



Enduring Values. Continuous Progress.

2020 Interim Sustainability Report



CROWN

Brand-Building Packaging™



A Message from Our CEO

The year 2020 was pivotal for our business. We, like many other manufacturers, were challenged like never before. But thanks to the commitment and skill of our global associates, we persevered and supported our customers in a safe and timely manner. We thank each one of our employees for the work they do every day across our operations.

In this period of uncertainty, metal packaging still experienced a year of strength and increased loyalty from consumers. As we navigated unprecedented demand for our products, we did not lose sight of our enduring commitment to sustainability, staying focused on safety, efficiency and resource management. In fact, we elevated our commitments, launching our **Twentyby30** program, a bold sustainability agenda for the next decade. We look forward to creating real change through the pillars of this strategy and driving improvements in areas like climate change, resource and waste management and Diversity & Inclusion.

The year also marked the conclusion of the measurement period for our first formal sustainability goals. We established them in 2016 around issues we observed as most pressing and most viable for making immediate progress. Those targets, to be completed by December 31, 2020, included reducing our greenhouse gas emissions and decreasing our energy consumption. We are proud to report that we fulfilled—and surpassed—those goals ahead of schedule.

With one chapter of our sustainability journey ending and another beginning, we felt it was fitting to issue an interim update to look back at what we achieved as a Company in 2020 and share where we are headed next. As you will learn from reading this report, we have continued to excel across all three dimensions of sustainability—economic, environmental and social. In reviewing our year, we are also grateful for the recognition our sustainability efforts received from several well-respected, independent organizations. From inclusion in *The Wall Street Journal's* 100 most sustainably managed companies in the world, to leading our peers in Sustainalytics' ESG risk assessment and landing on CDP's Supplier Engagement Leaderboard, we know we are on the right track with our sustainability program, taking the appropriate steps to remain a sustainability leader among our peers and achieve the goals important to our internal and external stakeholders.

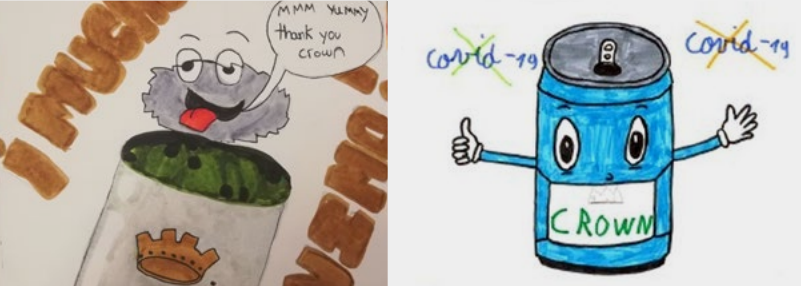
Our next formal report, to be released in early 2022, will maintain our proactive communication with stakeholders and document our continued progress. We look forward to pushing ourselves further with our new commitments and fostering meaningful change today and into the future.

TIMOTHY J. DONAHUE
PRESIDENT AND CHIEF EXECUTIVE OFFICER
CROWN HOLDINGS, INC.

Heard from Crown Families Around the World

Our people are the core of our business. That has never been more apparent than in 2020 as we faced the COVID-19 pandemic. It is because of the tremendous efforts of our global associates that we were able to support our customers through such unprecedented circumstances.

Their dedication inspired many, including their own children, who expressed what Crown's employees meant to them through charming works of art. We received dozens of drawings and illustrations from employees' children of all ages and locations. We are proud to share just a few of them and echo their sentiments in saying "thank you" to our worldwide family.



2020 Sustainability Performance

Sustainability has always served as a core business value at Crown. Along with producing an inherently environmentally friendly primary product—metal packaging—safety, efficiency and resource conservation have been critical guideposts for our Company from the beginning. Those principles remain in place today, as part of our formal sustainability strategy.

In 2020, we embarked on the most ambitious chapter of our sustainability journey to date. We launched a bold plan for the next decade that elevated our sustainability commitments and outlined a roadmap for success. We set goals that focused on several overarching priorities: reducing the impact of climate change, using natural resources efficiently, supporting circularity, enacting social change and enhancing product performance, all of which are underpinned by a strong commitment to governance and ethics.

These goals, which are shared later in this report, build on the progress we achieved with our first set of sustainability targets, which concluded on December 31, 2020. Established in 2016 against a 2015 baseline, these objectives targeted progress in energy consumption and greenhouse gas (GHG) emissions. We are proud to have surpassed our goals in both categories, thanks to the hard work of our global employees. In addition, although not tied to our formal sustainability goals, we elevated our efforts around renewable electricity in 2020.

While we are proud of the strides we have made to date, we know that sustainability is a never-ending process. We are committed to continuous progress across all aspects of our business in considering what we make, how we make it and where we can influence change by collaborating with our customers, suppliers and the industry at large. Per our commitment to report on our sustainability progress every two years, we will issue our next formal sustainability report in early 2022. That report will fully detail our environmental, social and governance (ESG) achievements for fiscal years 2019, 2020 and 2021. Our plan is to prepare the report in full accordance with the GRI Standards, consistent with all our prior biennial reports, and the Sustainability Accounting Standards Board (SASB) Containers & Packaging standard.

We are proud to have surpassed our goals in both categories, thanks to the hard work of our global employees.



2020 Sustainability Goals

Goal 1
☁️ **10%**
⬇️

Reduce GHG emissions by 10% per billion standard units of production, including Scope 1 and Scope 2 emissions.

Status: Goal surpassed across our global operations.

Noteworthy:

By making a range of improvements in our operations, equipment and energy efficiency, we reached our targets ahead of schedule. We also lowered our absolute emissions by almost 14% even while expanding production by nearly the same amount.

Goal 2
⚡️ **5%**
⬇️

Reduce energy consumption by 5% per billion standard units of production.

Status: Goal surpassed across our global metal packaging plants.*

Noteworthy:

Our metal packaging plants surpassed our goal of lowering energy usage by 5% per billion standard units of production.

**Goal status not reflective of Company's limited glass operations, for which production is energy-intensive by nature.*

Renewable Electricity

As a global manufacturer, we have an important role to play in slowing the pace of climate change. A key part of our strategy to fight this looming threat is to invest in renewable electricity. In 2019, we joined RE100, an initiative led by The Climate Group and CDP that is dedicated to accelerating the transition to zero-carbon grids at a global scale. Taking this pledge was a natural fit for our business as we examined areas where we could evolve, including actively seeking alternative sources of power.

We have already taken several meaningful steps toward greater reliance on renewables:

Wind power preventing CO₂ emissions equivalent to removing 67,000 cars from the road in one year.



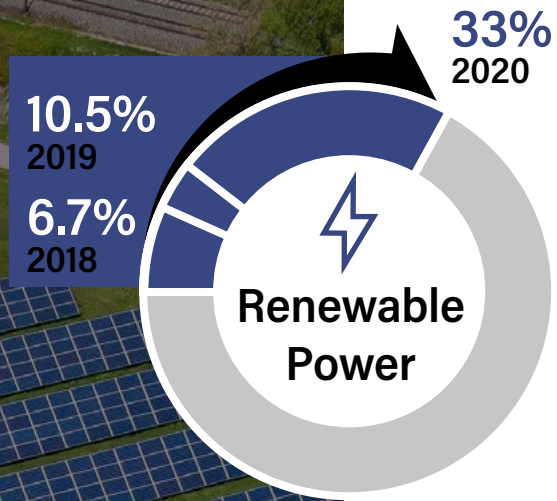
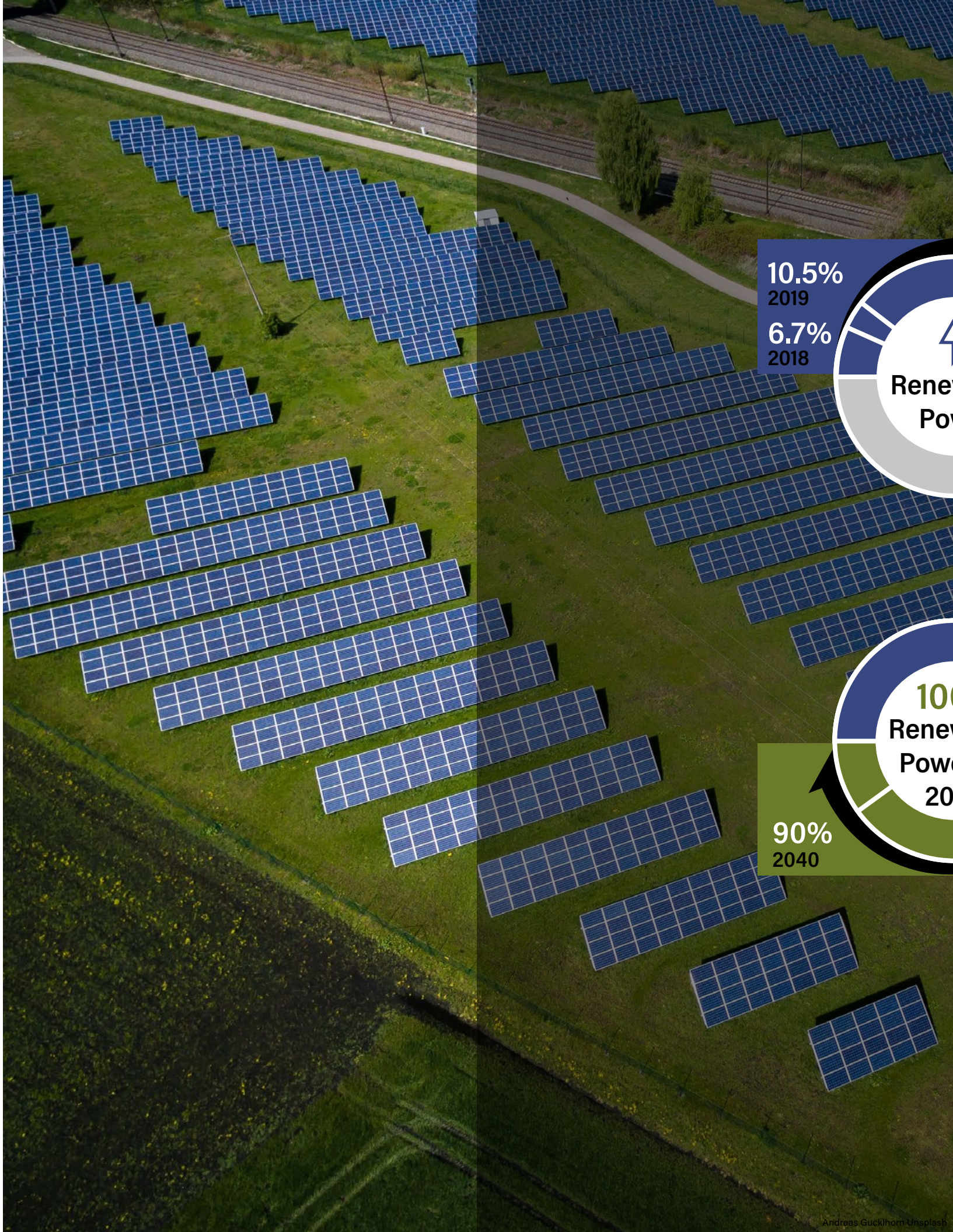
In November 2020, we became the first metal packaging manufacturer to operate 100% of its beverage can plants in the U.S. and Canada on renewable energy.

A 15-year virtual power purchase agreement (VPPA) generates more than 440,000 megawatt-hours (MWhs) of electricity from a Texas-based wind farm. This helps prevent over 310,000 metric tons of carbon emissions annually—the equivalent to taking at least 67,000 passenger vehicles off the road for one year.

Solar power preventing CO₂ emissions equivalent to burning 2.5 million pounds of coal.

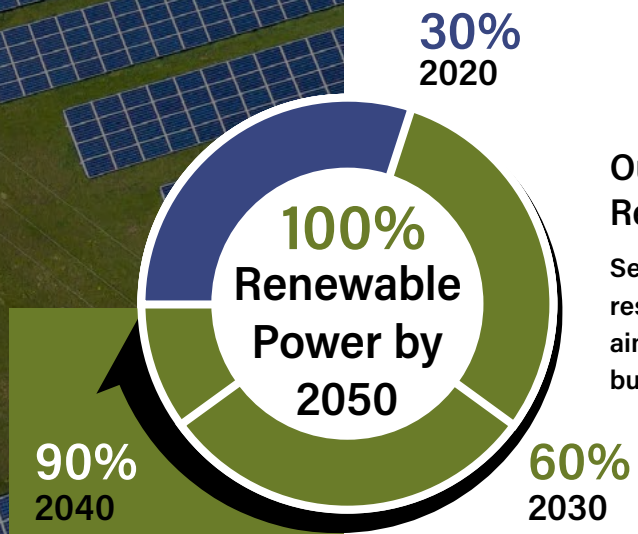


Multiple solar panel installations at strategic facilities in the U.S., Europe and Asia Pacific have helped to produce and offset 3.2 million kilowatt-hours (kWhs) of power for our operations. The effort has saved the approximate CO₂ emissions equivalent of more than 2.5 million pounds of coal burned.



Our Progress to Date

33% of our total electricity used in 2020 was consumed from renewable resources, which exceeded our goal of 30% renewable electricity by the end of 2020.*



Our Path to 100% Renewable Electricity

Several milestones mark our responsible energy journey, which aims to transition 100% of our global business to renewable power by 2050.

*Rate reached following the activation of our VPPA in November 2020.

Our Long-Term Sustainability Strategy

Completing—and exceeding—our first formal sustainability goals is a critical milestone on our sustainability journey.

As we closed in on our 2020 goals and began planning for the next decade of progress, we were motivated to accelerate our sustainability commitments. Our robust Twentyby30 program was born, and while it includes goals that stretch across the ESG spectrum, they are all grounded in our long-standing commitment to drive change where and how we can.



Program Mission

Through Twentyby30, we will create an impactful cycle—an opportunity to move beyond addressing regulatory and supply chain disruption risks caused by ESG concerns. We will take climate action, advance the Circular Economy and attract and retain highly skilled and diverse employees, while also creating efficiency and continuing to build a brand reputation that is trusted and valued by our stakeholders.

Program Strategy

We have set twenty measurable ESG goals to be completed by or before 2030. The Twentyby30 program identifies five distinct pillars of action that represent topics of urgent global concern and areas of the business in which we can create notable impact and reflect the priorities of our internal and external stakeholders. All pillars are underpinned by our well-established governance and ethics principles and practices. Each pillar contains several goals, all set against a 2019 baseline, that together create a framework for larger change.



Climate Action

Recognizes climate change as the biggest risk of this era and aims to minimize energy use and emissions.



Resource Efficiency

Prioritizes the preservation of water as the global supply becomes increasingly scarce.



Optimum Circularity

Strives to recycle and reuse valuable resources and minimize waste.



Working Together

Invests in the health and well-being of employees and a more diverse workforce.



Never Compromise

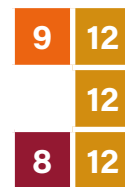
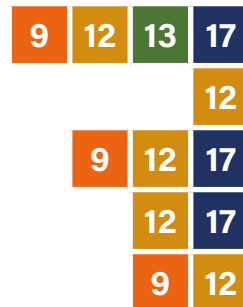
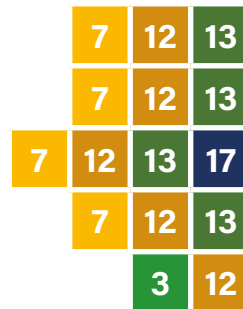
Focuses on upholding product safety, sourcing responsibly and ethically and minimizing product lifecycle footprint.

UN Sustainable Development Goals (SDGs)



Twentyby30 Pillars and Goals

UN SDGs



Climate Action

- 1 Reduce Scope 1 GHG emissions
- 2 Decrease Scope 2 GHG emissions
- 3 Lower Scope 3 GHG emissions
- 4 Source renewable electricity
- 5 Reduce VOC emissions

Resource Efficiency

- 6 Reduce water usage
- 7 Continue meeting local wastewater standards
- 8 Ensure employee access to safe water, sanitation and hygiene
- 9 Replenish high scarcity risk watersheds

Optimum Circularity

- 10 Send zero waste to landfill
- 11 Reduce packaging material use
- 12 Increase steel and aluminum recycling rates
- 13 Maintain or increase recycled content average
- 14 Increase recycled content of plastic strapping

Working Together

- 15 Reduce Total Recordable Incident Rate (TRIR)
- 16 Foster employee engagement in sustainability
- 17 Create a culture of Diversity & Inclusion

Never Compromise

- 18 Decrease product lifecycle footprint
- 19 Food contact and chemical safety
- 20 Responsible and ethical sourcing

Visit www.crowncork.com/sustainability for our detailed Twentyby30 goals.

Governance and Ethics



Sustainably Speaking: The Importance of Governance & Ethics

Supporting the pillars that shape our Twentyby30 program is our centralized approach to governance and ethics. These values, standards and protocols inform our sustainability strategy and guide our business decisions on every level, making them a critical foundation to our future growth.

Adam J. Dickstein, Senior Vice President, General Counsel and Corporate Secretary at Crown, sheds light on why these elements are so critical and what makes our approach unique.

Why does good corporate governance matter so much for sustainability and development?

A well-run, modern, publicly traded corporation contains a diverse allocation of roles and responsibilities. There should be enough autonomy to encourage its leaders to creatively and effectively manage the business but also effective oversight and guidance to make sure those individuals are not abusing their powers. In addition, a well-governed company will have mechanisms in place to identify people who are intentionally violating environmental law, mistreating workers or committing other types of harmful acts.

How do governance and ethics play a role in Crown's sustainability commitments?

Simply put, Crown's Code of Business Conduct and Ethics establishes a baseline for the way we conduct ourselves in the world, providing support for our sustainability commitments in areas such as compliance with the law, treating our employees with respect and other non-negotiables. Governance plays a role in the sustainability commitments by providing the structures to create, police and reward our people for their adherence to our goals and standards.

How does the Company practice accountability?

As a business, we must be held accountable across all our commitments, but keeping our people safe is paramount, without question. Our new coronavirus task forces are an example of that ongoing commitment, as are our active whistleblowing processes, ethical behavior certifications and sustainability steering committees, which we continue to evolve to be stronger and more effective.



Achievements and Recognition

Our sustainability efforts were validated and recognized by several well-respected, independent organizations in 2020.



The Science-Based Targets initiative (SBTi) approved our Scope 1, 2 and 3 GHG emissions targets this year as consistent with reductions required to keep global warming to 1.5°C, the most ambitious climate goal of the Paris Agreement. At the time, this sign-off made us one of only eight companies in the global containers and packaging sector to achieve the distinction amid SBTi's stringent validation process.



ESG ratings provider Sustainalytics ranked us as the number one low-risk organization in our sector of metal and glass packaging (assessed among 48 total companies), and the second position in the larger containers and packaging industry (assessed among 80 total companies). These rankings reflect our strong performance around ESG risk management and potential to experience material financial impacts against our intrinsic industry exposure to those risks.



In 2020, we became the first packaging company in the Americas to secure sustainability-linked terms for its syndicated credit facilities with the execution of a new \$3.25 billion loan. We subsequently decreased our interest rate by the maximum permitted amount after nearly doubling our ESG issues management score with Sustainalytics. Our latest assessment also placed us in the top 1.4% of scores within Sustainalytics' research universe of more than 12,500 companies.



We made the *Journal's* inaugural ranking of the 100 most sustainably managed companies in the world, representing one of only two containers and packaging companies (and the only metal packaging manufacturer) to make the list. Within the global ranking, our management of water, waste and air quality secured our place as the top U.S. company in the *Journal's* list of ten best companies at managing environmental risk.



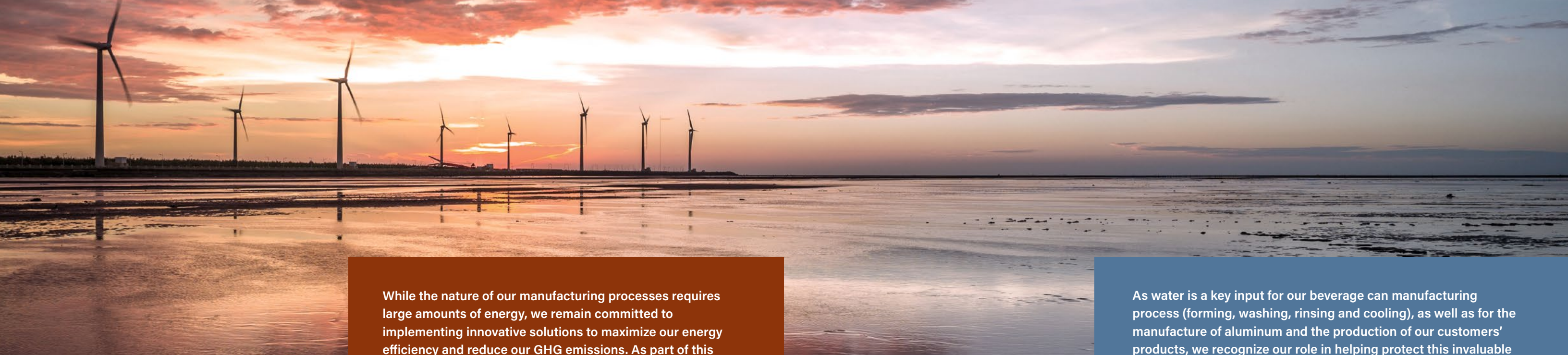
Environmental impact non-profit organization CDP recognized our strategies to effectively reduce emissions and manage climate risks in our supply chain with a place on the 2020 Supplier Engagement Leaderboard—a distinction which categorizes us within the top 7% of 8,033 total companies assessed by the organization.

Key Projects and Progress

Thanks to our dedicated employees around the world, we are already making headway in several of the priority areas outlined in our Twentyby30 program.

Here is a snapshot of the progress we have made since our last sustainability report.





While the nature of our manufacturing processes requires large amounts of energy, we remain committed to implementing innovative solutions to maximize our energy efficiency and reduce our GHG emissions. As part of this commitment, we have made significant investments to improve infrastructure and equipment and to adopt new practices that reduce energy use.

As water is a key input for our beverage can manufacturing process (forming, washing, rinsing and cooling), as well as for the manufacture of aluminum and the production of our customers' products, we recognize our role in helping protect this invaluable resource. Our plants around the world are helping us reduce water usage in our operations by 20% (approximately 500 million gallons annually) from 2019 levels by the end of 2025.

Reducing Greenhouse Gas Emissions

Decreasing Water Usage



Botcherby, U.K.

Multiple Locations, Transit Packaging

All Locations, Brazil

Acayucan, Mexico

Bangalore, India

Amman, Jordan

Action:
An innovative Smart Response system was developed and implemented to help decrease idling time on beverage can production lines during changeovers and improve processing speeds. Smart Response is triggered by a communicative part pallet system integrated into the line's coppers and bodymakers. It ensures equipment is up and running when needed—and avoids having the entire line run at full power when only certain portions of it are in use at a given time.

Action:
A 3,600-square-meter installation of solar panels on the roof of a Transit Packaging Division facility in Virton, Belgium enabled the production of more than 680 MWhs per year, supporting the plant's commitment to a "Green Certificate" program that incentivizes renewable energy use. Similarly, Transit Packaging facilities in Rudraram, India and Silvassa, India implemented solar panels as a supplemental alternative energy source.

Action:
A series of technical improvements were made across our seven Brazil beverage can facilities to reduce consumption of natural gas and liquid petroleum gas. This included adjusting the air circulation of washing machine ovens, reducing temperature by 20° Celsius per piece of equipment as well as enhancing the maintenance of furnace burners and boilers.

Action:
Multiple steps were taken over a two-year period in this beverage packaging plant to enhance water stewardship. Projects included installing smaller capacity hydraulic classification equipment, digging trenches to channel rainwater toward the plant's water tanks for reuse, relocating a hydrocyclone to recover water that was being lost to natural filtration to the ground and making various adjustments to water pipelines.

Action:
India is the second most populous country in the world, with more than 1 billion citizens. A significant portion of India's population lacks access to freshwater resources. To help conserve water, our team in Bangalore focused on rainwater harvesting. A 200,000-liter capacity tank collects and stores rainwater, rather than allowing it to run off. The water is then treated and used in plant operations.

Action:
Committed to responsible water use, this plant focused on washer improvements, replacing nozzles and installing new shutoff valves. Employees were also encouraged to activate the manufacturing line's standby mode when not in use. Other changes included installing new pumps for wastewater treatment and variable frequency drives in the facility's cooling towers to reduce energy and water usage.

Result:
The Smart Response system yielded a savings of over 700,000 kWhs of energy in Botcherby in 2020. To further amplify savings, we plan to implement Smart Response across all our European locations that have the required operating capabilities. The system also has the potential to be rolled out in U.S. beverage and food plants with the needed infrastructure.

Result:
Together, the installations have saved close to 500 metric tons of CO2e (carbon dioxide equivalent) per year.

Result:
Collectively, these efforts have saved an estimated 1,239 tons of CO2e per year.

Result:
The facility reduced its water consumption by more than 98.5 million gallons annually.

Result:
In 2020 alone, the facility saved approximately 1.6 million liters of water.

Result:
These multiple changes allowed for a reduction in water consumption by more than 2.5 million gallons in 2020, which is especially crucial in this water-scarce region.



In Europe, several of our plants have taken creative steps to reuse materials and prevent unnecessary waste. This includes recycling damaged layer pads into other packaging materials and repairing damaged reusable plastic pallets on-site rather than returning them to the supplier for recycling. Our team has also worked with customers to replace plastic interleaving with paper and established a system to segregate materials and maximize rebates from recyclables.

At the end of 2020, 23% of our European facilities achieved zero waste to landfill.



In Brazil, our team works to divert its non-metal waste (i.e., pallets, shrink wrap and metal coil cores) from landfills through recycling, co-processing, composting and refining.

As of November 2020, 100% of Crown's beverage can plants in Brazil are zero waste to landfill. This achievement makes it the first Division in our global network to reach this milestone.

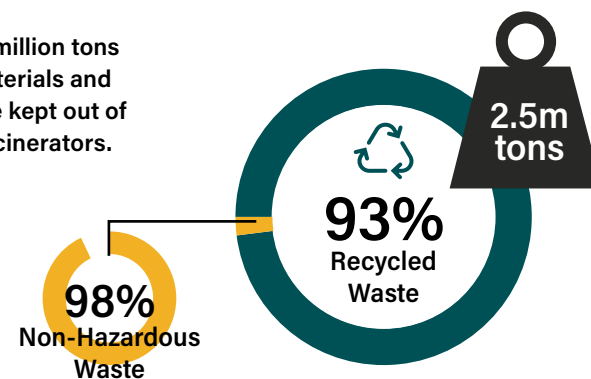
Moving Toward Zero Waste

As a global manufacturer, we have an important role to play in decreasing our operational waste and supporting the Circular Economy. For decades, our sites around the world have practiced effective waste management, focusing on reducing, reusing and recycling as much waste as possible. When those steps are not possible, we apply controls and treatment technologies to prevent human health effects and minimize environmental impacts of disposal.

In our metal packaging facilities, steel and aluminum represent about 85% of incoming materials. Significant effort is made to capture, recover and recycle nearly 100% of our metal waste globally.

2020 Global Waste Statistics

More than 2.5 million tons of reusable materials and resources were kept out of landfills and incinerators.



Supporting Increased Recycling Rates

With metal packaging as our primary product, we are working from a strong foundation of eco-friendly, sustainable materials. It outperforms other substrates in terms of recycling rates and energy saved during production from recycling. Yet, because consumers are often unaware of proper recycling measures or assume their recycled goods still end up in landfills and therefore do not recycle properly, metal has not reached its full potential for recycling efficacy.

We are focused on helping consumers understand that with metal packaging, every can that is recovered is able to and will be transformed into another product. If consumers can support more successful steel and aluminum recovery, they can have a tremendous impact on resource preservation and reuse.

That is a mission we know people want to get behind, so we are working to make it as easy, accessible and practical as we can by collaborating with our suppliers, customers and other industry partners and establishing greater incentives for more effective recycling.



We partnered with the Can Manufacturers Institute and The Recycling Partnership in the U.S. to fund aluminum beverage can recycling grants for Material Recovery Facilities (MRFs). The grant program will help MRFs invest in aluminum can capture equipment that makes the recovery of used beverage cans (UBCs)—the most valuable commodity in the residential recycling stream and the largest revenue-driver for MRFs—more efficient and effective. With up to one in four beverage cans missorted at a typical MRF, their capture will provide critical revenue to the U.S. recycling system and allow additional aluminum to be recycled into new cans or other useful, recyclable products.



We supported industry associations European Aluminium and Metal Packaging Europe as they launched a joint roadmap toward achieving 100% aluminum beverage can recycling by 2030. The roadmap includes multiple steps: improving curbside and on-the-go waste collection systems for aluminum beverage cans; increasing efficiency in sorting infrastructure and addressing informal recycling effectively; recovering aluminum from bottom ash treatment; and informing and engaging consumers effectively.

Maximizing Recycled Content in Packaging Materials

Increasing the industry recycling rate of cans will also help positively impact the levels of recycling content that appears in new products. Implementing higher levels of recycled content in our cans will boost our own averages, but those changes must be made in a way that supports a full picture of a successful recycling system—not just our piece of it.

Our Transit Packaging Division is also taking steps to increase the recycled content of its products, including plastic strapping.



Florence, Kentucky (U.S.)

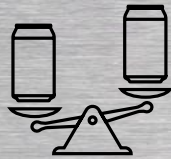
Action: Developed a Closed Loop Recycling Program that collects and recycles polyester beverage containers, polyester strapping and other recyclable materials. Customers can also contribute to the initiative by returning their used plastic strap to the plant, helping reduce waste and disposal costs.

Result: The facility has reduced its dependency on new raw material consumption and produces strap containing up to 45% recycled content, a 7% increase over the prior year. Additionally, the facility more than doubled its use of internal regrind.

Virton, Belgium

Action: This stretch film facility has taken several actions to increase circularity and maximize use of recycled content. Efforts include investing in a reclaim line and developing a stretch film container post-consumer recycled (PCR) resin in collaboration with several industry partners.

Result: In 2020, 100% of the plant's internal waste was reprocessed and upcycled into usable material through its reclaim line.



Lighten Up!

Lightweighting is fundamental to reducing the environmental footprint of metal packaging. This process enables can makers to produce more cans with the same material and for resources to be used more efficiently, as energy consumption is reduced downstream in the supply chain, limiting environmental impact.

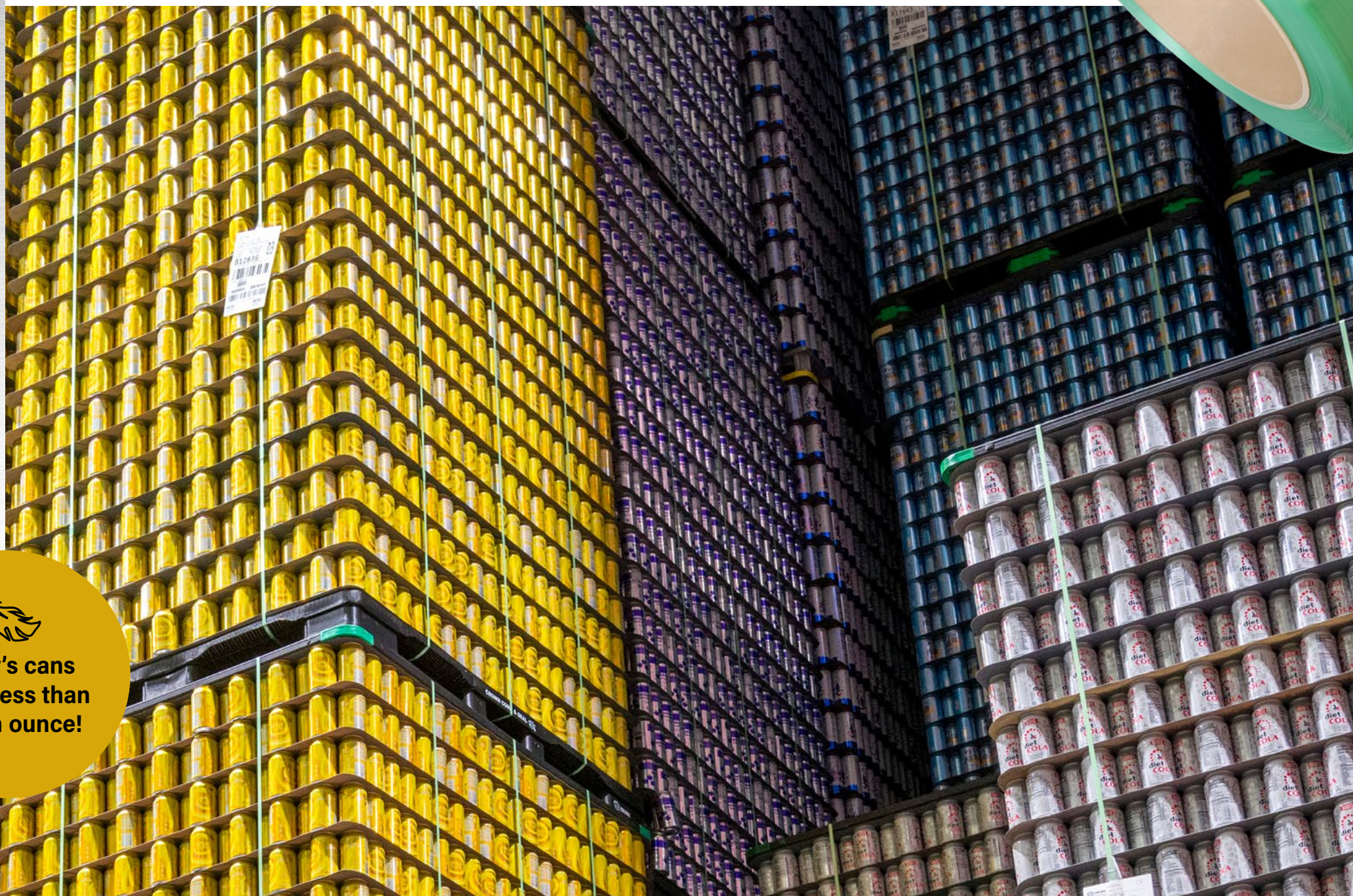
Globally, we have continued to make strides in reducing the thickness of can walls and ends without sacrificing container performance or the critical barrier and strength properties that brand owners demand.

Our efforts have achieved a 3% global average reduction in our standard 12 oz. or 330 ml can weight in the past year alone.



Today's cans weigh less than half an ounce!

The first generation of aluminum beverage cans weighed approximately three ounces per unit.

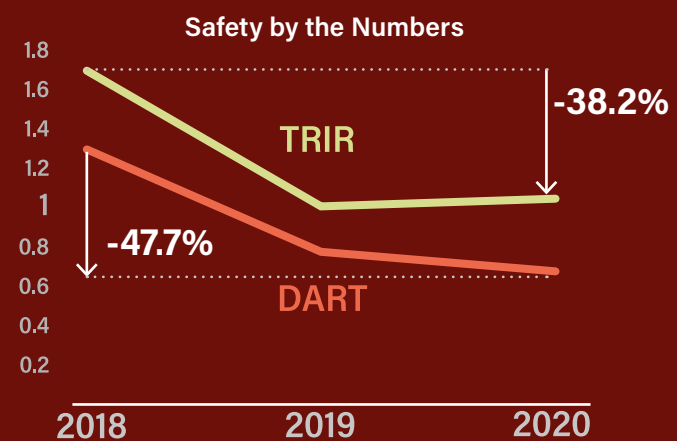




Putting People at the Center of Everything We Do

Our employees are the backbone of our success. That is why we have taken numerous steps to protect the safety, health and welfare of our team members around the world. With an aspirational goal to assure we cause no harm to our people, we have made our Total Safety Culture an integral part of our operating philosophy.

Fostering a Total Safety Culture requires employee accountability and proactivity at every level. From a reporting standpoint, we have implemented state-of-the-art software across our global operations that enables us to standardize data collection and analysis and track performance in real time. In addition, multiple programs including SAFE, Safety Circles and Human Factor Training, provide a continuous dialogue between EHS managers and plant teams around safety, flagging any potential hazards created by either a task or individual behavior and identifying solutions to mitigate risks. These measures together help to ensure our facilities are addressing safety diligently and consistently.



Total recordable incident rate (TRIR) and days away, restricted or transferred (DART) calculate work-related injury rates and their impact on employees' ability to perform. Both figures serve as industry standard safety performance metrics. The above rates use a 2018 baseline to reflect the inclusion of data from our Transit Packaging Division for the first time.

Creating a Network of Sustainability Champions

We know our employees want to work for a company whose mission, values and purpose align with their own. They also want to help foster change in the facilities in which they work and the communities where they live.

We created a Sustainability Champions program in recognition of this, and the fact that achieving the ambitious sustainability goals we have set will require the individual ideas, actions and contributions of our global workforce. The program encourages all staff members, regardless of their job duties, title or location, to see themselves as being able to make a difference.



Botcherby, U.K.

Action: Combined heat and power (CHP) technology captures and uses heat that would otherwise be emitted to the atmosphere—and wasted—in the conventional electricity generation process. Steps included syncing up the on-site boilers with CHP controls and running additional pipework.

Result: The plant achieved over 230,000 kWhs of electricity savings—the equivalent to the carbon sequestered by growing 27,000 seedlings for 10 years.

Sustainably Speaking: Prioritizing Our People Through Diversity & Inclusion (D&I)



Driving our growth and success as a Company is our talented international workforce. As we continue to evolve our sustainability strategy, fostering a more diverse and inclusive environment that protects safety and promotes new ideas will be a critical element of our future.

Sidonie Lécluse, Senior Vice President, Diversity & Inclusion at Crown, shares her perspective on what it takes to put people first—and why that matters—for our organization.

What are the key elements of Crown's D&I strategy?

The overarching aim is to move forward and become a more employee-centric organization, which relies on several principles. First, everyone must be respected and feel their voice is heard to create psychological safety at work. Second, we must prioritize individual career aspiration, as well as adequate work/life balance. If you are showing a genuine interest in your people, that positive cycle extends to colleagues, customers and the community.

Why is D&I important to Crown? How is Crown making it a priority?

Enabling successful business performance requires creativity, problem-solving, proactivity, accountability and autonomy. Diverse individuals are critical to this balance, but diversity can be defined in several ways—gender, race, age, culture, background, opinion, skills, etc. We are aware that we must continually examine how we can be more welcoming and build a more well-rounded workforce, as our people are by far our strongest asset.

What steps have you taken to build a D&I mindset within Crown's culture?

The commitment to listen to our employees has served as a major first step, including surveying our employees and determining where we must counteract bias. It also means building in room for flexibility in our practices and processes to best reflect the needs our employees vocalize as important for feeling valued and safe. As we continue to grow as a company, updating our recruitment processes is also important to ensure our talent pool gives the right chance to everyone.

Celebrating a Milestone: SuperEnd® Beverage Ends Turn 20

Sometimes, an idea can spur a revolution. When we debuted the SuperEnd® beverage end in 2000, we knew it would be a gamechanger for the industry. By using 10% less metal than traditional designs, the end contributes to a lighter-weight beverage can that reduces material usage and requires less energy during distribution. Yet, the end's unique geometry delivers increased panel strength and 8-10 psi more buckle resistance than standard ends, preserving package integrity throughout pasteurization, shipping and handling. These features have resulted in a sustainable packaging innovation that classifies as both trim and tough—a combination that transformed the beverage can after decades of little advancement.

Nearly 700 billion ends later, the innovation has generated substantial material savings, reducing aluminum usage by over 177,000 metric tons and coatings by over 3,000 metric tons. The ends have also saved close to 1.4 million metric tons of GHGs—the equivalent of nearly 300,000 passenger vehicles driven for one year or more than 1.5 billion pounds of coal burned—and will continue to yield higher savings following more recent lightweighting of the end.



Sustainably Speaking: Building Trust Through Product Stewardship

As a manufacturer whose technologies touch the lives of consumers every day, it is critical we stand by our products and the elements and processes that generate them. Practicing ownership and integrity around our material sourcing and the impact of our products is paramount to maintaining our standing as a trusted supplier.

Dr. John M. Rost, Vice President, Global Sustainability and Regulatory Affairs at Crown, discusses how the Company approaches product stewardship and the latest goals for promoting safety.

What is Crown's definition of "product stewardship"?

For us, product stewardship means being attentive to the impact our products have at every point throughout their lifecycle. This 360-degree view includes working to ensure our materials are sourced responsibly and ethically, that our finished products meet the toughest chemical safety standards and that as they move from the manufacturing plant to the hands of consumers, they remain safe and are of minimal risk to people and the environment.

What steps is Crown taking to monitor suppliers at the sourcing stage?

We are keeping a close eye on all suppliers within our Crown Materials Database, assessing their practices and requiring detailed documentation of compliance with Company standards and various food contact legislation requirements. We are also using third-party verification to flag any high-risk suppliers and are committed to 100% of our raw materials and service suppliers meeting our Crown Responsible and Ethical Sourcing policies by 2030.

How is the Company addressing food contact and chemical safety?

Our newly consolidated "One Crown Standard" for migration, toxicology and safety aims to protect against chemical hazards, as well as our ongoing screening and elimination process for Chemicals of Concern (COC). These assessments will be complete by 2022 and 2025, respectively. Additionally, we are proactively phasing out the use of any perfluorinated chemicals of concern in our products by the end of 2023 to further mitigate any potential risks.

Material Transparency: Gauging True Format Sustainability

While producing any substrate for packaging requires the use of resources including labor, energy and natural supplies, not all packaging formats sit in the same place on the sustainability spectrum. Across areas such as recyclability, GHG emissions and more, metal receives the highest marks and leads the pack. Yet, many misconceptions still exist around various substrates and their environmental scores, creating confusion and inconsistency around the definition of "sustainability."

As an organization, one of our most critical responsibilities is educating our industry partners and consumers about the nuances of various materials (production requirements and effects, public impact and potential to do good) to ensure brands make prudent decisions around their packaging formats and consumers practice their own due diligence in purchasing and using various products.

When compared to other substrates such as plastic and aseptic containers, metal's mettle shines through to an undeniable degree.



	Aluminum Beverage Cans	Aseptic Cartons	Plastic Bottles
Permanent Material	Yes	No	No
Zero Loss of Properties Over Time	Yes	No	No
Average Recycled Content	73% (U.S.); 75% (Europe)	Caps: 2%; Cartons: unknown	5.6% (U.S.); 11% (Europe)
Consumer Recycling Rate	46% (U.S.); 76.1% (Europe)	20% (U.S.); 51% (Europe)	26% (U.S.); 58.2% (Europe)
Closed Loop Recycling	Yes; 95% of beverage cans get turned into new cans.	No	Yes for some plastic types; but currently, only 2% of plastic packaging is kept in a closed loop.
Strong Barrier to Light and Oxygen and Retains Carbonation	Yes - completely impervious to light and oxygen and retains carbonation.	Some protection against light and oxygen, but incompatible with carbonated products.	Limited barrier properties for light, oxygen and carbonation.
Recycling Viability	100% recyclable. Can return to shelf as new beverage can in 60 days.	Requires separation of plastic, paper and aluminum layers; some coatings make recycling impossible. Often "downcycled" into other composite materials rather than recycled into the same materials, due to fiber restrictions and multiple layers. These composite materials are not always recyclable at end of life, resulting in a linear progression rather than a loop.	Difficult to recover and use for new production; often sent to landfill. One-third of PET is lost during the recycling process (one challenge being the mix of colors of PET on the market). Relatively few recycled bottles become new bottles. Bottles that are recycled are often downcycled into products like t-shirts and carpets that are often not recycled at their end of life.
Lightweight & Durable for Shipment & Consumer Use	Yes	Lightweight, but susceptible to damage during transport and storage.	Lightweight, but susceptible to damage during transport and storage.
Economic Value (material price per ton)	\$1,025.00* (U.S.); £620+ to 820+ (U.K.)	\$22.50 (U.S.)	\$188.60**(U.S.); - £35 to £180+ (U.K.)

■ Best in class

Data sources: The Recycling Partnership's 2020 State of Curbside Report; Metal Packaging Europe; Petcore Europe.

*Includes aluminum foil and trays

**Includes non-bottle PET

The Material Difference

From the aluminum beverage cans to the steel food cans we produce, materials are at the core of who we are as an organization. In that sense, the attributes of our primary product, metal, are of the utmost importance to our overall sustainability strategy. The material—its creation, capabilities, performance and effects—sets the stage for all the activities and decisions within our supply chain.

Monomaterial makeup:

Composed of a single type of material; metal compounds all recycled to regenerate new packaging.

SuperEnd®

beverage end:

Revolutionary lightweight technology that reduces material use; supports ergonomic tabs for various consumer demographics.

Barrier to elements:

Light- and oxygen-blocking walls maintain product quality, flavor and freshness.

Unique base design:

Allows for maximum format strength despite incredibly lightweight nature of material.



Tamper-evident:

Makes identifying compromised product clear and easy.

360-degree billboard:

Offers large, printable surface area for recycling information, other sustainability-focused messaging and branding.

Rigid and stackable body:

Enhances efficiency during shipment and storage; protects against product damage and loss.



SASB Disclosures

Sustainability Accounting
Standards Board

As we advance our sustainability initiatives, we are expanding the reporting frameworks we use to ensure we address the interests of different stakeholders. Our 2020 Interim Sustainability Report marks the first time that we have reported to the SASB Containers & Packaging standard. Using this framework will help us communicate the financial impacts of sustainability and meet the evolving information needs of our investors. All data provided is for the fiscal year ended December 31, 2020.

Metric	Category	Unit of Measurement	SASB Code	
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	Quantitative	Metric tons (t) CO ₂ -e, Percentage (%)	RT-CP-110a.1
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	Discussion and Analysis	N/A	RT-CP-110a.2
Air Quality	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM)	Quantitative	Metric tons (t)	RT-CP-120a.1
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy	Quantitative	Gigajoules (GJ), Percentage (%)	RT-CP-130a.1
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress	Quantitative	Thousand cubic meters (m ³), Percentage (%)	RT-CP-140a.1
	Description of water management risks and discussion of strategies and practices to mitigate those risks	Quantitative	Number	RT-CP-140a.2
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations	Quantitative	Number	RT-CP-140a.3
Waste Management	Amount of hazardous waste generated, percentage recycled	Quantitative	Metric tons (t), Percentage (%)	RT-CP-150a.1
Product Safety	Number of recalls issued, total units recalled	Quantitative	Number	RT-CP-250a.1
	Discussion of process to identify and manage emerging materials and chemicals of concern	Discussion and Analysis	N/A	RT-CP-250a.2
Product Lifecycle Management	Percentage of raw materials from: (1) recycled content, (2) renewable resources, and (3) renewable and recycled content	Quantitative	Percentage (%) by weight	RT-CP-410a.1
	Revenue from products that are reusable, recyclable, and/or compostable	Quantitative	Reporting Currency	RT-CP-410a.2
	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle	Discussion and Analysis	N/A	RT-CP-410a.3
Supply Chain Management	Total wood fiber procured, percentage from certified sources	Quantitative	Metric tons (t), Percentage (%)	RT-CP-430a.1
	Total aluminum purchased, percentage from certified sources	Quantitative	Metric tons (t) CO ₂ -e, Percentage (%)	RT-CP-430a.2
Activity Metrics	Amount of production, by substrate	Quantitative	Metric tons (t)	RT-CP-000.A
	Percentage of production as: (1) paper/wood, (2) glass, (3) metal, and (4) plastic	Quantitative	Percentage (%) by revenue	RT-CP-000.B
	Number of employees	Quantitative	Number	RT-CP-000.C

Metric	Response/Comment/Link										
Greenhouse Gas Emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations CDP 2020 Climate Change Disclosure 100% of our emissions are covered under emissions-limiting regulations										
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets Twentyby30 brochure, Pages 7 and 8 and CDP 2020 Climate Change Disclosure, C3, C4 and C5										
Air Quality	Air emissions of the following pollutants: (1) NOx (excluding N2O), (2) SOx, (3) volatile organic compounds (VOCs), and (4) particulate matter (PM)										
	<table border="1"> <thead> <tr> <th>NOx</th> <th>SOx</th> <th>PM</th> <th>VOCs</th> </tr> </thead> <tbody> <tr> <td>28,620</td> <td>44</td> <td>962</td> <td>*Page 36</td> </tr> </tbody> </table>	NOx	SOx	PM	VOCs	28,620	44	962	*Page 36		
	NOx	SOx	PM	VOCs							
28,620	44	962	*Page 36								
*Crown 2019 Sustainability Report											
Energy Management	(1) Total energy consumed, (2) percentage grid electricity, (3) percentage renewable, (4) total self-generated energy CDP 2020 Climate Change Disclosure, C8.2										
Water Management	(1) Total water withdrawn, (2) total water consumed, percentage of each in regions with High or Extremely High Baseline Water Stress CDP 2020 Water Security Disclosure										
	Description of water management risks and discussion of strategies and practices to mitigate those risks Strategies for Resource Efficiency and CDP 2020 Water Security Disclosure, Section W3 and W4										
	Number of incidents of non-compliance associated with water quality permits, standards, and regulations 3 globally, no penalties were incurred										
Waste Management	Amount of hazardous waste generated, percentage recycled Waste Data										
Product Safety	Number of recalls issued, total units recalled 0										
	Discussion of process to identify and manage emerging materials and chemicals of concern Never Compromise										
Product Lifecycle Management	Percentage of raw materials from: (1) recycled content, (2) renewable resources, and (3) renewable and recycled content 42% of total raw materials by weight come from recycled content 4.6% of raw materials are from renewable resources 4.4% of raw materials are from both renewable resources and recycled content										
	Revenue from products that are reusable, recyclable, and/or compostable 94% of revenue, or \$10,897 million USD, was from products that are reusable, recyclable and/or compostable										
	Discussion of strategies to reduce the environmental impact of packaging throughout its lifecycle Optimum Circularity and Never Compromise										
Supply Chain Management	Total wood fiber procured, percentage from certified sources 75,140 metric tons procured, 69% from certified sources										
	Total aluminum purchased, percentage from certified sources 911,449MT. We currently do not report on the percent from certified sources.										
Activity Metrics	Amount of production, by substrate										
	<table border="1"> <thead> <tr> <th>Steel</th> <th>Aluminum</th> <th>Glass</th> <th>Plastic</th> <th>Paper/Wood</th> </tr> </thead> <tbody> <tr> <td>1,574,403</td> <td>1,067,653</td> <td>400,465</td> <td>170,594</td> <td>157,014</td> </tr> </tbody> </table>	Steel	Aluminum	Glass	Plastic	Paper/Wood	1,574,403	1,067,653	400,465	170,594	157,014
	Steel	Aluminum	Glass	Plastic	Paper/Wood						
1,574,403	1,067,653	400,465	170,594	157,014							
Percentage of production as: (1) paper/wood, (2) glass, (3) metal, and (4) plastic The Percentage of production by revenue is as follows, by material: 61% aluminum beverage, 14% steel packaging, 21.5% transit packaging, 2% glass packaging, 1.5% Crown machinery Steel packaging includes: Food, Aerosol, Closures, Promotional Packaging Transit packaging includes: steel strapping, plastic wrap & strapping, paper/cardboard											
Number of employees 33,000											



www.crowncork.com/sustainability

© 2021 Crown Holdings, Inc.