

# Planet Aware

2018 Corporate Responsibility Report





# Planet Aware

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It is inspiring to me and our global team to feel the cohesive culture of driving continuous improvement initiatives that focus on our customers, environment and people. We consciously invest in building our global collaboration platform between our internal teams, customers and vendors as we know the synergies gained will have long lasting benefits that focus on the sustainability for our business and environment.

Brady Musson, Director, Logistics

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We live in an era where humanity faces a myriad of environmental risks that challenge some of the most basic needs for life. At the same time, unprecedented technological and scientific breakthroughs are helping to address these challenges. As we evaluate what it will take for Promega to thrive in our 100th year and beyond, our natural environment is an integral part of this process. With this in mind, we are focused on evaluating and reducing our ecological footprint across all aspects of our business, including the way we design and operate facilities, ship products and engage with customers. This effort relies on all Promega employees worldwide to make conscious decisions on a daily basis to leave a legacy rather than a mark.

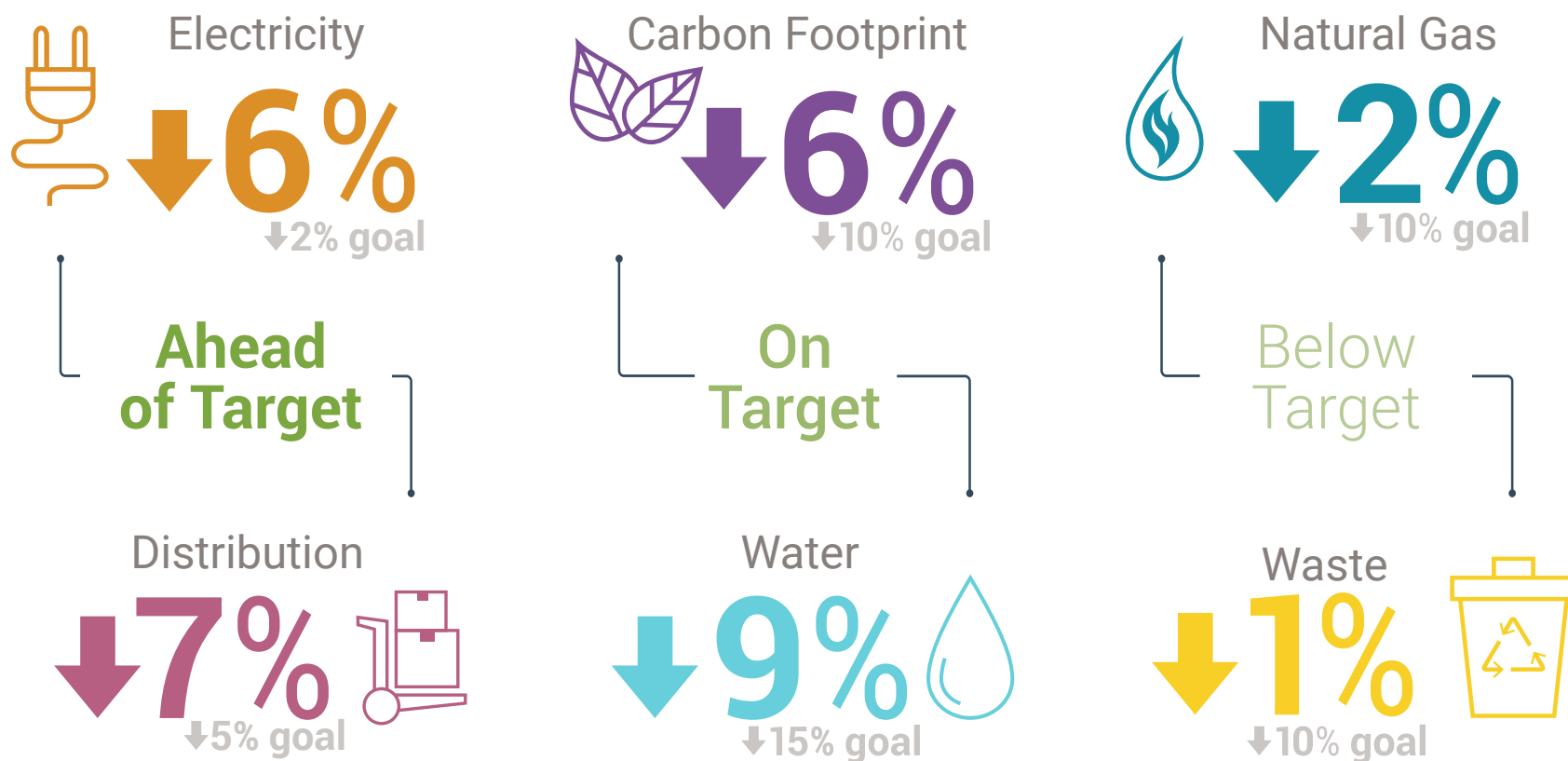
Our focus on the future has resulted in infrastructure investment that will enable sustainable growth for many years to come. Since founding our corporate responsibility program in 2009, our building footprint has nearly doubled with 90% of the growth in energy-intensive spaces. Even with this change, we have seen a 10% decrease in carbon footprint as indexed to building footprint. While this growth has been challenging, it has also provided a unique opportunity to incorporate more efficient and sustainable technologies across new and existing facilities. A key component of our growth is the people that have helped us arrive where we are and will guide us in the future. Significant investment has been made in full-time individuals, consultants and advisors with expertise in sustainability. The effect of this focus was recognized in the last year as our carbon footprint reduced by 6% as indexed to revenue.

We remain committed to upholding the principles of the United Nations Global Compact and are focused on our 2020 environmental reduction goals in the areas of greenhouse gas emissions, electricity,

natural gas, water, outgoing product distribution emissions and waste. We are pleased to make such progress, but recognize that the journey toward sustainability is just beginning.

## Status Toward 2020 Goals

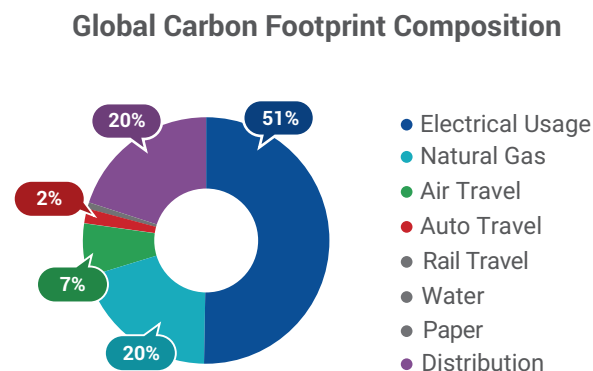
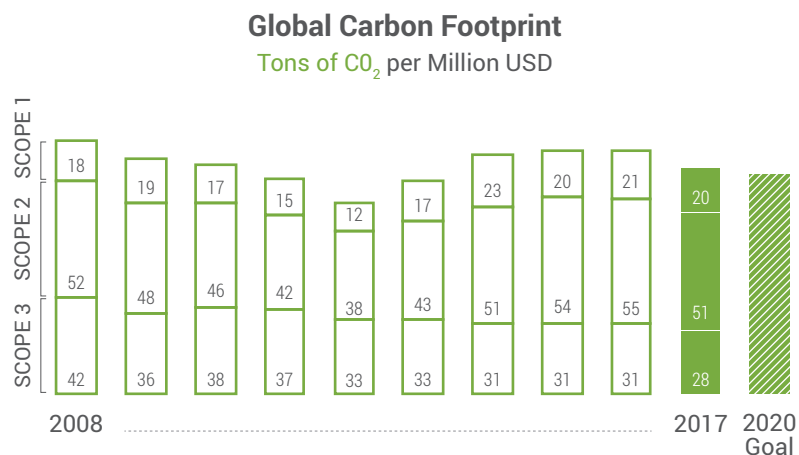
Goals and reductions are indexed to revenue over 2015 levels.



## Responding to Climate Change

Climate change is one of the most significant threats facing society and Promega supports limiting anthropogenic greenhouse gas emissions. We actively track and work to reduce greenhouse gas emissions from all operations globally. We take into account direct emissions from fuel combustion (scope 1), emissions from purchased

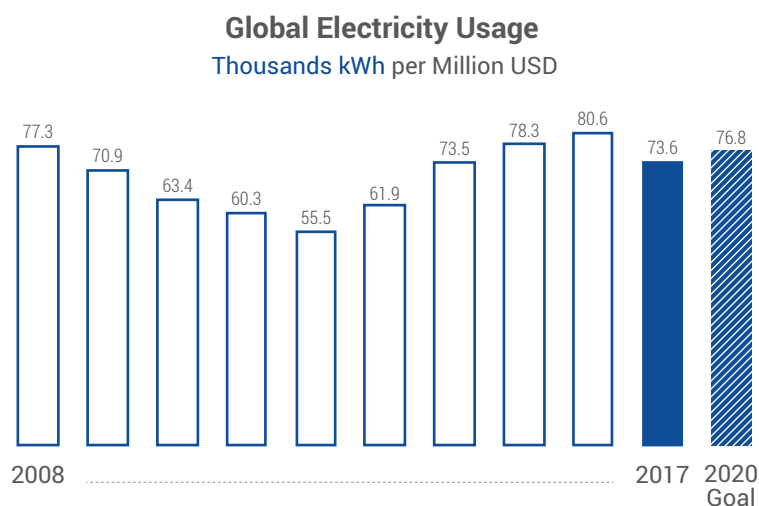
electricity (scope 2), and indirect emissions from business travel, outgoing distribution, water and paper usage (scope 3). Thanks to efforts to conserve energy and efficiently ship our products, we are currently on target to achieve our carbon emissions goal for 2020.





## Minimizing Electricity Usage and Emissions

In the last year, we saw gross energy usage decrease by 2.7% even with increases in building footprint, headcount and revenue. This reduction had a significant effect on our carbon footprint as electricity use makes up over half our total emissions. To minimize the effects of electricity usage, we invest in energy efficiency, generate electricity from photovoltaic panels and purchase electricity from renewable sources.



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Several full-time specialists trained in energy efficiency that were added in recent years have identified and implemented additional projects around energy efficiency including:

- Over 400,000 kWh have been saved at our R&D facility in Madison, WI, by connecting this building to a more efficient central chiller plant. Anticipated ongoing savings from this project are expected to exceed half a million kWh.



- Retrofits at the Biopharmaceutical Technology Center in Wisconsin started in 2017 and included more cooling towers, LED lighting and controls for efficient scheduling of air handling units.
- Electricity usage has decreased by 21% at our daVinci facility in Madison, WI, due to programming changes in the air handling units.
- In fall 2017, Promega France was renovated with energy conservation measures including a more efficient cooling system and LED lighting. Benefits from these efforts are expected in 2018.

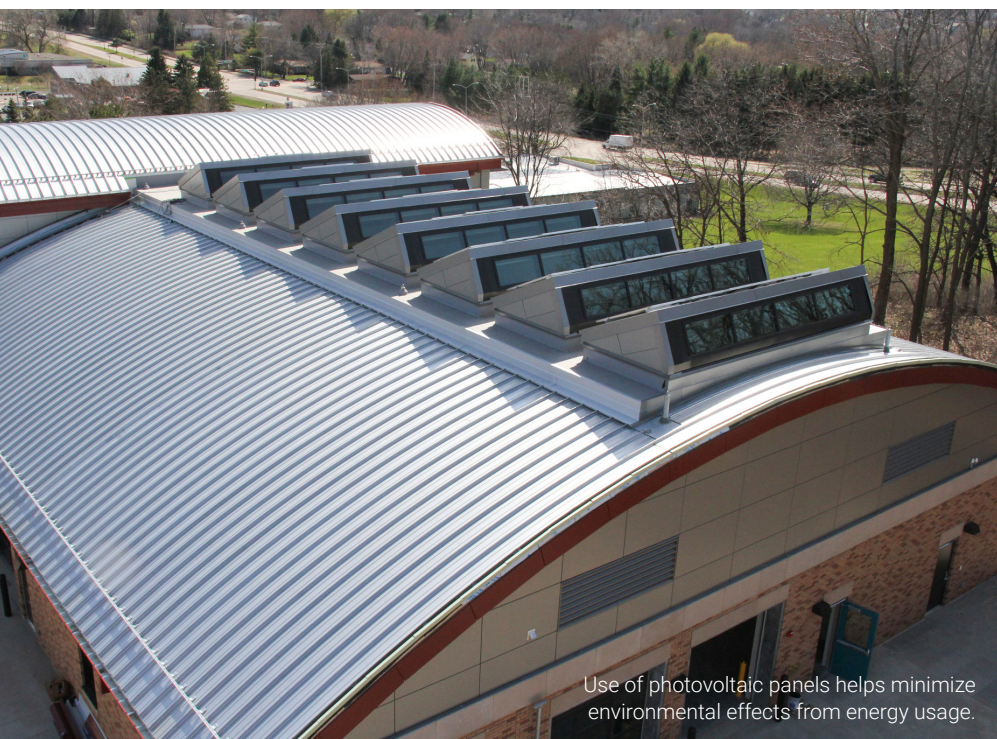


Our use of renewable energy has increased 15-fold since 2008. Facilities that use 100% renewable energy sources include:

- Promega Brazil in Sao Paulo.
- Promega Italia in Milan.
- Promega Biotech Ibérica in Alcobendas, Spain.
- Promega Biotech AB in Stockholm, Sweden.
- Promega GmbH and Promega Euro Hub in Mannheim, Germany.
- The Aviation Operations building in Madison, WI, our largest renewable energy producer with over 250 solar panels and geothermal wells for heating and cooling.



In addition, The da Vinci facility in Madison, WI, generates some of the energy needed on-site with 48 photovoltaic panels on the roof.



Use of photovoltaic panels helps minimize environmental effects from energy usage.

## Conserving Natural Gas

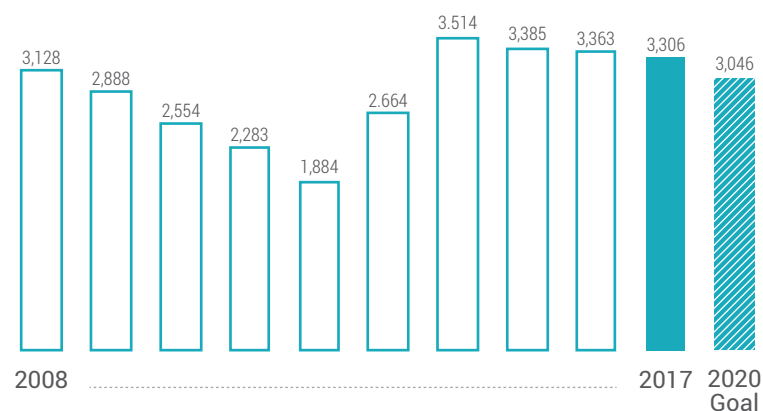
Natural gas is our largest source of direct air emissions and third in overall emissions for Promega. Natural gas is used primarily at manufacturing sites for heating and production-related processes. Geothermal wells, solar water heaters and heat capture technology in many facilities minimize heating requirements and related emissions. In the last year, natural gas usage was reduced by 2% as indexed to revenue with the following conservation efforts:

- Natural gas usage reduced by 38% at our daVinci facility in Madison, WI, due to programming changes in the air handling units
- Renovations at Promega France in 2017 included a new and more efficient heating system that will reduce future usage.



### Natural Gas Usage

Therms per Million USD





## Building for a Sustainable Future

Environmental sustainability remains a core value for how Promega designs and builds our facilities. In 2017 we continued to work on several new facilities with aggressive sustainability goals and strategies being used in the design and planning phases of each.

- Promega Germany (GmbH) is constructing a flagship green building that represents Promega in Europe. This 14,000 m<sup>2</sup> (150,000 ft<sup>2</sup>) facility will house our largest overseas branch, the European Distribution Center (Euro Hub) and Terso Europe. This facility will comply with or exceed the strenuous energy performance and green building standards of the German Building Code. Advanced energy features include active slab heating and cooling, night time mass cooling, ground source energy wells and advanced heat recovery. Other key sustainability elements include a green roof with integrated photovoltaics, combined mechanical ventilation with operable windows and advanced daylight design.



- Construction of a new Promega UK facility is just beginning. The facility will be a 1,700 m<sup>2</sup> (18,000ft<sup>2</sup>) facility to support our sales, logistics and customer support staff. The design team and Promega Corporate Facilities Staff developed a sustainability features decision matrix and tracking system that has been applied to all new or substantially remodeled Promega facilities worldwide. Sustainability priorities for the UK site include energy performance, employee health and well-being, ecology and landscaping, and community engagement. This facility will substantially exceed UK code requirements by meeting British green building (BREEAM 'Excellent') requirements for energy, carbon emissions and water conservation. Notable features include a green roof, combined mechanical ventilation and operable windows, a landscape that substantially improves the ecological value of the site, and use of environmentally certified materials.
- In 2017, we commenced work on expansion of the manufacturing capability in San Luis Obispo, CA, as well as the new research and development sub-campus in Madison, WI. Sustainable design will have a significant presence in both facilities.





Rendering of the interior of the Promega GmbH facility.



Rendering of the Promega UK facility currently under construction.

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**Promega is on a trajectory toward making its facilities on 4 continents best practice examples of sustainability, beginning with new developments and major remodels, and then moving into retrofits.**

David Rousseau, Consulting Architect for Promega Facilities

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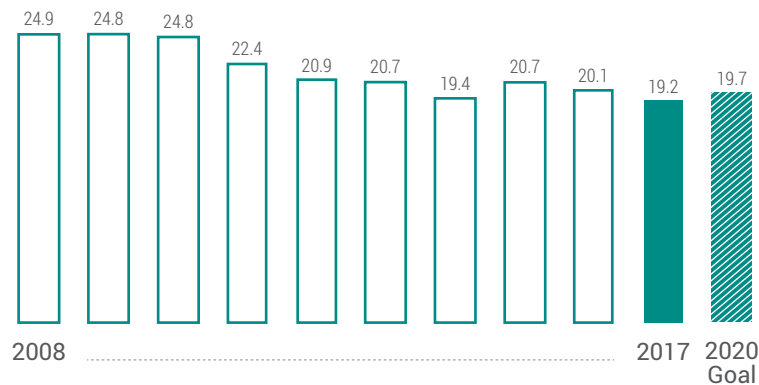


## Tracking and Reducing Effects from Product Distribution

Promega invests significant effort to ensure that our products get to customers quickly and safely. We are focused on reducing air emissions from outgoing distribution by decreasing the size and weight of packaging materials and using efficient modes of transportation. As a result of this ongoing focus, we have seen emissions from distribution consistently decrease with a 29% reduction as indexed to revenue since we launched our sustainability program in 2009. This is a result of multiple projects, including a transition to smaller shipping boxes and packaging improvements that minimize weight, optimize dry and gel ice requirements and use more sustainable materials.

### Global Distribution Emissions

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



One specific focus of our logistics team is to minimize the weight of dry and gel ice used in temperature-sensitive shipments. In the last year, our Promega logistics headquarters in Madison, WI, reduced dry ice consumption by 11%, saving over 50 tons. Our European distribution center in Mannheim, Germany, reduced dry ice consumption by 3%, saving nearly 10 tons. These reductions happened even as revenue grew globally. To understand the indirect emissions from outgoing shipments, data were collected from Promega-owned global distribution hubs on weight, distance and mode of transportation.



In the last year our logistics teams reduced dry ice consumption by 50 tons in Madison, WI, and by nearly 10 tons in Mannheim, Germany.

### Minimizing Air Emissions in China

With the world's largest population of over 1.4 billion people dispersed over a wide geographical area, reaching customers across China is a challenge. Our Promega distribution center in Beijing sought an efficient way to service customers across this vast landscape in fast manner while minimizing air emissions. The answer was using the world's largest high speed railway network. Transporting product via rail instead of air has helped to reduce greenhouse gas emissions by over 40-fold.



Boreholes constructed in Uganda to improve water infrastructure.

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

Our state-of-the-art, on-site inventory management system called Helix® reduces emissions through consolidated restocking shipments. The Helix® program uses RFID technology that tracks product use in real time, and results in more efficient shipping practices. 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 the greenhouse gas emissions from energy use of the Helix® System from shipment to distribution to stocking. In 2017, Helix® offset 995 tons of emissions worldwide by supporting the following projects:

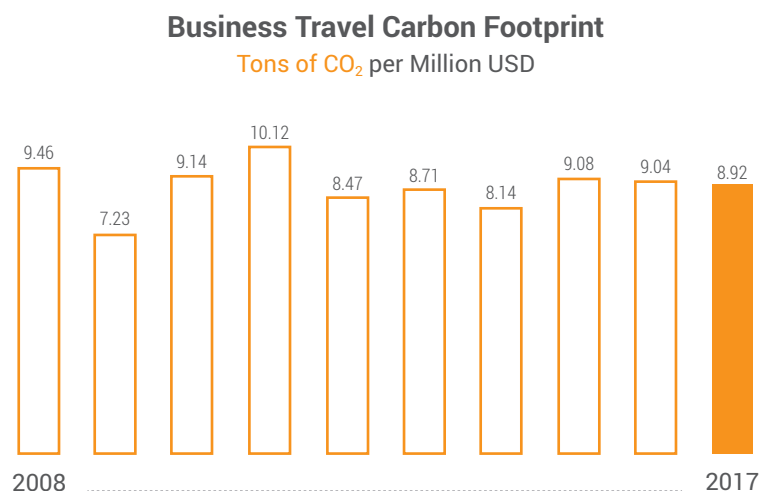
- Lower Mississippi Alluvial Valley Project in the United States.
- Improved Water Infrastructure in Sub-Saharan Africa.

Since 2010, the Helix program has offset over 5,500 tons of carbon dioxide. To see more information and learn how to participate, please visit [www.promega.com/helix](http://www.promega.com/helix).



## Minimizing Impacts from Business Travel

We place an emphasis on building relationships with customers, collaborators and colleagues. While much of this can be done remotely, face-to-face interactions are often needed. We are committed to minimizing impacts from travel by using fuel-efficient vehicles and environmentally sensitive modes of transportation. Business travel via air, automobile and rail comprise approximately 10% of our current carbon footprint. In the last year, we saw a 2% reduction in emission indexed to revenue from business travel.



## Efficient Travel.

For several years, Promega has actively sought out fuel-efficient vehicles for our use. Promega Benelux, Promega UK, Promega Italia, Promega AG in Switzerland and Promega KK in Japan have moved to a more efficient and ecologically sound fleet, leading to improved fuel efficiency of vehicles globally. In the United States, we have continued participation in the Emkay GoGreen fleet program, which has enabled our employees to select high-efficiency vehicles, and all fleet emissions are offset through the planting of trees. Since our enrollment in 2009, we have offset 2,800 tons of CO<sub>2</sub> exclusively through this effort. Many locations also encourage the use of high-speed rail as a more efficient alternative to air and automobile travel. Our newest branch, Promega Biotech India, uses Metro Rail as the primary source of transportation to eliminate fuel usage and air emissions.

We also encourage the use of electric vehicles by employees to minimize greenhouse gas emission from transportation. Electric vehicle charging stations are available on our Promega Madison campus, as well as Promega Benelux, Promega AG and Promega Biosciences in California. These placements cover two-thirds of our employees globally, and we are looking to expand this at other locations.

### Alternative Transportation.

Alternate transportation programs have been implemented in 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.

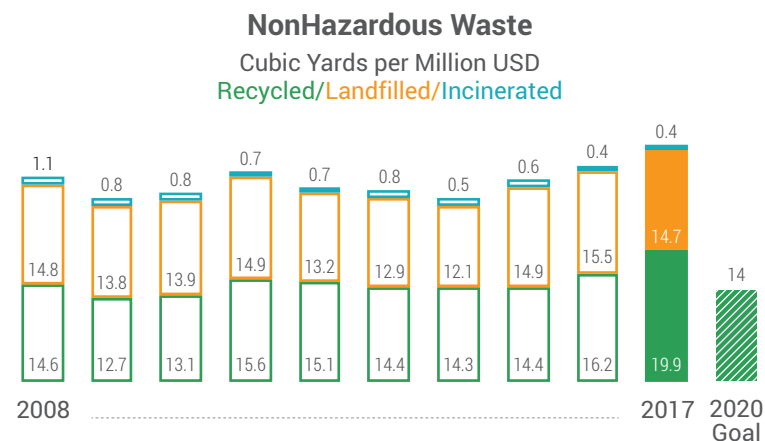


Employees at Promega Biosciences in California participate in National Bike-to-Work Day.

## Preserving Natural Capital

### Minimizing Waste

To reduce waste generation, Promega locations globally focus on improving recycling programs and increasing employee awareness about minimizing waste. This has included segregating materials for recycling, composting and encouraging reuse by providing permanent ware in cafeterias and kitchenettes. Employees embrace the mantra “Reduce, Reuse, Recycle” and have championed this effort.



In 2017, we saw recycling increase by 30% due to segregating new materials for recycling in Madison, WI. Recent efforts to reduce waste include:

- Segregating plastic shrink wrap, banding and bottles for recycling from our shipping and dispensing areas across the Promega campus. In just 6 months, these efforts have diverted over 5 tons of material. This is especially impressive considering how lightweight the materials are.
- Last year we expanded the recycling of nitrile gloves and protective garments through the RIGHTCYCLE program in Madison, WI, and San Luis Obispo, CA. This diverted over 3 tons of waste from landfills.



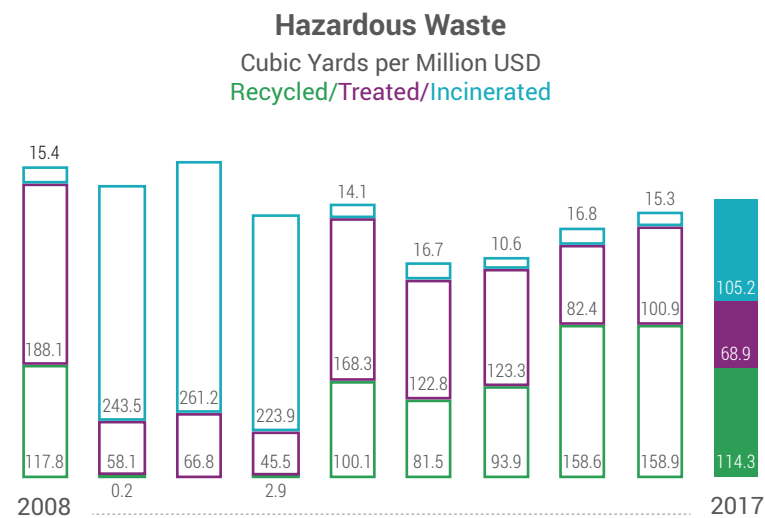
- Promega has been successfully segregating and recycling pipette tip boxes since 2010 and diverts more than 2 tons of plastic from landfills each year.
- We implemented a recycling program for instrumentation and electronics at the end of their use in North America. This effort was an expansion of the programs in Europe we already have in place to comply with the Waste Electrical and Electronic Equipment (WEEE) directive.
- In Madison, WI, our Rosalind Franklin Center started an employee-managed composting program to divert organic waste, supporting our employee passions for gardening.
- An annual electronics recycling drive at our Promega Madison Earth Day celebration collected over 15 pallets worth of materials, making it the most successful employee recycling drive to date.



The annual electronics recycling drive at Promega Madison collected over 15 pallets worth of materials.

## Managing Hazardous and Infectious Wastes

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. To further reduce emissions associated with hazardous waste, we have partnered with handlers that specialize in solvent recycling or reuse it as fuel to minimize environmental effects.





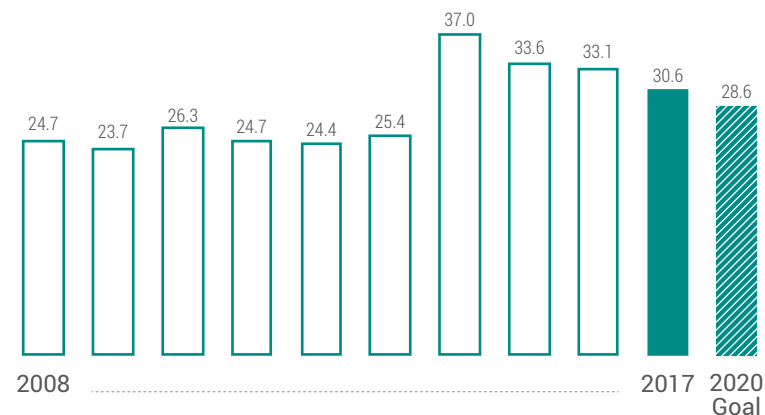


Promega emphasizes the use of native and drought-tolerant landscapes to minimize water consumption.

## Conserving Water

Promega evaluates initiatives to conserve water in manufacturing, landscaping and other everyday needs. In the last year, water usage decreased by 7% as indexed to revenue. Notable reductions were seen at the Promega R&D facility in Madison, WI, and Promega Biosciences in California.

**Water Usage**  
Tens of Thousands of Liters per Million USD

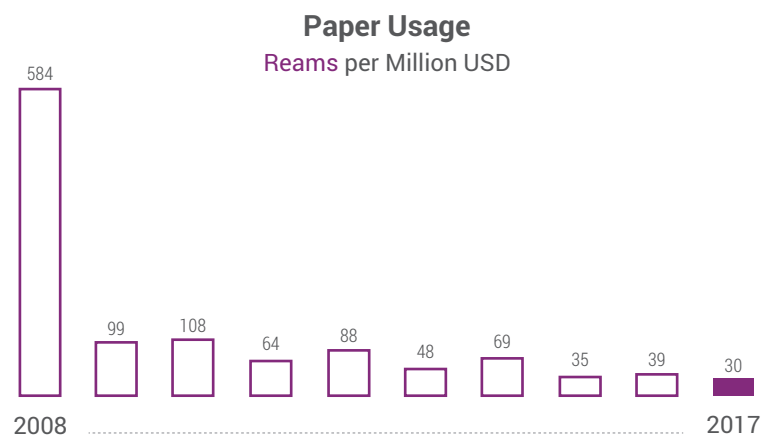


Many global locations incorporate design features to conserve and ensure proper disposal of water. Offices in Sydney, Australia, collect rain water for cleaning, flushing toilets and irrigating plants. Similarly, the Madison-based global headquarters uses rainwater collection and rain gardens for natural filtration. Promega Biosciences in San Luis Obispo, CA, has a long history of water conservation projects from automatic and low flow faucets to a custom water recirculating system for distilled water. Since 2009, gross water usage has decreased by over 50% at our San Luis Obispo facility despite a significant increase in headcount and manufacturing levels. In 2018, we will implement a system in the Feynman Center in Madison, WI, to capture and reuse wastewater generated from our water purification system for use in the cooling tower. This project has the potential to reduce water needs by several million liters annually.



## Connecting with Customers without Paper

Nearly 10 years ago Promega made significant efforts to transition away from printed corporate communications such as catalogs, instruction manuals and marketing materials. Adopting electronic communications reduced total paper usage by over 80% in the next year. Reduction in paper usage has continued with an additional 50% decrease since 2014.



Expanded use of modern technologies and emerging media channels in recent years has enhanced communication with customers and further reduced the need for printed materials. When printed paper is needed, we use recycled paper and duplex printing to minimize paper consumption.

## 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.

To reduce environmental effects of packaging, Promega has:

- 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 packaging designs that minimize air space that also reduce dry ice usage and weight of shipments.
- Changed to unbleached shipping boxes that contain sustainably harvested materials.
- Used biodegradable and recyclable air pouches that protect our products with fewer environmental effects.
- In 2018, we will be implementing changes to our kit boxes to allow for greater use of sustainably forested materials.



