emissions from this source**

<Not Applicable>

**Date of completion of acquisition or merger**

<Not Applicable>

**Estimated percentage of total Scope 1+2 emissions this excluded source represents**

0

**Estimated percentage of total Scope 3 emissions this excluded source represents**

<Not Applicable>

**Explain why this source is excluded**

Covanta has relatively minor emissions of SF6, predominately associated with high-voltage switchgear. A detailed review of facility-level GHG emissions completed in 2008

estimated emissions of SF6 to represent approximately 0.04% of our total Scope 1 GHG inventory. No changes have occurred to our operations since 2008 that would fundamentally change the magnitude of the expected emissions of SF6 and several facilities have replaced their SF6 switchgear with those equipped with other dielectric gases.

**Explain how you estimated the percentage of emissions this excluded source represents**

The detailed facility review described above determined that SF6 emissions represent about 0.04% of Scope 1 emissions, and an even smaller percentage of Scope 1&2 emissions.

---

**Source of excluded emissions**

Transfer Stations

**Scope(s) or Scope 3 category(ies)**

Scope 1

Scope 2 (location-based)

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

**Relevance of market-based Scope 2 emissions from this source**

<Not Applicable>

**Relevance of Scope 3 emissions from this source**

<Not Applicable>

**Date of completion of acquisition or merger**

<Not Applicable>

**Estimated percentage of total Scope 1+2 emissions this excluded source represents**

0

**Estimated percentage of total Scope 3 emissions this excluded source represents**

<Not Applicable>

**Explain why this source is excluded**

A detailed assessment of GHG emissions performed in several states as part of our earlier participation in The Climate Registry found that transfer station Scope 1 and Scope 2 GHG emissions represented 0.02% of total Scope 1 and Scope 2 GHG emissions. Exclusion of transfer station emissions is not expected to have a material impact on the inventory.

**Explain how you estimated the percentage of emissions this excluded source represents**

We performed a detailed GHG assessment of our transfer stations in order to determine its relevance to our inventory. The results indicated they represent 0.02%

---

C6.5

**(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.**

**Purchased goods and services**

**Evaluation status**

Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

106077

**Emissions calculation methodology**

Average data method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

We base our emissions estimates based on actual quantities of materials used in the reporting year, or, if this data is not available, purchasing records. Calculation based on consumption of relevant raw materials, including lime, carbon, limestone, urea, ammonia, steel, and Inconel metal and published emission factor data. Emissions factors and sources: Lime= 0.768 ton CO2 / ton lime (source: NREL LCA Database) Carbon = 0.13 ton CO2 / ton GAC (source: CH2MHill Life Cycle Assessment of Greenhouse Gases for the Product: Amended Silicates) Limestone= 0.103 ton CO2 / ton limestone (source: University of TN Center for Clean Products (2008) Limestone Quarrying and Processing: A Life-Cycle Inventory) Urea= 0.002 ton CO2 / gal. urea (source: Kool et al (2012) GHG Emissions of N, P and K fertilizer production, Table 13) Ammonia= 2.56 ton CO2 / ton NH3 (source: Kool et al (2012) GHG Emissions of N, P and K fertilizer production, Table 13) Steel= 1.82 ton CO2 / ton steel tubing (source: ATHENA 2002) Inconel (average) = 5.86 ton CO2/ton Inconel (source: avg based on Inconel 600, 625, 718 emissions factors from SpecialMetals.com)

## Capital goods

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

We estimate our emissions from capital goods based on emissions factors from peer reviewed studies. The scope 3 emissions from capital goods have been found to represent a minor portion of total facility emissions. One study determined that about 7-14 kg CO2e per tonne of waste combusted over a facility's lifetime is associated with capital goods. (See L.K. Brogaard, C. Riber, T.H. Christensen. Quantifying capital goods for waste incineration, International Journal of Integrated Waste Management, Science and Technology, <https://www.sciencedirect.com/science/article/pii/S0956053X13001232>)

In 2022, we did not have any on-going new facility construction.

## Fuel-and-energy-related activities (not included in Scope 1 or 2)

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

27569

### Emissions calculation methodology

Average data method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Please explain

We estimate our emissions from upstream fuel related activities based on emissions factors used by the US EPA. Calculation based on upstream emissions from propane, diesel, and natural gas. Emissions factors are based on industry averages, pulled from the following sources: Propane = 0.05 ton CO2e / MWh (source: GTI (2017) GHG and Criteria Pollutant Emissions Analysis) Natural Gas = 0.05 ton CO2e / MWh (source: GTI (2017) GHG and Criteria Pollutant Emissions Analysis) Diesel = 0.07 ton CO2e / MWh (source: U.S. EPA (2020) Summary Lifecycle Analysis Greenhouse Gas Results for the U.S. Renewable Fuels Standard Program Version 1.1)

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Emissions in reporting year (metric tons CO2e)

63895

### Emissions calculation methodology

Average data method  
Distance-based method

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

### Please explain

In most cases, we do not have operational control over waste haulers who deliver MSW to our facility. In general, transportation is contracted by the waste generator. The resulting Scope 3 CO2e emissions represent about 30% of our Scope 3 emissions, but less than 2% of the total emissions (Scope 1, 2, and 3) Calculation based on tons of waste processed (equity-share basis), average truck capacity of 13 tons, average transportation distance of 50 miles, and average emissions factor of 1.47 kg CO2e / vehicle-mile

## Waste generated in operations

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta's primary business is management of waste in our waste-to-energy facilities. These operations generate an inert ash that is either beneficially used, placed in MSW landfills, or placed in ash monofills. Long term testing of leachate from an ash disposal facility in Marion County, Oregon revealed no detectable concentrations of semi-volatile organic compounds (SVOCs). (See Roffman, Haia K. Municipal Waste Combustion Ash Landfill Leachate Quality – Long Term Monitoring. Presented at the Air & Waste Management Association 90th Annual Meeting & Exhibition, June 8-13, 1997, Toronto, Canada) The absence of SVOCs supports the premise that minimal biological degradation of carbon, and subsequent evolution of methane, occurs with ash in landfills. Furthermore, ash was observed to solidify significantly in the monofill, likely rendering any remaining carbon in the ash unavailable to biological processes. Recent research has also identified municipal waste combustor ash as a slight GHG sink. (See Rendek, E., G. Ducom, P. Germain, Carbon dioxide sequestration in municipal solid waste incinerator (MSWI) bottom ash, Journal of Hazardous Materials, 128: 1, 73-79. doi:10.1016/j.jhazmat.2005.07.033)

**Business travel****Evaluation status**

Not relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

3584

**Emissions calculation methodology**

Supplier-specific method  
Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

100

**Please explain**

Emissions estimate provided by travel agency vendors for air, rental cars, and hotels

**Employee commuting****Evaluation status**

Not relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

6634

**Emissions calculation methodology**

Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

The resulting Scope 3 CO2e emissions are considered irrelevant. In 2022, approximately 15% of our workforce worked on a hybrid schedule (3 out of 5 days in office) due to the global pandemic. On average our employees live 19 miles away from their place of work. An emissions factor of  $3.98 \times 10^{-4}$  metric tons CO2e/mile is based of the EPA GHG calculator for passenger vehicles. Note that this is a conservative estimate which includes all Covanta employees, not an equity share basis.

**Upstream leased assets****Evaluation status**

Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

Covanta does not have any appreciable upstream leased assets

**Downstream transportation and distribution****Evaluation status**

Not relevant, calculated

**Emissions in reporting year (metric tons CO2e)**

6516

**Emissions calculation methodology**

Average data method  
Distance-based method

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

0

**Please explain**

Covanta's primary products / outputs are energy products in the form of steam and electricity. Any downstream losses associated with delivery of these products are already included in our scope 1 emissions. After the combustion process, approximately 10% of the initial volume of wastes processed remains as an inert ash which must be managed, either in a regular MSW landfill, as landfill daily cover, or in an ash monofill. These applications are typically located off-site. The scope 3 emissions associated with the ash transportation is based on tons of ash processed, typical ash truck capacity of 20 tons, average transportation distance of 35 miles, and average emissions factor of 1.47 kg CO2e / vehicle-mile.

## Processing of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta's sold products include electricity, steam and metals recovered for recycling. Steam and electricity are not subject to further processing, therefore, there are no emissions from processing of these products. Metals recovered for recycling generate GHGs during the recycling process; however, per the Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions, emissions from the processing of recycled inputs are allocated to the company that uses the recycled material.

## Use of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta's primary products are electricity, steam, and metals for recycling. The use of electricity and steam downstream does not generate emissions, although the processes in which these products are used may have different sources of emissions. Similarly, the metals sold for recycling are not finished products. They will likely be incorporated into other products that could have emissions in the use phase; however, those emissions would be attributable to a downstream manufacturer.

## End of life treatment of sold products

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta's primary products steam and electricity, do not require end of life treatment. The recovery of metals for recycling is further processed and the end of life emissions associated with the final product into which the recovered metal is used is not attributable to Covanta.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta does not have downstream leased assets.

## Franchises

### Evaluation status

Not relevant, explanation provided

### Emissions in reporting year (metric tons CO2e)

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

### Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

### Please explain

Covanta does not have franchises

**Investments**

**Evaluation status**

Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

Covanta does not have significant investments outside of equity investments in those facilities already included in our Scope 1 inventory

**Other (upstream)**

**Evaluation status**

Not evaluated

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

We have not evaluated upstream emissions outside of those already included in our Scope 3 calculations.

**Other (downstream)**

**Evaluation status**

Not evaluated

**Emissions in reporting year (metric tons CO2e)**

<Not Applicable>

**Emissions calculation methodology**

<Not Applicable>

**Percentage of emissions calculated using data obtained from suppliers or value chain partners**

<Not Applicable>

**Please explain**

We have not evaluated downstream emissions outside of those already included in our Scope 3 calculations.

C6.7

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**(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?**

Yes

C6.7a

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**(C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.**

	CO2 emissions from biogenic carbon (metric tons CO2)	Comment
Row 1	5980106	Covanta's biogenic CO2 emissions are derived from waste sources of biomass, widely recognized as nearly carbon neutral.

C6.10

---

**(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.**

**Intensity figure**

1079

**Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)**

4436580

**Metric denominator**

full time equivalent (FTE) employee

**Metric denominator: Unit total**

3909

**Scope 2 figure used**

Location-based

**% change from previous year**

5

**Direction of change**

Increased

**Reason(s) for change**

Divestment

Acquisitions

**Please explain**

This increase in intensity reflects the post-divestment, pre-acquisition state to align with the scope of the emissions inventory. We calculated emissions intensity as the total Scope 1 & 2 inventory (which only reflects the effects of divestment, not acquisitions) divided by company-wide FTE, after divestment and excluding new employees from acquisitions (to reflect the same boundaries as the emissions inventory). The acquired business units are in the material processing space, which tend to have minimal contribution to the full scope of emissions. When the emissions data is fully incorporated in upcoming reporting years, the % difference in intensity is likely decrease year over year.

**C7. Emissions breakdowns**

**C7.1**

**(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?**

Yes

**C7.1a**

**(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).**

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	4375656	IPCC Fifth Assessment Report (AR5 – 20 year)
CH4	141	IPCC Fifth Assessment Report (AR5 – 20 year)
N2O	53	IPCC Fifth Assessment Report (AR5 – 20 year)

**C7.2**

**(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.**

Country/area/region	Scope 1 emissions (metric tons CO2e)
United States of America	4416738
Canada	563

**C7.3**

**(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.**

By activity

**C7.3c**

**(C7.3c) Break down your total gross global Scope 1 emissions by business activity.**

Activity	Scope 1 emissions (metric tons CO2e)
Waste-to-Energy	4382368
Natural Gas Steam Generation	19970
Material Processing Facilities	5349
Waste Transportation	9613

**C7.5**

**(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.**

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
United States of America	19174	
Canada	105	

**C7.6**

**(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.**

By activity

**C7.6c**

**(C7.6c) Break down your total gross global Scope 2 emissions by business activity.**

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Waste-to-Energy	16921	
Material Processing Facilities	2358	

**C7.7**

**(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?**

Not relevant as we do not have any subsidiaries

**C7.9**

**(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?**

Increased

**C7.9a**



**(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.**

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	15600	Decreased	0.4	Reduced natural gas usage in our Niagara WTE auxiliary fuel boiler and reduced electricity usage in our MPF result in lowered scope 1&2 emissions
Other emissions reduction activities	0	No change	0	No other reduction activities to report.
Divestment	221854	Decreased	5	Divestment from European assets resulted in a decrease in S1&2 emissions.
Acquisitions	0	No change	0	The GHG impacts of our new acquisitions have not yet been added to our inventory.
Mergers	0	No change	0	No mergers to report.
Change in output	285000	Increased	7	Changes in waste volumes and composition have resulted in overall increase in scope 1 emissions from WTE facilities.
Change in methodology	0	No change		No changes in methodology to report.
Change in boundary	0	No change		No changes in boundary to report.
Change in physical operating conditions	0	No change		No changes in physical operating conditions to report.
Unidentified	0	No change		All emissions reductions activities have been identified
Other	0	No change		No other changes to report.

## C7.9b

**(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?**

Location-based

## C8. Energy

### C8.1

**(C8.1) What percentage of your total operational spend in the reporting year was on energy?**

More than 0% but less than or equal to 5%

### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

### C8.2a

**(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.**

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	16551674	16408997	32960672
Consumption of purchased or acquired electricity	<Not Applicable>	7116	40643	47759
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	16558791	16449641	33008431

### C8.2b

**(C8.2b) Select the applications of your organization's consumption of fuel.**

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

**C8.2c**

**(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.**

**Sustainable biomass**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

17525302

**MWh fuel consumed for self-generation of electricity**

14732153

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

2793149

**Comment**

This represents the electricity derived from the biogenic portion of MSW at WTE facilities.

Waste-to-energy has been recognized as renewable by the federal government for nearly thirty years under a variety of statutes, regulations, and policies. Many state have recognized as renewable under state statutes as well.

**Other biomass**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

0

**Comment**

We do not use biomass other than the biogenic content of our waste feedstock.

**Other renewable fuels (e.g. renewable hydrogen)**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

0

**Comment**

We do not use renewable sources other than the biogenic content of our waste feedstock.

**Coal**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

0

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

0

**Comment**

We do not use coal.

**Oil**

**Heating value**

HHV

**Total fuel MWh consumed by the organization**

85616

**MWh fuel consumed for self-generation of electricity**

72721

**MWh fuel consumed for self-generation of heat**

12895

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**

0

**Comment**

**Gas****Heating value**

HHV

**Total fuel MWh consumed by the organization**

420792

**MWh fuel consumed for self-generation of electricity**

125657

**MWh fuel consumed for self-generation of heat**

11293

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self- cogeneration or self-trigeneration**

283842

**Comment**

This represents a sum of natural gas and propane use.

**Other non-renewable fuels (e.g. non-renewable hydrogen)****Heating value**

HHV

**Total fuel MWh consumed by the organization**

14928961

**MWh fuel consumed for self-generation of electricity**

12549612

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self- cogeneration or self-trigeneration**

2379349

**Comment**

This represents the non-biogenic portion of energy generation from MSW.

**Total fuel****Heating value**

HHV

**Total fuel MWh consumed by the organization**

32960672

**MWh fuel consumed for self-generation of electricity**

27480143

**MWh fuel consumed for self-generation of heat**

24188

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

&lt;Not Applicable&gt;

**MWh fuel consumed for self- cogeneration or self-trigeneration**

5456341

**Comment****C8.2d****(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	5997698	804948	5997698	804948
Heat	0	0	0	0
Steam	2390620	0	2294239	0
Cooling	0	0	0	0

## C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

**Country/area**

United States of America

**Consumption of purchased electricity (MWh)**

46807

**Consumption of self-generated electricity (MWh)**

804948

**Is this electricity consumption excluded from your RE100 commitment?**

<Not Applicable>

**Consumption of purchased heat, steam, and cooling (MWh)**

0

**Consumption of self-generated heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

851755

**Country/area**

Canada

**Consumption of purchased electricity (MWh)**

952

**Consumption of self-generated electricity (MWh)**

0

**Is this electricity consumption excluded from your RE100 commitment?**

<Not Applicable>

**Consumption of purchased heat, steam, and cooling (MWh)**

0

**Consumption of self-generated heat, steam, and cooling (MWh)**

0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**

952

## C9. Additional metrics

### C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

## C10. Verification

### C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	No third-party verification or assurance
Scope 2 (location-based or market-based)	No third-party verification or assurance
Scope 3	No third-party verification or assurance

### C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Other, please specify (Total Sustainably Processed Waste)	Covanta's performance against Sustainability Linked Financing targets are verified annually by an external auditor annually. A "Limited Assurance" report is posted on Covanta's investor website annually, and attached here.	The sustainably processed waste KPI has been chosen to reflect one of our greatest net emissions reduction potential. Sustainably processing waste results in landfill avoidance that would otherwise create significant GHG emissions. FY22 Independent Accountants Report Executed.pdf Sustainability-Linked Financing Framework - Final.pdf
C4. Targets and performance	Other, please specify (Total Wastes recycled / reused)	Covanta's performance against Sustainability Linked Financing targets are verified annually by an external auditor annually. A "Limited Assurance" report is posted on Covanta's investor website annually, and attached here.	The waste recycled or reused KPI has been chosen to reflect one of our greatest net emissions reduction potential. Waste recycled or reused is an initiative to optimize waste output, reduce future energy requirements, and contribute to the circular economy FY22 Independent Accountants Report Executed.pdf Sustainability-Linked Financing Framework - Final.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.

California CaT - ETS

RGGI - ETS

C11.1b

(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.

**California CaT - ETS**

**% of Scope 1 emissions covered by the ETS**

2.3

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**Allowances allocated**

121607

**Allowances purchased**

0

**Verified Scope 1 emissions in metric tons CO2e**

99518

**Verified Scope 2 emissions in metric tons CO2e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

CA Cap & trade program compliance periods are 3 years, with the current period from 2021 - 2023. Note, the Scope 1 emissions are currently undergoing verification. We do not anticipate any major adjustments post-verification.

**RGGI - ETS**

**% of Scope 1 emissions covered by the ETS**

0.3

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**Allowances allocated**

0

**Allowances purchased**

16458

**Verified Scope 1 emissions in metric tons CO2e**

12651

**Verified Scope 2 emissions in metric tons CO2e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

We operate one natural gas-fired boiler at our Niagara Falls, NY facility that is used as a back-up source of steam for an industrial park steam loop. While the use of the boiler is strictly to satisfy steam demand, the high-pressure output of the boiler is connected to a turbine which operates in a combined heat and power mode. Therefore, according to RGGI rules, all of the emissions from the boiler are subject to the program.

C11.1d

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**(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

Covanta is subject to the RGGI cap and trade program for an auxiliary boiler installed at our Niagara Falls, NY facility. Our current strategy is to purchase allowances needed through the secondary market. Our core business, WTE, is not subject to the RGGI cap and trade program. Therefore, we currently have minimal market exposure to this program.

In 2017, Covanta was effectively exempt from the California cap and trade program under AB32; however, beginning in 2018, our Stanislaus County facility in Crows Landing, CA started to incur a compliance obligation. While the facility receives the majority of its allowances directly from the state as a free allocation, there is a shortfall of allowances provided relative to our compliance obligation. To make up the shortfall, we purchase either allowances, offsets, or offset derivative products from the secondary market. We are also responsible for securing allowances for the Long Beach WTE facility. In addition to securing allowances to remain compliant, we are engaged with the California Air Resource Board and other policymakers to ensure the climate benefits of WTE are properly considered.

**C11.2**

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**(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?**

No

**C11.3**

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**(C11.3) Does your organization use an internal price on carbon?**

Yes

**C11.3a**

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**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

**Type of internal carbon price**

Shadow price

**How the price is determined**

Social cost of carbon

*We use the U.S. Federal Government's Social Cost of Carbon (2013) to demonstrate and communicate the economic benefits of landfill diversion and energy from waste with policy and decision makers.*

**Objective(s) for implementing this internal carbon price**

Identify and seize low-carbon opportunities  
Navigate GHG regulations  
Stakeholder expectations

**Scope(s) covered**

Scope 1

**Pricing approach used – spatial variance**

Uniform

**Pricing approach used – temporal variance**

Static

*To date, we use a static, uniform price, but anticipate moving toward evolutionary pricing over time. Given the uncertainty in the social cost of carbon, we use a range of \$11 - \$89 / metric ton, reflecting range in 2010 Social Cost of Carbon from Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, authored by the Interagency Working Group on Social Cost of Carbon, United States Government*

**Indicate how you expect the price to change over time**

<Not Applicable>

**Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)**

50

**Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)**

50

**Business decision-making processes this internal carbon price is applied to**

Product and R&D  
Risk management  
Opportunity management

**Mandatory enforcement of this internal carbon price within these business decision-making processes**

No

**Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan**

Applying a cost of carbon has helped us demonstrate the economic efficiency of using energy-from-waste technologies to help mitigate climate change. In general, the operation of energy-from-waste plants is more expensive per ton of waste managed than landfilling. However, normal accounting practices do not account for the social cost of the higher GHG emissions from landfilling. Considering the social cost of carbon allows policymakers to better understand the relative cost of energy-from-waste and landfilling when the GHG externalities are considered.

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**C12. Engagement**

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**C12.1**

**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our customers/clients

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**C12.1b**

**(C12.1b) Give details of your climate-related engagement strategy with your customers.**

**Type of engagement & Details of engagement**

Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)
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**% of customers by number**

100

**% of customer - related Scope 3 emissions as reported in C6.5**

0

**Please explain the rationale for selecting this group of customers and scope of engagement**

Many of our customers have an interest in the GHG emissions from their downstream waste management. Therefore, we make available to all of our customers information on climate change related to more sustainable waste management. The exact nature of the engagement varies depending on the client and can range from 1. assistance with lifecycle inventories and analysis, 2. development of GHG emissions savings metrics associated with operating milestones, 3. assistance with Scope 3 inventory development, 4. participation in employee and public meetings and hearings, 5. development of facility-specific websites to better educate the public (municipal customers) on the GHG and other environmental impacts of WTE, and 6. dissemination of technical information on climate change through our sustainability report, facility performance sheets, website, and white papers

**Impact of engagement, including measures of success**

Educating our customers generally results in a more engaged relationship and collaboration on key issues related to GHG emissions, including state and federal policy design. We track website traffic metrics (e.g. time on page, unique users) and downloads of climate related reference materials to gauge efficacy and usage.

**C12.2**

**(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?**

No, and we do not plan to introduce climate-related requirements within the next two years

**C12.3**

**(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?**

**Row 1**

**External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Yes, we fund organizations or individuals whose activities could influence policy, law, or regulation that may impact the climate

**Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?**

No, and we do not plan to have one in the next two years

**Attach commitment or position statement(s)**

<Not Applicable>

**Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan**

As a sustainable materials management company, we are committed to supporting policy that moves waste up the hierarchy. We consistently bring the concepts of reduction, reuse, recycling and energy recovery to the table when discussing landfill diversion opportunities.

**Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

**Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

**C12.3a**

**(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?**

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

Renewable Fuel Standard (RFS) program

**Category of policy, law, or regulation that may impact the climate**

Low-carbon products and services

**Focus area of policy, law, or regulation that may impact the climate**

Energy attribute certificate systems

**Policy, law, or regulation geographic coverage**

National

**Country/area/region the policy, law, or regulation applies to**

United States of America

**Your organization's position on the policy, law, or regulation**

Support with minor exceptions

**Description of engagement with policy makers**

In 2022, we submitted comments advocating for the inclusion of WTE in the RFS program, given that it is a preferable means of disposal compared to landfilling. The current inclusion of landfill gas in the program and exclusion of WTE incentivizes landfilling and dissuades all other sustainable solid waste management options including WTE, recycling, composting, anaerobic digestion, and reuse.

**Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation**

We oppose the exclusion of WTE generated electricity from the program and propose creating a new pathway to include the electricity generated from MSW that has undergone reasonably practicable efforts to remove recyclable materials other than food and yard waste.

**Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?**

No, we have not evaluated

**Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?**

This program is central to our mission to become the leading sustainable waste and materials management company in the United States. Diverting wastes from landfills through other means of recycle and reuse are key to reducing GHG emissions in the waste sector. Keeping Landfills in the program while excluding other forms of sustainable waste management discourages the movement of wastes up the materials management hierarchy.

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**C12.3b**

**(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.**

**Trade association**

Other, please specify (Waste to Energy Association)

**Is your organization's position on climate change policy consistent with theirs?**

Consistent

**Has your organization attempted to influence their position in the reporting year?**

Yes, we publicly promoted their current position

**Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position**

Both Covanta and the WTEA promote Waste-to-energy as a means of diverting waste from landfills and avoiding greenhouse gases, and advocate for WTE as a key component of sustainable waste management.

**Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)**

**Describe the aim of your organization's funding**

<Not Applicable>

**Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?**

No, we have not evaluated

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**C12.3c**

**(C12.3c) Provide details of the funding you provided to other organizations or individuals in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.**

**Type of organization or individual**

Research organization

**State the organization or individual to which you provided funding**

Environmental Research and Education Foundation

**Funding figure your organization provided to this organization or individual in the reporting year (currency as selected in C0.4)**

0

**Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate**

The Environmental Research and Education Foundation (EREF) is the only private, grant making institution with a national and international scope whose sole mission is to support solid waste research and education initiatives. EREF's grants program is led by our Research Council, a body of volunteers consisting of technical experts in industry, academia and consulting. The work of the Council is guided by a long-range strategic plan with the goal to achieve greater sustainability, good environmental stewardship, higher process efficiency and increased knowledge. This work provides foundational knowledge to enable sound policy decisions in the waste and materials management sector. We are not providing a financial figure in this disclosure.

**Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?**

No, we have not evaluated

**C12.4**

**(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

Covanta I ESG Report Updates\_Draft 44\_Spreads (2).pdf

**Page/Section reference**

p1-33

**Content elements**

- Governance
- Strategy
- Risks & opportunities
- Other metrics

**Comment**

**C12.5**

**(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.**

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	We are not a signatory/member of any collaborative framework, initiative and/or commitment related to environmental issues	<Not Applicable>

**C15. Biodiversity**

**C15.1**

**(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?**

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	No, and we do not plan to have both within the next two years	<Not Applicable>	<Not Applicable>

**C15.2**

**(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?**

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	No, and we do not plan to do so within the next 2 years	<Not Applicable>	<Not Applicable>

**C15.3**

**(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?**

**Impacts on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No and we don't plan to within the next two years

**Value chain stage(s) covered**

<Not Applicable>

**Portfolio activity**

<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**

<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**

<Not Applicable>

**Dependencies on biodiversity**

**Indicate whether your organization undertakes this type of assessment**

No and we don't plan to within the next two years

**Value chain stage(s) covered**

<Not Applicable>

**Portfolio activity**

<Not Applicable>

**Tools and methods to assess impacts and/or dependencies on biodiversity**

<Not Applicable>

**Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)**

<Not Applicable>

**C15.4**

**(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?**

Not assessed

**C15.5**

**(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?**

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	No, and we do not plan to undertake any biodiversity-related actions	<Not Applicable>

**C15.6**

**(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?**

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No	Please select

**C15.7**

**(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).**

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Other, please specify (Volunteer efforts to support local biodiversity)	p40-43

## C16. Signoff

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### C-FI

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**(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

### C16.1

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**(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

	Job title	Corresponding job category
Row 1	Environmental Engineer - Sustainability	Environment/Sustainability manager

## Submit your response

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**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

**Please confirm below**

I have read and accept the applicable Terms