



# Planet Aware

Sustainability is integral to how we design and build facilities with our new Research and Development Center being projected to use 60% less energy per square foot than our existing research facility.



One of the hardest things for people to wrap their heads around tends to be the idea that *small wins add up to big victories*. However, if we want to make a big difference for the future of our planet and its people, we have to overcome our indifferences towards so many small things in life.

MAURO CIGLIC  
General Manager, Promega AG

### Planet Aware

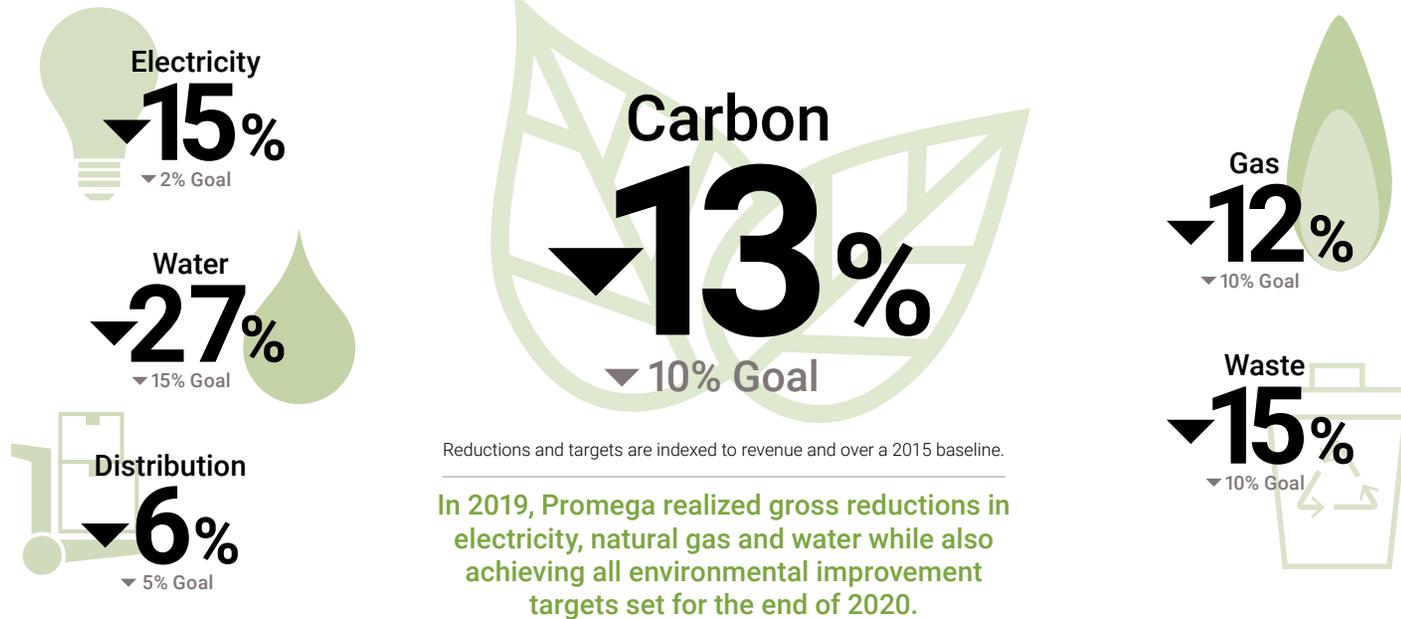
In 2019, Promega realized gross reductions in electricity, natural gas and water while also achieving all environmental improvement targets set for the end of 2020. As indexed to revenue, we have seen carbon emissions reduce by 13% and water use reduce by 27% since 2015. These accomplishments are thanks to the efforts of our people, whether it be individuals improving efficiencies in operations or employee-lead teams enhancing a culture of sustainability.

As we enter a new decade, we hold both hope and uncertainty about the future of our world. From climate change to global pandemics, we are facing urgent issues. In response, Promega hosted the first ever sustainability summit for our European branches to identify actions and environmental targets for the upcoming decade. All regions globally

will evaluate and commit to the next generation of environmental goals in the coming year. During this process we take inspiration from the United Nations' approach to the Sustainability Development Goals and acknowledge that the 'Decade of Action' will require mobilizing everyone, urgency and ambition, and supercharging ideas in action.

## Status Toward 2020 Goals

### ALL AHEAD OF TARGET



## RESPONDING TO CLIMATE CHANGE

Promega prioritizes greenhouse gas reduction from all global operations. In evaluating emissions, we consider fuel combustion, purchased electricity, indirect emissions from business travel, outgoing distribution, water usage and paper usage at all Promega locations worldwide (see Figure 1). We are currently ahead of our 2020 target for carbon emissions thanks to actions to reduce impacts from energy usage.

### Carbon Footprint

Tons of CO<sub>2</sub> Per Million USD

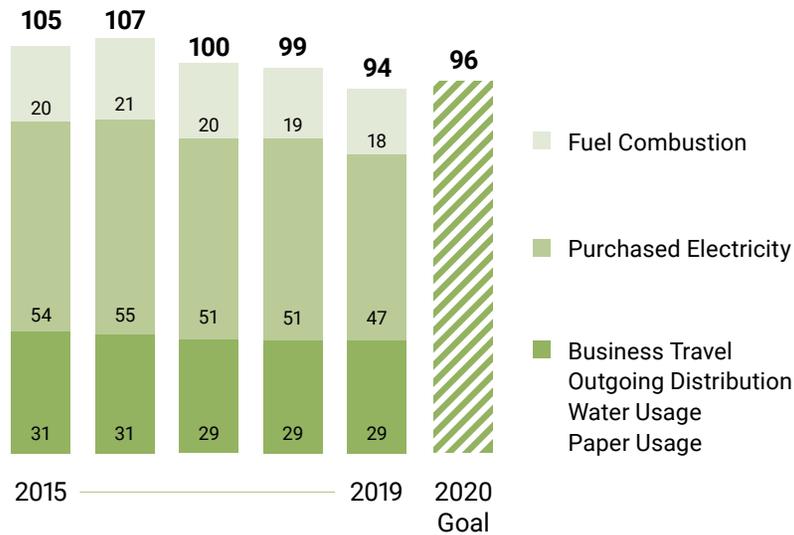
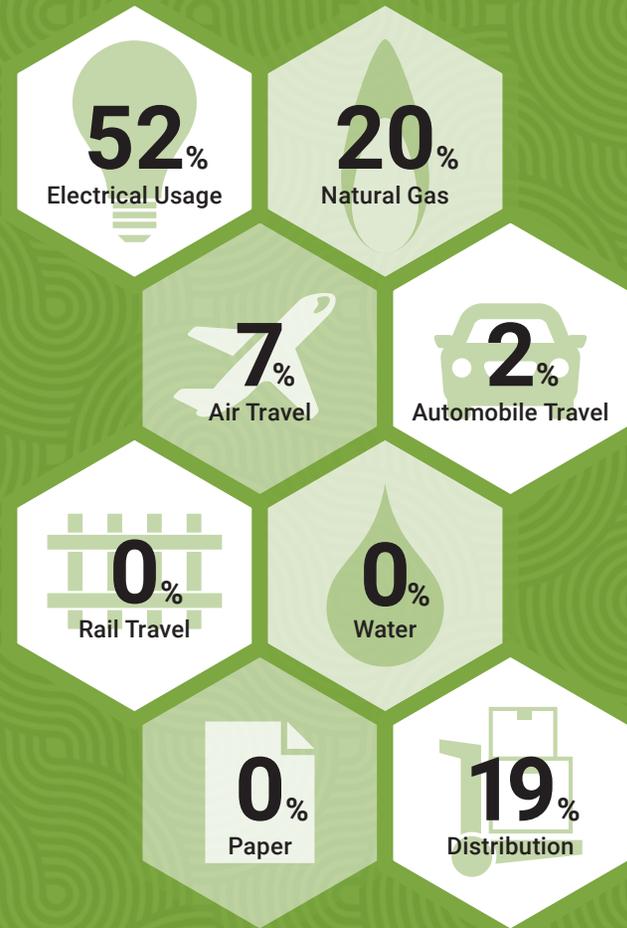


Figure 1. Global carbon footprint as indexed to revenue has reduced by 13% since 2015. Carbon is calculated from fuel combustion (scope 1), purchased electricity (scope 2), and business travel, outgoing distribution, water usage and paper usage (scope 3).

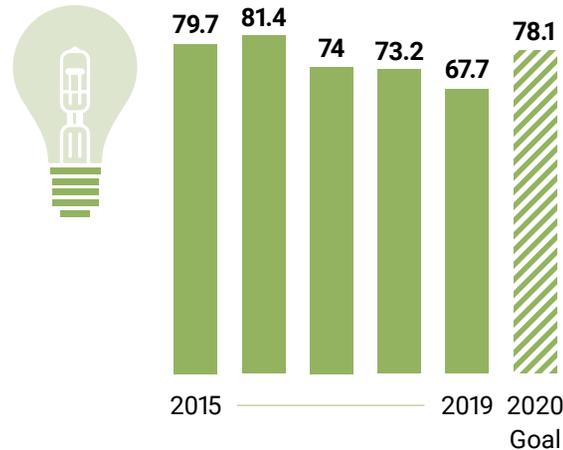
## Global Carbon Footprint Composition



# Electricity



Thousands of kWh Per Million USD



## Minimizing Electricity Usage and Emissions

In the last year, gross electricity usage decreased by 2% even with an increase in building footprint. This saved over 524,000 kWh, the equivalent of the electricity used by nearly 50 homes annually. Transitioning operations to more-energy efficient-facilities, projects to improve energy efficiency and the daily efforts of all employees worldwide made these reductions possible. Electricity usage contributes to over 50% of our carbon emissions and minimizing these effects is a focus at all Promega locations. To this end, we invest in energy efficiency, generate electricity from photovoltaic panels and purchase electricity from renewable sources. Recent highlights include:



Company-wide initiatives to incorporate high-efficiency LED lighting continued in 2019. Renovations were completed at three more facilities last year, affecting over 1,000 lamps and saving over 117,000 kWh annually.

- Connecting our R&D facility to a more efficient central chiller plant has delivered savings over 500,000 kWh each year. In 2020, we will extend our central plant to additional facilities to further optimize energy requirements.

Renewable energy is a key strategy to limit greenhouse gas emissions from operations. In 2019, our largest solar array was installed on the newly renovated Feynman parking ramp. This system will generate 562.5 kW and quadruple our current renewable energy production. This array alone will generate enough energy to power over 100 homes each year. We also have committed to large scale photovoltaic arrays on the Feynman Center and the new R&D center in 2020. Additional facilities that use renewable energy sources such as photovoltaic and geothermal currently include:

- Promega GmbH in Waldorf, Germany
- Promega UK in Southampton
- Promega Italia in Milan
- Promega Biotech Ibérica in Alcobendas, Spain
- Promega Biotech AB in Stockholm, Sweden
- Promega AG in Zurich, Switzerland
- Promega Brazil in Sao Paulo
- The Aviation Operations building in Madison, WI, USA
- The da Vinci facility in Madison, WI, USA

**...gross electricity usage decreased by 2% even with an increase in building footprint. This saved over 524,000 kWh, the equivalent of the electricity used by nearly 50 homes annually.**



The recently completed parking garage provides clean energy to the campus and electric vehicle charging.



Promega was a Distinguished Performer Award winner in the sustainability category as part of the 2019 Wisconsin 75 list recognizing the largest privately held companies in the state.

## Natural Gas

Therms Per Million USD

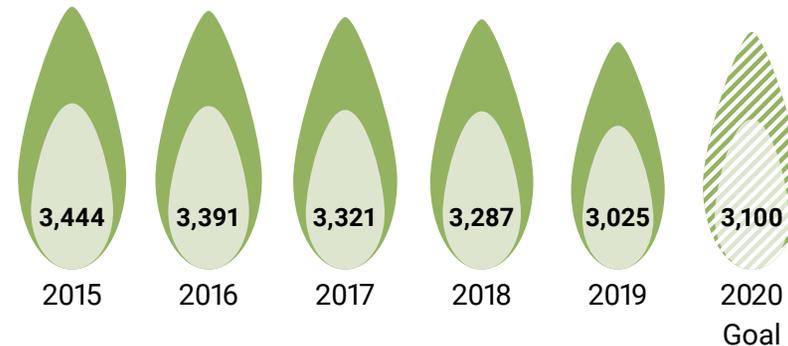


Figure 4. Natural gas usage as indexed to revenue.

### Conserving Natural Gas

In the last year, gross natural gas usage reduced by 2% or by 8% as indexed to revenue. Natural gas is our largest source of direct air emissions and our third largest source of overall emissions. Natural gas is used primarily at manufacturing sites for heating and production-related processes. Geothermal wells, solar water heaters and heat capture technology help minimize heating requirements and related emissions.

**Geothermal wells, solar water heaters and heat capture technology help minimize heating requirements and related emissions.**



The new home of Promega UK has been designed to exceed BREEAM standards for excellence in sustainability.



Promega GmbH in Waldorf, Germany

### Building a Sustainable Future

In times of rapid growth, we look to the future with optimism while also assuring that our expansion is sustainable. The Promega Global Facilities Planning Team emphasizes environmental stewardship and long-term planning. Each building is designed to meet ambitious sustainability goals, and innovations incorporated into one project inform the next. In 2019, we finished construction on two new buildings in Europe and made progress on two important facilities at our headquarters in Wisconsin.

#### UK Branch Office Opens in Southampton, UK

In September, the employees of Promega UK moved into a new 1,700m<sup>2</sup> (18,000 ft<sup>2</sup>) building featuring wet and dry training labs, a product storage facility, office spaces and even a small gym for use by staff. During the five years of planning that went into the new building, the team focused on conserving energy and water while reducing carbon emissions. They included features such as ground source heating, which is cleaner and more efficient than gas- or oil-powered heating. The resulting facility is built to exceed BREEAM ‘Excellent’ standards, an assessment used in the UK to certify the sustainability of buildings. In the few months it has been occupied, this new facility has been 45% more energy efficient per cubic meter than the previous facility.

#### Promega GmbH Relocates to Waldorf, Germany

In November, Promega GmbH relocated from Mannheim to Waldorf, Germany. At 14,000 m<sup>2</sup> (150,000 ft<sup>2</sup>), the new facility is the largest outside of Madison, WI, and brings together all Promega teams previously located in Mannheim, including the largest non-US branch office, the European Distribution Center (Euro Hub), the European Instrument Center and Terso Europe. The building is operational, but finishing touches are still being completed.

**“We take pride in the details and quality... and in preserving nature and making sure our building is a place where people like to be.”**

ANETTE LEUE, Digital Marketing Manager of Promega GmbH

The facility features a ground source heat exchange system for heating and cooling, solar photovoltaics, green roof and a small onsite lake for grey water usage. Most of the office spaces are lit by natural lighting, and there are plenty of green spaces inside to improve air quality. Care went into preserving the environment around the building, and lumber from trees that needed to be removed during construction is now being used to build a bike shed, which the team hopes will encourage more employees to bike to work. Electric vehicle charging stations are also being added.



New Research & Development Building in Madison, WI



Component Manufacturing Center groundbreaking in 2019

### ■ New R&D Building in Madison, WI

The new Promega Research & Development building is under active construction with the structure mostly complete. When finished, the building will house all R&D groups, as well as Scientific Applications & Training and Integrated Systems & Engineering. At approximately 26,600 m<sup>2</sup> (287,000 ft<sup>2</sup>) this building will house more than double the amount of lab space Promega currently occupies.

The new R&D building is projected to use 60% less energy per square foot than the existing R&D Center. The thermal slab will provide heating and cooling from a ground source heat exchange system, saving energy. Additionally, the whole perimeter of the building will be wrapped in a double-walled facade, consisting of an interior concrete wall and an exterior brick wall, separated by three feet of air space. The result is like a Thermos of coffee—the space between the two walls creates a buffer to absorb some of the heat that would otherwise be gained or lost to the environment. The glass panes in both walls can also be opened when weather permits, which will provide natural ventilation and further alleviate the energy requirements of temperature control. A water reclamation system is also expected to save over 1,000,000 gallons annually.

Inside, the space has been designed to foster creative lab and desk spaces while maximizing efficiency. Wet labs are surrounded by dedicated instrument rooms, and all lab benches are modular. The cloverleaf shape of the building gives each research group its own area with plenty of space to work and grow. With a new cafeteria serving locally grown food, a gymnasium and a sound therapy studio, the building balances efficient workspaces with plenty of areas for employees to recharge.

### ■ Component Manufacturing Center in Madison, WI

When the Component Manufacturing Center opens in 2021, it will house newly developed product manufacturing lines in a 14,600 m<sup>2</sup> (158,000 ft<sup>2</sup>) facility only a few miles from the Promega global headquarters. This facility will complement existing manufacturing capacities in Madison and California by supplying small-molecule components for use in other manufacturing processes.

The groundbreaking ceremony took place in June 2019 and construction is well underway. The building is scheduled for completion in the second quarter of 2021.



Helix carbon offsets support the Blandin Improved Forest Management Project

### Tracking and Reducing Effects from Product Distribution

We look for ways to reduce air emission from outgoing product distribution with continuous focus on decreasing the size and weight of packaging materials. This approach, combined with using efficient modes of transportation, reduces emissions and maintains our quick and safe service. As a result, we have seen a 26% reduction in distribution emissions as indexed to revenue in the last 10 years.

Over the last few years, we have transitioned to smaller shipping boxes and made packaging improvements that minimize weight, optimize dry and gel ice requirements and use more sustainable materials.

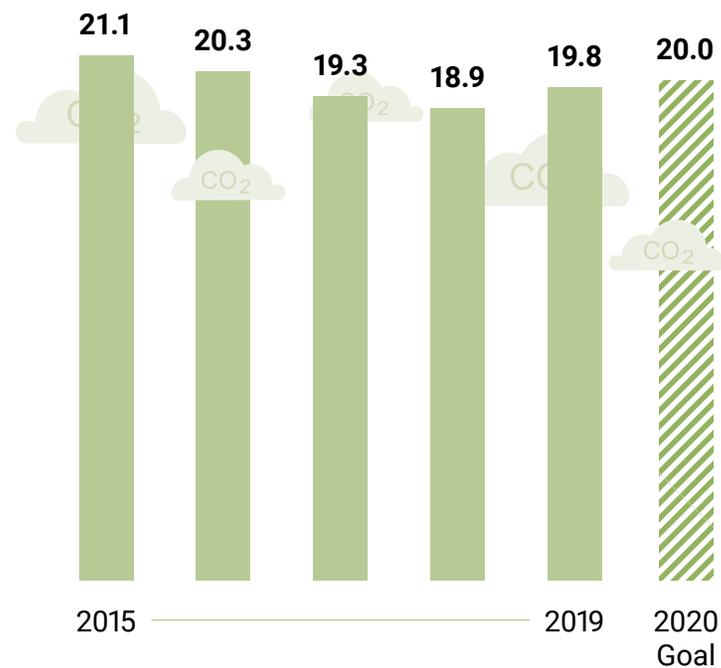
To understand the indirect emissions from outgoing shipments, data was collected from Promega-owned global distribution hubs on weight, distance and mode of transportation.

#### Ambient Shipping Initiative

In the last year, Promega launched the ‘Ship Ambient Project’ to transition select product lines that currently ship on dry or gel ice to room temperature or ‘ambient’ shipping. Rigorous testing of DNA molecular weight markers shipped at room temperature showed no changes to product performance. The first phase of this project launched in early

## Distribution Emissions

Tons of CO<sub>2</sub> Per Million USD



Helix carbon offsets support the Blandin Improved Forest Management Project

2019 and saved 12,700 kg of dry ice, avoided 32 metric tons of carbon dioxide and eliminated the need for more than 3,000 EPS coolers. We are currently analyzing additional product lines for this transition to further reduce carbon emissions and minimize waste.

### ***Net Zero Emissions from our Helix® On-Site Stocking System***

Our state-of-the-art, on-site inventory management system called Helix further reduces emissions through precise consolidated restocking shipments. The Helix® program uses RFID technology that tracks product use in real time, and results in more efficient shipping. This automated inventory management system ensures that customers have uninterrupted access to supplies while reducing the effect on our planet.

In addition, Promega purchases carbon credits to offset all greenhouse gas emissions from the Helix® program, including energy usage and distribution of units and product stocking. In 2019, Helix® on-site stocking offset 650 tons of emissions worldwide by supporting the following projects:

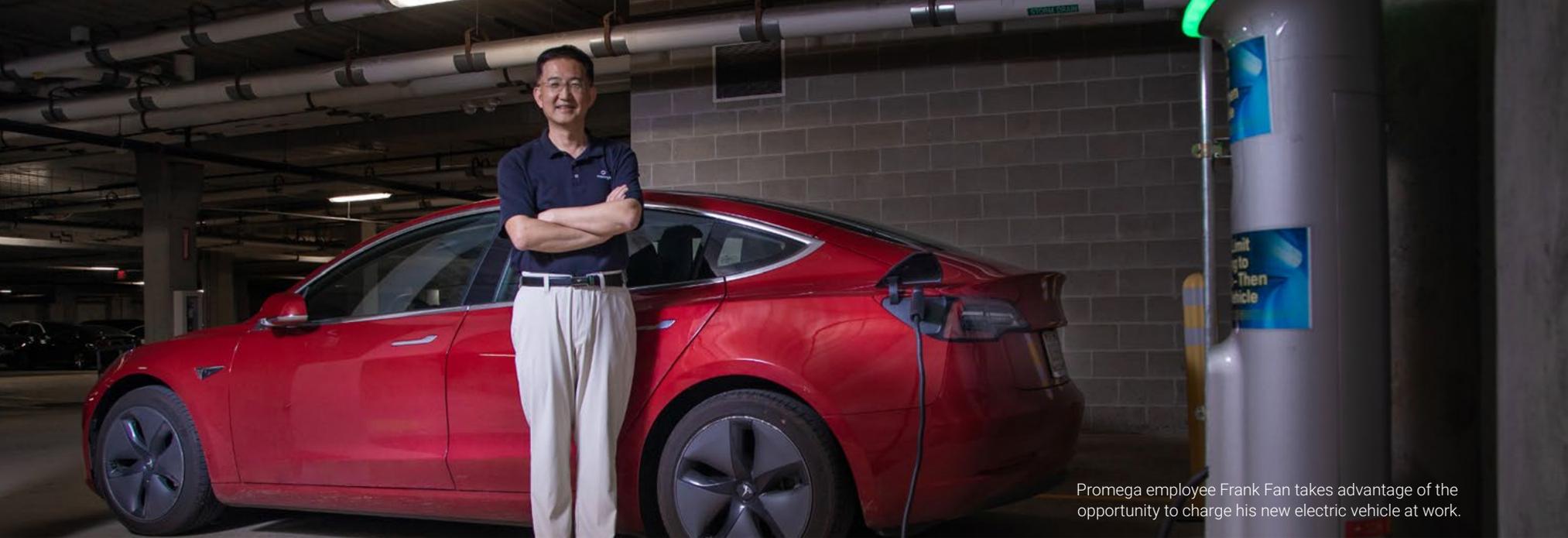
- Blandin Improved Forest Management Project in Minnesota, United States
- Rimba Raya Biodiversity Reserve REDD+ in Indonesia

Since 2010, the Helix® program has offset nearly 7,000 tons of carbon dioxide, equivalent to the emissions from 160,000 barrels of oil. To see more information and learn how to participate, please visit:

[promega.com/helix](https://promega.com/helix)



Promega UK Helix Awards go to accounts that reduced impacts from product distribution the most by partnering with Helix.



Promega employee Frank Fan takes advantage of the opportunity to charge his new electric vehicle at work.

### Minimizing Effects from Business Travel

In the last year, we saw a 15% reduction in emissions from business travel thanks to increased adoption of carbon offsets. Business travel via air, automobile and rail comprise approximately 10% of our current carbon footprint. As we look to the future, we recognize that use of public transit and alternatively fueled vehicles will be key in helping us reduce carbon emissions while staying connected.

In a survey completed last year, fifty-six percent of respondents at our Promega campus said they would consider an electric vehicle (EV) for their next vehicle purchase, and nearly half of respondents said they would be more likely to lease or purchase when Promega installs more charging stations. Since that survey, we renovated the parking garage at our Promega campus, significantly expanding our electric vehicle chargers. We are currently able to power 34 vehicles simultaneously and have

wired the structure to be able to add additional chargers in the future. Charging stations are also available at Promega Benelux, Promega AG and Promega Biosciences in California.

**“Workplace electric vehicle charging is very consistent with our corporate culture and sustainability values...  
...We encourage employees to have that mindset at work and at home. We support employees who choose EVs by having chargers available here for them to use.”**

DAN MOTL  
Promega Senior Director of Facilities



The Promega North American branch offset air travel in 2019 by protecting rainforests in Brazil through the Acre Amazonian Rainforest REDD+

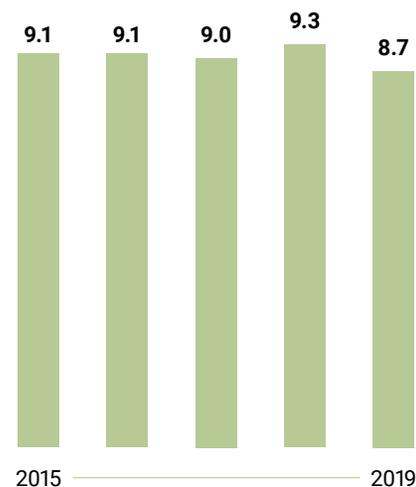
Carbon offsets are another strategy used to mitigate emissions from unavoidable travel. Since 2009 we have offset over 3,000 tons of CO<sub>2</sub> from automobile travel in North America through the Emkay GoGreen program. Our North American branch also elected to offset emissions from air travel with over 550 tons offset in 2019 supporting reforestation efforts in the Amazon.

**Alternative Transportation**

Alternative transportation programs have been implemented by a number of locations worldwide to reduce environmental effects. Employees are encouraged to use public transportation, ridesharing or biking to work. All buildings at Promega Madison and Promega Biosciences in California offer bicycles for employees to use, as well as resources to support cyclists, including access to pumps and bike repair kits. Many locations worldwide have similar programs in place.

**Business Travel Carbon Footprint** 

Tons of CO<sub>2</sub> Per Million USD



## PRESERVING NATURAL CAPITAL

**“Working with the Sustainability Team adds another dimension to my job and highlights an additional way that Promega helps to create a better world. My experience with sustainability generates value that goes beyond just my interactions at work.”**

EMMANUELLE KILLIAN-MARTEL  
Genomic Product Manager, Promega France

### Minimizing Waste

To reduce waste, Promega locations globally focus on avoiding single-use and difficult-to-recycle materials, enhance recycling programs and increase employee awareness of what is recyclable. This has included segregating materials for recycling, composting and encouraging reuse by providing reusable materials in cafeterias and kitchenettes. Employees embrace the mantra “Reduce, Reuse, Recycle” and have championed this effort. In 2019, we saw recycling levels increase by 2% and landfilled waste continue to decrease due to the following efforts:

- The recycling of nitrile gloves and protective garments has been one of our most successful programs to date. In partnership with Kimberly-Clark Professionals Rightcycle Program, we diverted 4.2 metric tons (over 8,500 pounds) of personal protective equipment from landfills in Wisconsin and California. Promega was again recognized with the Chelsea Santucci Greenovation Award in 2019.

## Hazardous Waste

Kilograms Per Million USD



## Non-Hazardous Waste

Cubic Meters Per Million USD





In kit packaging we are moving away from plastic bags and use divider boxes. This helps to eliminate at least 50 bags per day.



Our annual recycling drive for Earth Day collected over 5 tons of material.



Promega locations globally have made concerted efforts to reduce plastic consumption by switching to glass cups and other reusable materials instead of plastic. The Promega campus in Wisconsin as well as offices in California, Switzerland, France, Germany and the UK are just some of the locations to recently ban single-use materials. When reusable materials are prohibitive we use plant-based and recyclable materials.

- Segregating plastic shrink wrap, banding and bottles for recycling from our shipping and dispensing areas across the Promega campus allowed us to recycle over 17 tons of plastic in the last year.
- The Sustainability Committee at our Promega campus held recycling lunch 'n' learns, coordinated removal of plastic cups from watercoolers and piloted bokashi composting to help minimize waste going to landfills from a Sustain Dane Summit hosted at Promega.

- Facilities in Madison, WI, and San Luis Obispo, CA, feature employee-managed composting programs to divert organic waste and support our employees' passions for gardening.
- Over 140 employees participated in the annual electronics recycling drive at our Promega Earth Day celebration. The drive set a record by collecting over 12,481 pounds or 5,661 kg of materials.

### ***Managing Hazardous and Infectious Waste***

In the biotech industry, manufacturing processes can require use of potentially hazardous substances, along with the obligation to minimize waste and ensure its proper disposal. Promega looks to use vendors that can help us reuse and recycle waste.

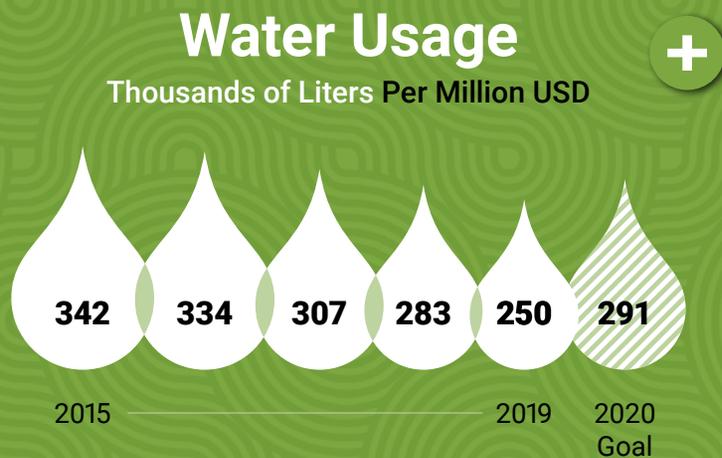
**“Company-wide, around the world, we’re continually looking for ways to reduce the environmental impacts of everything we do. Every improvement is shared, celebrated, and motivates us to keep looking for better ways of doing things.”**

GHISLAINE SAMWAYS, General Manager, Promega Australia

### Conserving Water

In the last year, gross water usage decreased by over 7.5 million liters or 2 million gallons. Since 2015, water usage has been reduced by 27% as indexed to revenue. Promega evaluates initiatives to conserve water in manufacturing, landscaping and other everyday needs. Notable reductions were seen at the Feynman Center in Madison, WI, as a result of a project to reuse wastewater generated from our water purification system. This project alone saves over 1 million gallons or 3.7 million liters annually.

Many global locations incorporate design features to conserve and ensure proper disposal of water. Offices in Sydney, Australia, collect rainwater for cleaning, flushing toilets and irrigating plants. Similarly, the Madison-based global headquarters uses rainwater collection and rain gardens for natural filtration. Promega Biosciences in San Luis Obispo, CA, has a long history of water conservation projects and a custom-designed water recirculating system for distilled water. In the last ten years, gross water usage has decreased by over 50% at our San Luis Obispo facility despite a significant increase in headcount and manufacturing levels.





The new Promega kit packaging design was chosen as a winner in the 2019 Graphic Design USA Package Design Award in the Sustainable Packaging Category.

## Reducing Packaging Materials

Many Promega products are temperature-sensitive, creating unique requirements in packaging that involve use of dry ice, gel ice and foam coolers. We continually evaluate the effect of packaging on the environment, and search for innovative ways to reduce packaging, use environmentally friendly materials, and design for recycling or reuse. Environmental sustainability, product protection and quality are all key priorities.



Promega has implemented new kit packaging boxes that use sustainably sourced materials, reduce material used, and promote recycling for customers. Last year, Promega was recognized with the Graphic Design USA Award for Sustainable Packaging for these new kit boxes.

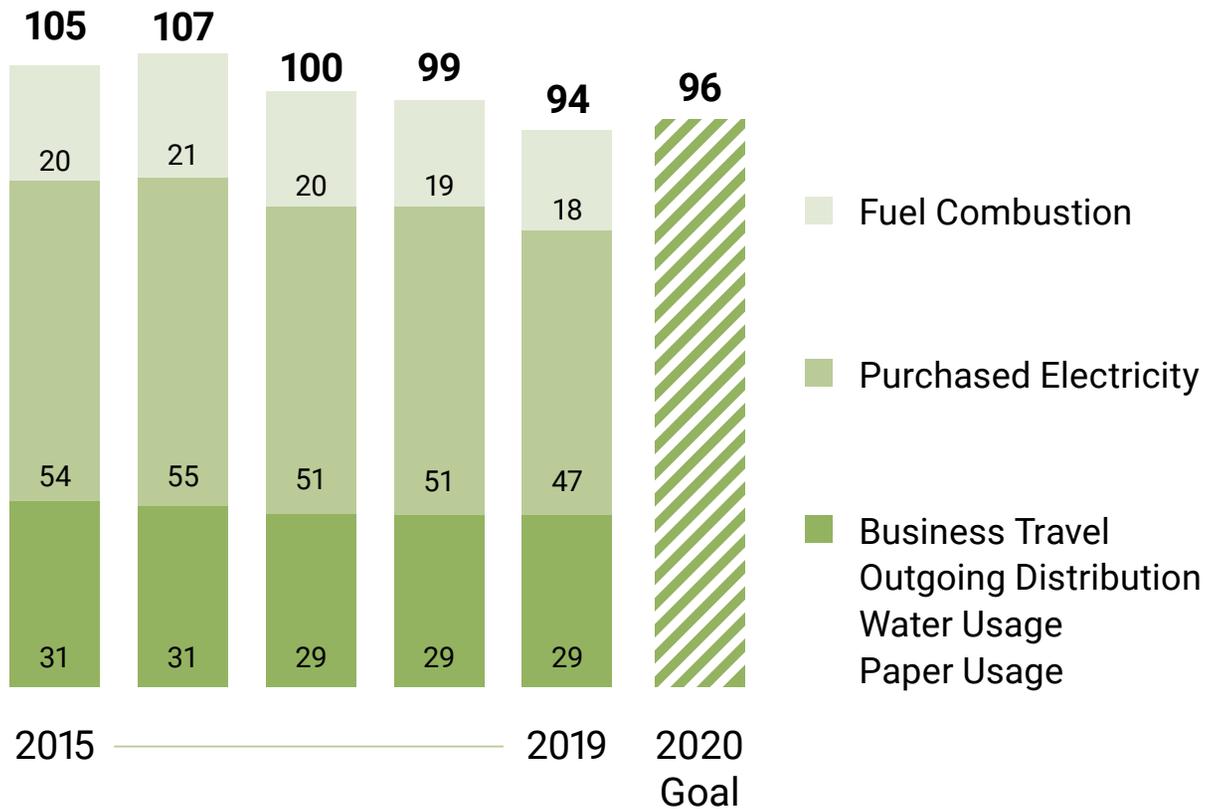
To reduce the environmental effects of packaging, Promega has also:

- Switched to smaller shipping boxes to use less packaging materials.
- Incorporated new materials that provide better insulation and reduce the amount of dry ice needed.
- Implemented self-adhesive shipping boxes at our European logistics hub in Waldorf, Germany, that will avoid over 2,800 meters of tape each year.
- Implemented packaging designs that minimize air space while also reducing dry ice usage and shipment weight.
- Changed to unbleached shipping boxes that contain sustainably harvested materials.

 Promega is supporting and reporting progress toward the Australian Packaging Covenant Organization's goal of preventing packaging materials from ending up in the landfill by 2025.

# Carbon Footprint

Tons of CO<sub>2</sub> Per Million USD



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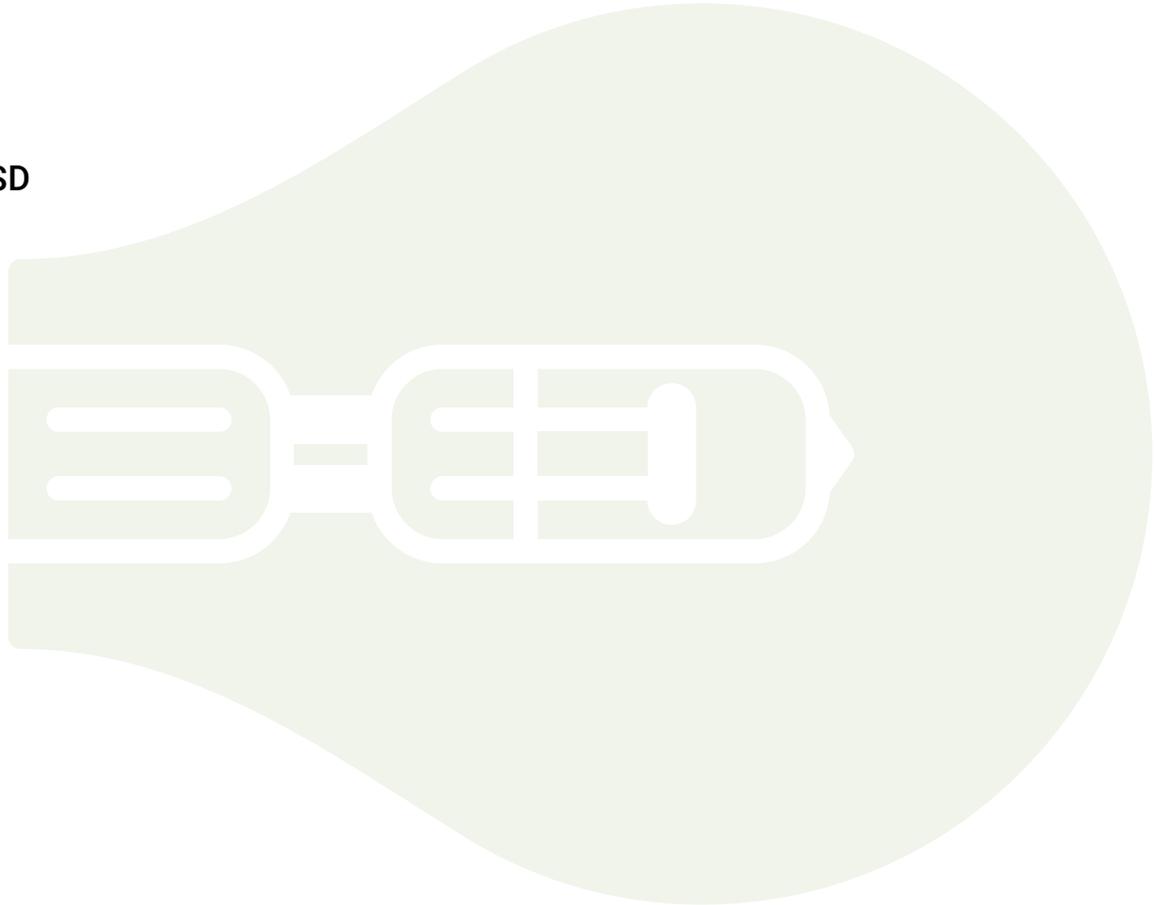
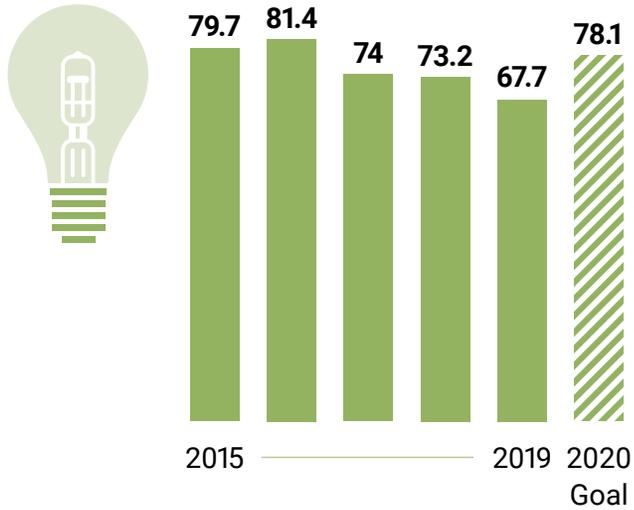
# Global Carbon Footprint Composition



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# Electricity

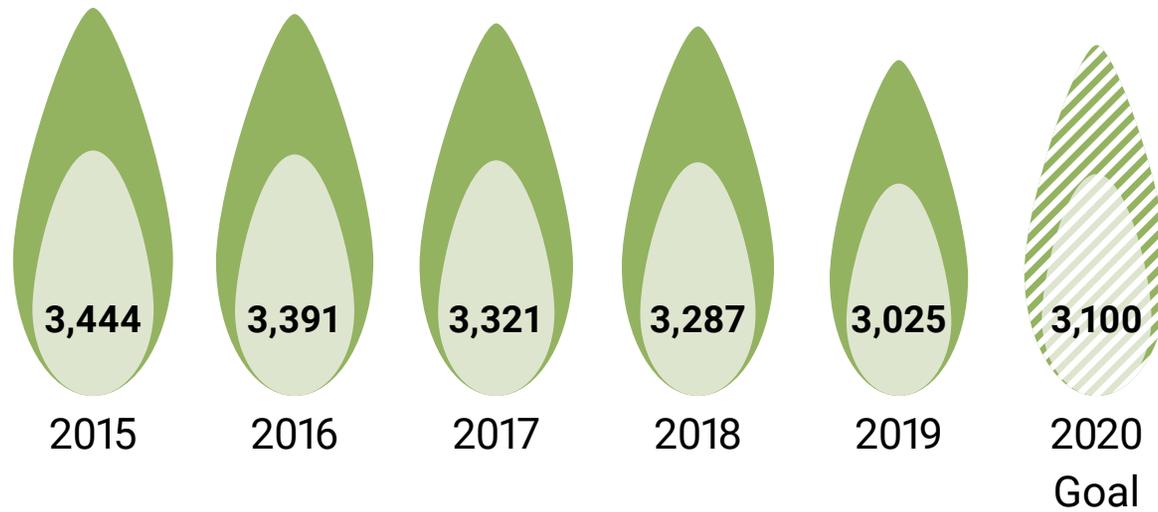
Thousands of kWh Per Million USD



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# Natural Gas

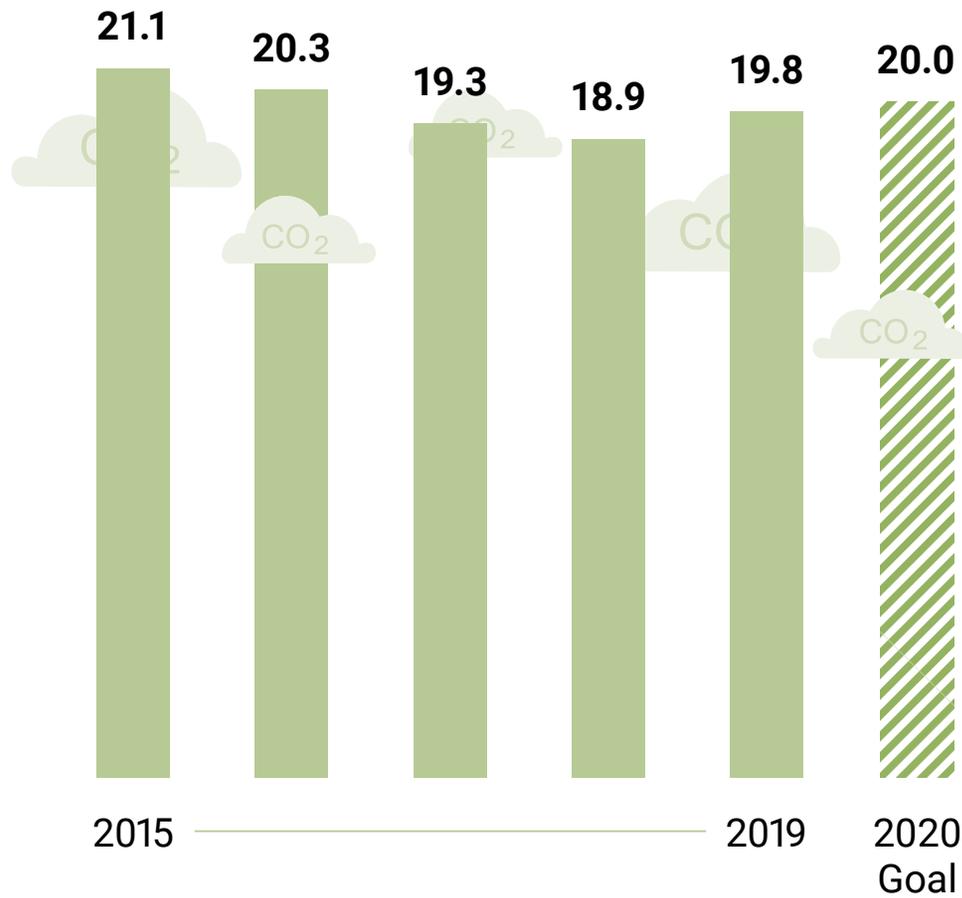
Therms Per Million USD



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# Distribution Emissions

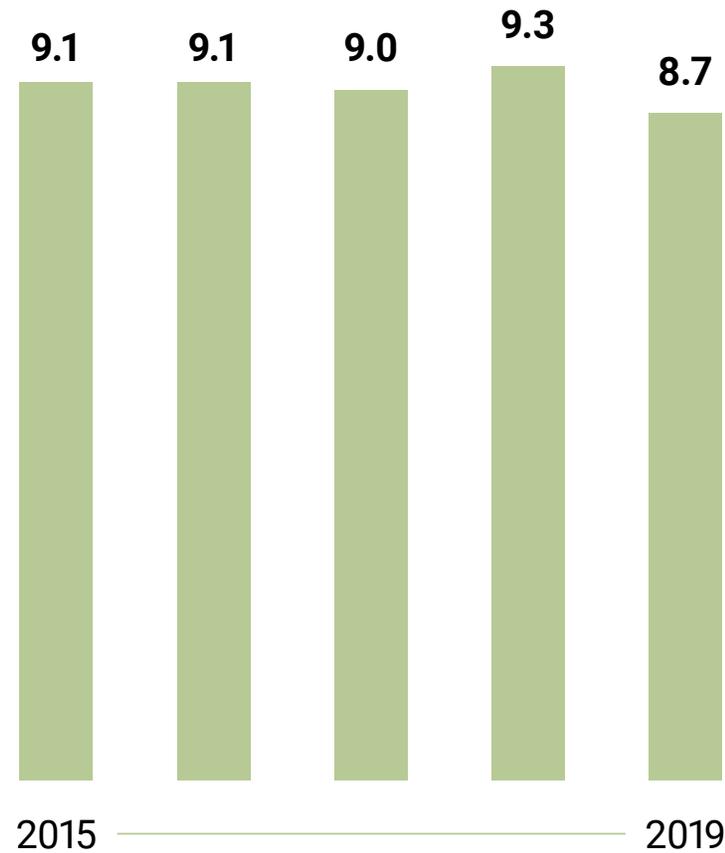
Tons of CO<sub>2</sub> Per Million USD



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# Business Travel Carbon Footprint

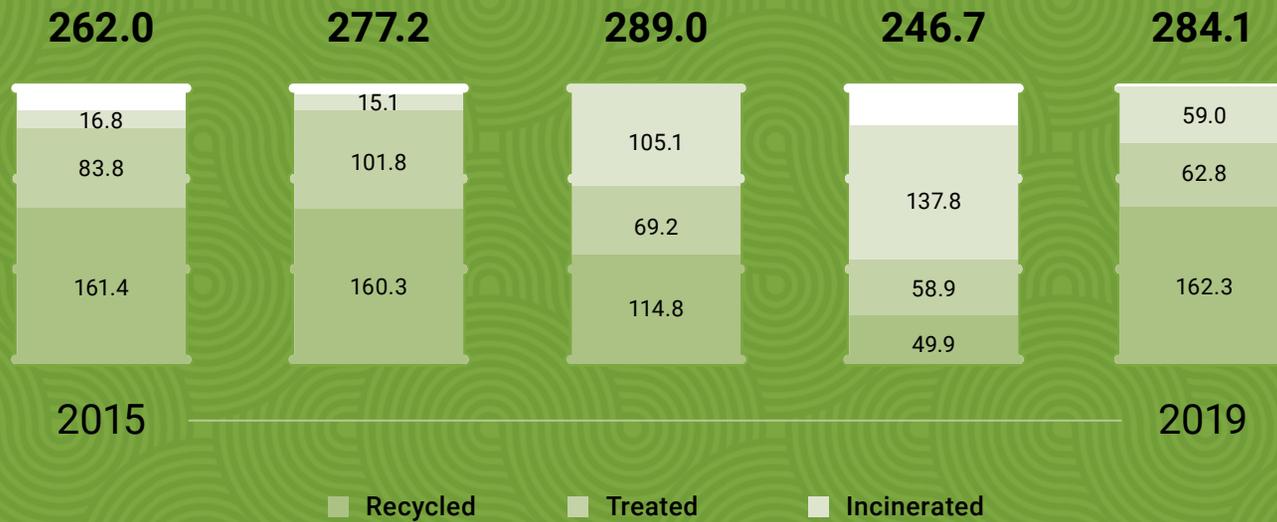
Tons of CO<sub>2</sub> Per Million USD





# Hazardous Waste

Kilograms Per Million USD



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# Non-Hazardous Waste

Cubic Meters Per Million USD



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# Water Usage

Thousands of Liters Per Million USD

