
Covanta's Task Force on Climate-Related Disclosures (TCFD) Report 2021

Introduction

The IPCC's latest report on the climate is unequivocal—human activity is changing the climate and immediate and dramatic steps are needed to forestall the most significant impacts of climate change. Responding to this challenge will affect every sector of the economy, including how we manage waste and materials.

For the foreseeable future, societies around the globe will continue to generate waste. In fact, global waste generation continues to accelerate. Managing this waste more sustainably presents an opportunity to reduce greenhouse gas (GHG) emissions and other climate impacts and recover valuable resources. As the initiative to mitigate climate change becomes more imperative, we believe the fundamental advantages of waste-to-energy (WTE) will endure and strengthen. By avoiding methane emissions from landfills, displacing electricity generated from fossil fuels and recovering metals for recycling, WTE is uniquely able to provide multiple forms of emissions reductions while delivering both clean energy and reliable waste disposal.

The U.K. continues to be a strong area of growth for Covanta and offers a case study in how countries can turn to WTE to lower emissions and boost cleaner energy generation. In late 2020, two new U.K. projects reached financial close: the Newhurst Energy Recovery Facility (ERF) in Leicestershire and the Protos ERF in Cheshire. Meanwhile, our Rookery South ERF in Bedfordshire is on track to begin commercial operations in 2022, and construction is well underway at our Earls Gate facility. These new projects will help the U.K. achieve its goal of reducing methane emissions by diverting post-recycled biodegradable waste as a priority from landfills.

The U.K.'s efforts highlight WTE's ability to help fight climate change alongside recycling, composting, anaerobic digestion and zero waste efforts. We will need all of these approaches to ensure diversion of biodegradable materials and reduce GHG emissions from landfills, which are among the top three sources of global anthropogenic methane. Scientists and policymakers alike are realizing the critical need to address methane.

Despite WTE's advantages, we cannot be complacent. The expected level of economy-wide GHG reductions necessary over the next 30 years are unprecedented. To achieve such reductions, we need to first and foremost stop managing biodegradable waste in landfills, the greatest source of GHG emissions in the waste sector. We must also decarbonize the remainder of the waste management system. To plan for this future, we continue to develop a science-based target for the waste sector and our implementation plan. Today, our focus is on improving the recovery of metals and other valuable materials from ash, having recently begun operations of our ash recovery facility in Pennsylvania while partnering with our client community on a newly proposed ash recovery facility in Honolulu. We are also partnering with researchers at universities across the county on extracting more value from ash and continue to look long-term at more options to further reduce our carbon footprint.

With the release of a [May 2021 report](#), the United Nations Environmental Programme's executive director made a powerful observation:

“Cutting methane is the strongest lever we have to slow climate change over the next 25 years.”

Significant Changes to The Business

In July 2021, Covanta announced it entered into a definitive agreement with EQT Infrastructure, whereby EQT will acquire all shares of Covanta common stock. Following the completion of the acquisition, EQT will work with Covanta's management team to build upon its impressive strengths including its portfolio of assets that provide essential waste services to municipalities and commercial customers, its long-term community relationships, as well as its numerous growth opportunities, including through a robust U.K. project pipeline of new WTE infrastructure and Covanta's Environmental Solutions platform.

EQT's long-term, strategic approach to sustainable business begins with a mindset that integrates financial as well as environmental, social and governance (ESG) considerations with a goal to make a positive impact. EQT AB Group has a Sustainability Team that acts as a catalyst and facilitator for sustainability within EQT. Covanta's sharp focus on sustainability will remain a priority in coordination with EQT, thereby advancing our collective vision and sustainability goals.

The announcement of the acquisition of Covanta by EQT cited the sustainability and GHG benefits of the WTE technology relative to landfilling:

“EQT and Covanta are proven business leaders who share a like-minded approach to environmental stewardship, and this acquisition aligns directly with EQT's thematic approach of investing in sustainable businesses that have a positive impact on society.”

About This Report

In this inaugural TCFD Report, we've included information on how climate risks and opportunities are identified, managed, and integrated into our business strategies. This report reflects Covanta's disclosures on climate-related governance, strategy, risk management and metrics and targets as of September 30, 2021, prior to the sale of Covanta common stock to EQT. For more information on our climate-related efforts, please visit our microsite ([Covanta-csr.com](https://www.covanta-csr.com)) and our latest [CDP Climate Change report](#).

Describe the board's oversight of climate-related risks and opportunities.

Governance of our commitments to act on climate change sits at the highest level of our company. Our Board and management remain committed to providing sustainable waste management and energy services, transparently reporting on ESG performance and advancing our performance and environmental justice through a set of sustainability goals.

In this light, since 2011 we have regularly published data and details regarding our ESG performance and sustainability program. This focus on ESG performance is highlighted by our annual [sustainability reports](#), which cover our sustainability vision and our goals and performance related to safety and health, environmental sustainability, materials management, community relations and our workforce engagement efforts, including diversity, equity and inclusion (DEI).

Our Nominating and Governance Committee is responsible for oversight of sustainability and ESG, including our goals, strategy, performance and reporting matters. Our Nominating and Governance Committee also oversees public policy and community relations. Other board committees have responsibility for oversight of specific aspects of sustainability and ESG. Through December 31, 2020, the Supply Chain and Construction Committee had specific responsibility for our commitment to sustainability through our ongoing initiatives in safety and health, environment performance and materials management. Our Compensation Committee and Board provide oversight of ongoing initiatives pertaining to workforce engagement, including DEI.

REFERENCES

[2021 PROXY STATEMENT, PP. 8, 10-13](#)

[SUSTAINABILITY BLUEPRINT / LEADERSHIP AND GOVERNANCE](#)

[2021 CDP RESPONSE, PP. 2-3](#)

Describe management's role in assessing and managing climate-related risks and opportunities.

Covanta's Senior Management team sets the strategic vision and priorities of the company and drives accountability at all levels. Covanta's Chief Sustainability Officer (CSO) has overall responsibility for the company's sustainability program and oversees the assessment, management and strategy development for all sustainability-related issues, including climate change. In addition, the CSO oversees the company's safety, health and environmental compliance programs and community and government affairs programs.

The CSO reports to the General Counsel and Secretary and the Chief Operating Officer (COO), both of whom are Executive Vice Presidents and report directly to the Chief Executive Officer (CEO). This accountability structure, together with overall responsibility for the company's sustainability program, make the CSO position ideally suited to address climate-related risks and opportunities.

The individuals reporting to the CSO are the:

- **Vice President of Environmental Compliance, Permitting and Sustainability**
- **Senior Directors and Vice Presidents of Government Affairs**
- **Director of Community Affairs**
- **Director of Compliance Testing**

REFERENCES

[SUSTAINABILITY BLUEPRINT / LEADERSHIP AND GOVERNANCE](#)

Describe the climate-related risks and opportunities the organization has identified over the short, medium, and long term.

For purposes of determining risks and opportunities pertaining to climate change, we define substantive financial or strategic impact as those that have the potential 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**
- **Generate a significant change in the demand for our products or services**

For purposes of assessing climate-related risks and opportunities, as described in our CDP and this TCFD Report, Covanta defines short-, medium- and long-term time horizons as 0 to 3 years, 3 to 5 years, and 5 to 20 years, respectively.

Risks

Emerging regulatory risks – Medium-term

The public and political discourse over GHG emissions, (principally CO₂ and methane) and their contribution to climate change, continues both internationally and domestically. We expect this debate to continue, especially as the Biden administration has identified addressing climate change as one of its priorities and has rejoined the Paris Climate Agreement. Any resulting regulations could in the future affect our business. As is the case with all

combustion, our facilities emit CO₂; however, WTE is recognized as creating net reductions in GHG emissions and is otherwise environmentally beneficial, because it avoids:

- **CO₂ emissions from fossil fuel power plants**
- **Methane emissions from landfills**
- **GHG emissions from mining and processing metal through the recovery of metals for recycling.**

In addition, WTE facilities are a resilient domestic source of baseload energy, preserve land and are typically located close to the source of the waste and, thus, typically reduce fossil fuel consumption and air emissions associated with long-haul transportation of waste to landfills.

For policymakers 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 electrical power. We are actively engaged in encouraging policymakers 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.

On a state level, the New York State legislature passed the Climate Leadership and Community Protection Act in 2019, which put New York on the path to achieve net zero GHG emissions by 2050. The

REFERENCES

[2020 10-K, PP. 29, 34](#)

[SUSTAINABILITY BLUEPRINT / OUR VISION FOR SUSTAINABLE WASTE MANAGEMENT](#)

[ENVIRONMENTAL SUSTAINABILITY / ADDRESSING CLIMATE CHANGE](#)

[2020 CDP RESPONSE, PP. 5-10](#)

[2021 CDP RESPONSE, PP. 3-10](#)

state is developing specific policies and regulations to implement the legislation. We are 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. New York has recognized that the main source of GHG emissions from the waste sector is from methane via 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 will play an important role in the transition to a net zero economy; however, the exact impact on our business in New York is uncertain at this time.

Market risks – Medium-term

Despite the potential benefits of expanded recycling and landfill diversion, the market for post-recycled waste management services remains 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 efforts to increase recycling and divert organics, landfills are growing their share of the waste market in California. While typically not prioritized under these policies, WTE facilities still provide a lower carbon waste management option for food wastes and other organics relative to landfilling.

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.

Acute physical risks – Short-term

Significant changes in weather patterns and volatility could have a negative influence on our existing business and our prospects for growing our business. Such changes may cause episodic events (e.g., hurricanes, floods or storms) that are difficult to predict or prepare for, or longer-term trends (e.g., droughts or sea-level rise). These or

other meteorological changes could lead to damages to our facilities, increased operating costs, capital expense, disruptions in facility operations or supply chains, changes in waste generation and interruptions in waste deliveries, limited availability of water for plant cooling operations and changes in energy pricing, among other effects. We cannot quantify in advance the impact if such events were to occur, but, depending on the size of their impact, they could materially adversely impact our financial condition and results of operations.

Opportunities

Products and services – Medium-term

WTE is a widely recognized source of GHG mitigation, both internationally and in the United States. As such, a properly designed carbon pricing policy (e.g., cap-and-trade, carbon tax) should result in a price signal that coincides with the GHG benefits of WTE relative to landfilling. Such an economic signal would improve WTE's cost competitiveness relative to landfills. This has already had an impact. Specifically, the U.K. and Ireland's efforts to comply with the EU's waste framework and landfill directives have led to development opportunities for Covanta in these markets. These two directives have been identified by the European Environmental Agency as drivers in the reduction of GHG emissions from the waste management sector.

WTE facilities are not covered by the EU Emissions Trading System at the European Union level and have been specifically incentivized by EU policies, including the aforementioned directives. Development of the Dublin facility was enabled by Ireland's efforts to meet the EU directives. In the U.K., we continue to allocate capital to projects consistent with the country's goals to divert waste from landfills. Development and construction is well underway at four WTE facilities in the U.K. and we expect commercial operations of Rookery, the first of these four facilities in Q1 2022. The U.K. has committed to its plans to further reduce landfilling of waste modelled after the EU directives even under Brexit.

Products and services – Medium-term

In our Covanta Environmental Solutions (CES) business unit, many of our customers pursue our WTE service offering as a way to divert wastes from landfills and, increasingly, reduce GHG emissions from waste management.

In addition to energy recovery, we are seeking to expand our low-carbon environmental service offerings through both organic growth and acquisitions. Specifically, we offer wastewater treatment, recycling, composting and other services, either directly or through arrangements with third parties, to help our customers further reduce their environmental footprint. We have also made a major \$20M+ investment in ash processing, which will further reduce the ash residue requiring land disposal by recovering additional metal

and aggregate products, thereby further bolstering our customers' zero landfill claims and reducing lifecycle GHG emissions through additional material recycling.

Resilience – Medium-term

WTE facilities can be a resilient source of local energy and waste management services 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. Covanta is actively working with state and local policymakers to help develop opportunities where WTE facilities can help with community resiliency.

Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning.

Covanta incorporates climate-related risks and opportunities into strategy and financial planning. Our business is largely driven by government and business efforts to reduce environmental impacts from waste management, including GHG emissions.

The climate-related risks and opportunities identified to date primarily impact our products and services, supply chain, investments in research and development and financial planning.

Products and services

The climate benefits of WTE have influenced our business objective and strategy. 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.

Supply chain

While our primary business is recovering energy from waste, the recovery of metals from the ash remaining after the energy recovery process is becoming increasingly important to our business. The production of metals from raw materials is resource and GHG-intensive. As society moves toward a carbon constrained economy, we expect that the value of metals and other recoverable materials in our ash will increase. As such, we have invested heavily in equipment and technology to improve our metal recovery efficiency.

In 2020, we commenced start-up of our first ash processing system, called TAPS, located in Fairless Hills, Pennsylvania, adjacent to our

REFERENCES

[2020 10-K, PP. 25, 29](#)

[2021 CDP RESPONSE, P. 11](#)

metal processing facility. This technology separates the combined ash from WTE facilities into its component parts, thereby enabling increased recycling of small metal fractions and the recovery of aggregate for reuse as construction material while reducing the volume of ash requiring landfill disposal. Recovery of additional metal for recycling helps reduce GHG emissions associated with production of metals from raw materials. The diversion of ash from landfilling also helps reduce the GHG impacts associated with transportation and the placement of ash in the landfill.

Investment in research and development

We 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 life-cycle GHG emissions reductions from sustainable materials management. Furthermore, use of ash as a potential cement replacement or admixture can help with cement decarbonization.

In 2020, we also took more definitive steps to begin the consideration and planning of carbon capture use and storage (CCUS) for WTE facilities including in the U.K. and the United States. While CCUS is not currently economically viable with substantial support, we need to stay engaged as technologies continue to evolve and develop. The application of CCUS to WTE would further decarbonize a technology already recognized as preferential to the business-as-usual practice of landfilling and would provide an opportunity for net removals of CO₂ from the atmosphere, given the large percentage of sustainable biogenic carbon contained in waste. As part of our efforts, we responded to a request for information, together with university and private partners, regarding carbon capture issued by the Electric Power Research Institute (EPRI).

Operations

At several sites, Covanta has 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.

Financial planning

Covanta's mission is to provide more sustainable waste management services. Increasingly, sustainable waste management is inextricably linked to reducing GHG emissions. As such, medium- and long-term climate-related risks and opportunities have been a key factor in capital allocation, revenues, capital expenditures, acquisitions and divestitures and assets. Furthermore, the recognition of WTE as a source of GHG mitigation has opened up opportunities for us that may not have been accessible if we had been a more carbon-intensive industry. For example, the U.K. and Ireland's efforts to comply with the EU's waste framework and landfill directives have led to development opportunities for Covanta in these markets. These two directives have been identified by the European Environmental Agency as drivers in the reduction of GHG emissions from the waste management sector.

Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.

Covanta has not yet completed a climate-related scenario analysis because of the recognized role of WTE in reducing GHG emissions, including by Clean Development Mechanism, the IPCC, and the World Economic Forum.

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 & Research, 2009: 27: 839-849.*) The analysis, however, did not relate those emissions reductions to a specific scenario, such as the 2°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, including limiting global warming to 2°C or lower. Scenario analysis could help to better inform our short- and long-term business strategy with regard to business development opportunities. We expect to begin scenario analysis planning in conjunction with our commitment to develop a science-based target by 2022.

REFERENCES

ENVIRONMENTAL
SUSTAINABILITY /
ADDRESSING CLIMATE
CHANGE

2021 CDP RESPONSE, P. 10

Describe the organization's processes for identifying and assessing climate-related risks.

Covanta incorporates the identification and assessment of climate-related risks into a multi-disciplinary, company-wide risk management process that is assessed at least once a year.

Direct operations

We determine potential impact through multi-year financial modeling, in which each model is tailored to the specific risk or opportunity. Each model generally assesses potential exposures, the extent of our business affected, market dynamics and mitigation cost.

We also conduct a quarterly review of our exposure to existing carbon pricing schemes as part of our Sarbanes-Oxley compliance process. This review enables us to determine appropriate reserves and/or accruals based on emissions modelling, regulatory requirements and carbon price projections. We have also identified several transition opportunities, including the potential to generate carbon offset credits as well as increased interest in our services from businesses interested in reducing their GHG emissions, particularly their Scope 3 emissions. Three of our facilities in the United States were validated as carbon offset projects, as they reflected additional WTE capacity.

Decisions regarding physical risks are led by the facility and/or regional operations management with input and resources from corporate operations, as appropriate. This decentralized approach incorporates the unique design characteristics (e.g., layout, elevation) and risks (e.g., projected rainfall amounts, wind speeds) of each facility.

Upstream operations

While increased costs associated with climate-related policy will have the most direct impact on our business, concerns over climate change could positively or negatively affect the demand for our products and services. Our business management team is responsible for reviewing the impact of climate-related market changes in collaboration with our sustainability and government affairs teams.

We develop estimated market prices considering 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 land-filling. 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 (i.e., the price paid to Covanta for management of waste), as well as the potential opportunity from an investment in organics management infrastructure.

REFERENCES

2020 10-K, P. 6

SUSTAINABILITY BLUEPRINT /
MATERIALITY ANALYSIS

ENVIRONMENTAL
SUSTAINABILITY /
ADDRESSING CLIMATE
CHANGE

2021 CDP RESPONSE, P. 4

Describe the organization's processes for managing climate-related risks.

Decisions to mitigate, transfer, accept or control climate-related risks and to capitalize on opportunities are made by cross-functional teams including operations, sustainability, legal, environmental, business management, accounting, sales and other groups, as appropriate. Not all risks and opportunities will require the involvement of all these groups. Instead, risks and opportunities are managed with an approach proportional to their potential impact on the business and likelihood of occurrence.

REFERENCES

SUSTAINABILITY BLUEPRINT / LEADERSHIP AND GOVERNANCE

2021 CDP RESPONSE, PP. 4-5

2020 10-K RISK FACTORS, PP. 24-35

Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management.

Covanta's Risk Management team provides an annual update on enterprise risk to our Board. The last update was in September 2020. The update includes a heat map of key risks facing the organization. The resulting "heat map" mapping is based on senior management's (all VP's and above) thoughts regarding each risk. The senior management team evaluates each risk in terms of probability (likelihood), impact (severity) and velocity (timing). "Global Warming" was specifically enumerated on the list of evaluated risks in 2018; however, the effects of climate change were embedded in risk categories evaluated in 2020, including "Weather," a subcategory of "Operational Risk" - the risk safe, uninterrupted operation of business is compromised due to unforeseen circumstances, including but not limited to mechanical breakdown, weather, fire, cyber breaches, etc..." Climate change is also identified within "Law & Policy risk," where changes to local and national policies designed to mitigate climate change could impact our operations.

In addition to the annual enterprise risk process, we assess climate change risk for certain projects and activities. For example, decisions to mitigate, transfer, accept or control climate-related risks and to

capitalize on opportunities are made by cross-functional teams including operations, sustainability, legal, environmental, business management, accounting, sales and other groups, as appropriate. Not all risks and opportunities will require all groups involved, instead, risk and opportunities are evaluated in an approach proportional to their potential impact, positive or negative, on the business and the likelihood of occurrence.

We determine potential impact through multi-year financial modelling. While each model will be tailored to the specific risk or opportunity, each model generally assesses potential exposures, the extent of our business affected, market dynamics, and mitigation cost.

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, considering of 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.

Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.

Covanta utilizes the following categories of metrics to assess climate-related risks and opportunities in line with its strategy and risk management process:

- Business indicators
- Corporate GHG emissions

REFERENCES

[PERFORMANCE TABLES / ENVIRONMENTAL PERFORMANCE](#)

Disclose Scope 1, Scope 2, and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.

REFERENCES

[PERFORMANCE TABLES / ENVIRONMENTAL PERFORMANCE](#)

[ENVIRONMENTAL SUSTAINABILITY / ADDRESSING CLIMATE CHANGE](#)

[2021 CDP RESPONSE, PP. 16-22](#)

Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.

Progress toward these targets can be found in our [2021 Sustainability Report](#).

REFERENCES

[ENVIRONMENTAL SUSTAINABILITY / ADDRESSING CLIMATE CHANGE](#)

Covanta has targets for the following metrics:

- By 2020, increase the amount of waste managed through energy recovery and other sustainable waste management operations by 10% relative to a 2014 baseline.
- Increase total wastes avoided, recycled or reused under our management by 100% by 2022 relative to a 2014 baseline of 548,000 tons.
- Achieve additional energy efficiency improvements at our energy recovery facilities of 60,000 MWh in total by the end of 2020.