



Discovering
a better world,
together

Corporate Responsibility Report **2020**



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We use Forest Stewardship Council paper and plant a tree for each printed report.

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OVERVIEW

While this report covers our efforts in 2019, we can't help but reference how the COVID-19 pandemic has rapidly changed our world. We are amazed to see how society has instinctively responded with "What can I do to help?" At Promega, this has meant coming together in new, unique ways. We have doubled down on manufacturing, increasing production tenfold in some cases. Employees have volunteered to drive hundreds of miles to get product to labs faster, and cross-functional triage teams have built new connections and catalyzed new ways of working. As we continue to find solutions for the challenges presented by the pandemic, we remain committed to our corporate values and goals.

Visit [promega.com](https://www.promega.com) to learn how Promega is supporting COVID-19 testing and the evolving needs of customers responding to this pandemic. Additional details will be featured in our report that comes out in 2021.

The following information shares how Promega employees work to make a difference for our customers, employees, and planet. You will find a spirit across the company that's driven to connect, conserve, innovate, and yes...to help.

LETTER FROM THE CEO

For decades, we have found that working with the future in mind creates a better present.

This sentiment became more popular for business at the 2019 Business Roundtable. Members of Fortune 500 companies agreed that the greatest business success will come from delivering long-term value, which requires support to the whole—customers, shareholders, employees, community, and the planet.

At Promega, we are experiencing the strength of that approach, and that's been particularly clear in the COVID-19 climate. Our future-minded approach made a significant difference in our ability to deliver a strong and immediate response to a world that changed over a few weeks.

We've been able to respond to the unforeseen needs of the day—our research scientists immediately engaged our technologies in exploration of a COVID-19 antibody test, the operations team increased production exponentially and hundreds of our employees transitioned to working from home. All of this happened without sacrificing customer service or product delivery.

There are a multitude of practices that successfully enabled this enormous shift: investing in an infrastructure that accommodates at least 10–20 years of future planning; creating efficiencies and design in manufacturing that permits flexibility in both manual and automated systems; developing an emotional and social intelligence sensibility to keep us strong as the days become challenging; and cultivating a company culture where all individuals know their contributions truly matter.

But even with all of this, we could not have found success if not for one thing. This all took time and a willingness to do what we believed best for long-term business vs a short-term bottom line. We integrated this approach decades ago. Today, we benefit from deep institutional knowledge, sincere relationships and a belief that providing high-quality materials and systems is the most efficient (and effective) approach to business.

COVID-19 made us acutely aware of capability and connections of which we are tremendously grateful... and if anyone thinks a long-term approach doesn't matter in the here and now...well, please reconsider!



Bill Linton

WILLIAM A. LINTON
Chairman and CEO



Corporate Mind

Promega is flexing our muscles in the fight against colorectal cancer by supporting research and bringing awareness to this disease.



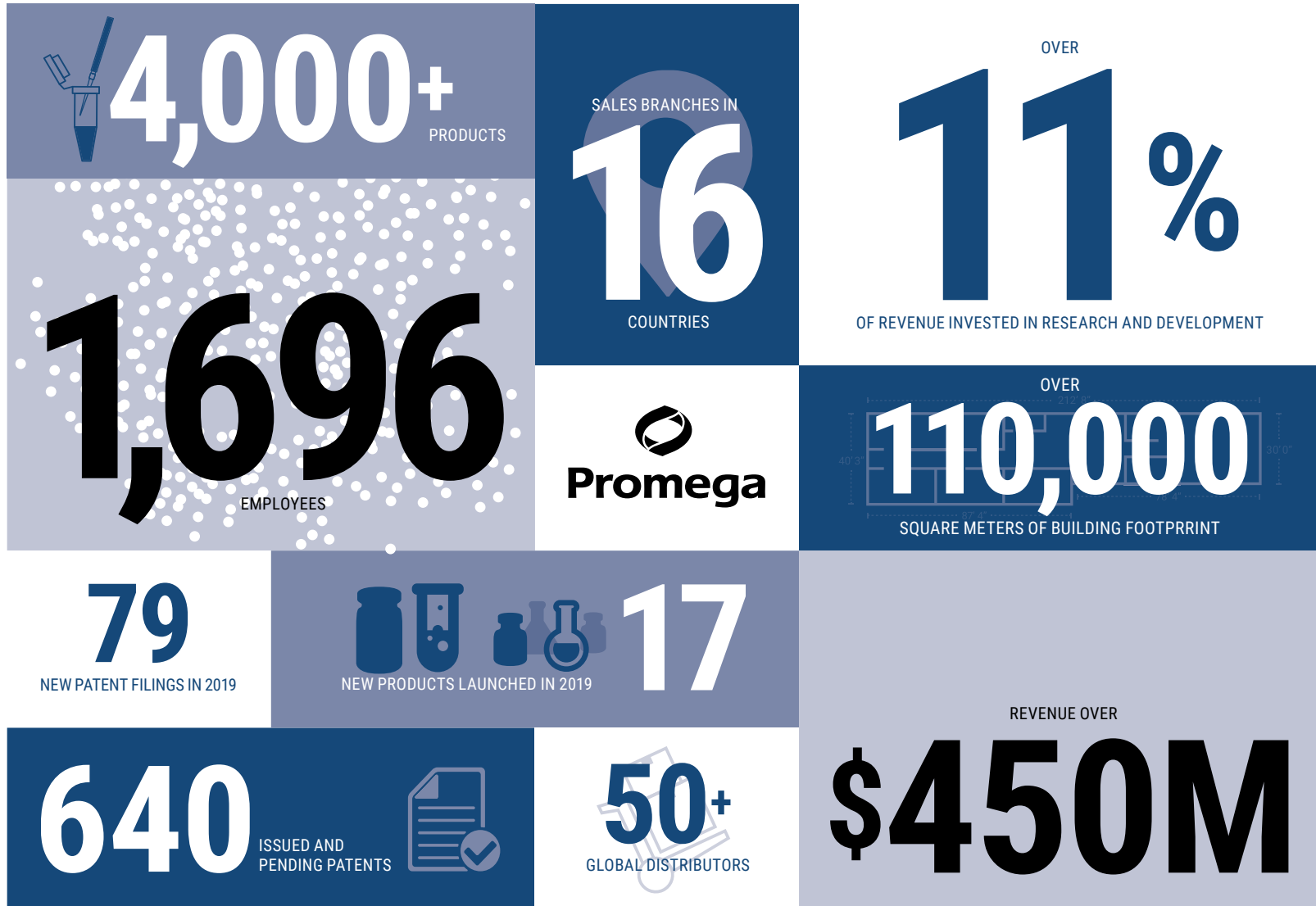
...we find that as we *develop the full potential* inherent in each of us; our perceptions of limitations change: the impossibilities of yesterday become the probabilities of tomorrow.

WILLIAM A. LINTON
Chairman and CEO

Corporate Mind

In a rapidly changing world, we reflect on how Promega contributes to scientific advancement and improving life around the globe. We look for qualities that stand the test of time—the sense that we can seek and co-create meaning and purpose for the larger community of customers, suppliers and stakeholders, both as an organization and for ourselves as individuals. Our business is life science, and our lives are fueled by curiosity and life-long learning. It's a thread that appears in countless forms across our global organization. Founded in 1978, our company is headquartered in Madison, WI, USA, with sales branches in 16 countries, more than 50 global distributors, and three global manufacturing locations. Promega is governed by a Board of Directors and daily operations are led by the Corporate Leadership Team and global Branch Managers. This diverse group brings wide-ranging expertise and unique cultural experience to management decisions.

PROMEGA BY THE NUMBERS: 2019






Headquarters


R&D and
Manufacturing


Branch Office


Distributor

PURPOSE, VISION AND VALUES

Purpose

Promega exists on an evolutionary frontier where the values of science, business and human well-being intersect. Acknowledging these interdependencies, Promega cultivates its environment to allow employees to flourish, develop deep and enduring relationships with customers and all stakeholders and create intelligent life-science solutions.

Vision

Promega Corporation grows from a vision where success is measured in meaning generated for people and in relationships sustained by both value and purpose. With an eye toward a changing future, Promega continues to evolve:

- Our life sciences tools to accelerate discovery and realize innovative and practical applications of advanced technology.
- Our commitment to improving human health.
- Our work environments, which support and perpetuate curiosity, self-awareness and community integration.
- Our capacity as a stable resource for the growth and transformation of the people and communities we touch.

In essence, our vision spans across all life and moves us to act on the knowledge that we are interdependent.

Values

Promega reflects a set of living values that include:

- Contributing to the advancement of science for improving life in the global community.
- Operating as an adaptable living organism in which each element and human contribution are a vital part of a whole and capable of responding to the emerging complexities of our time.
- Encouraging personal development through inner and outer exploration and self-awareness practices.
- Recognizing that both work and home cultivate wholeness and wholeheartedness. We do this through learning, offering the best of ourselves, integrating new insights and developing inner and outer qualities that allow each individual to be present and engaged.
- Rewarding and acknowledging achievement through creativity, risk-taking, process improvements and innovation.
- Promoting adaptability and flexibility in the workplace.

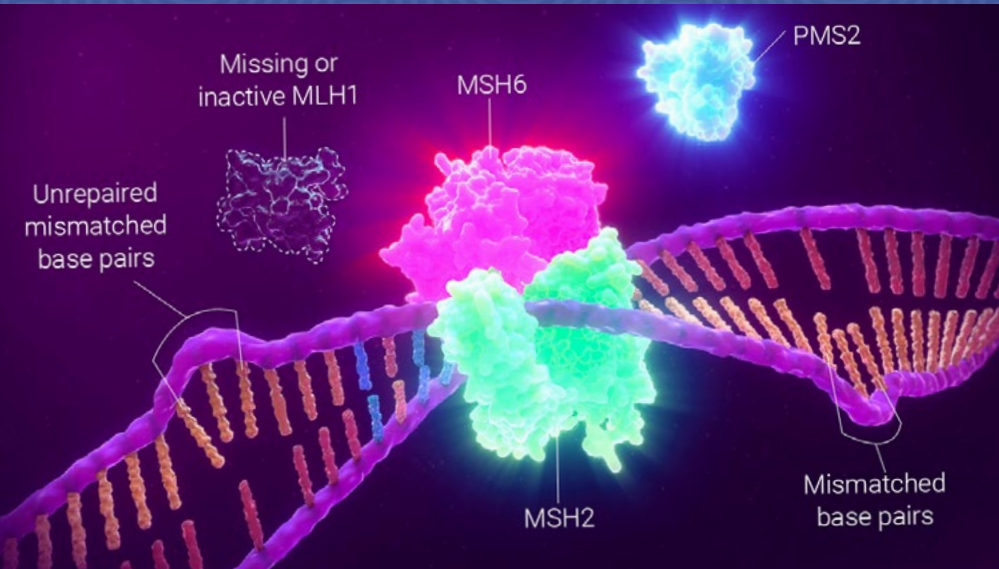


An Applications Scientist works in a Promega Madison lab.

INVESTMENT IN THE FUTURE

We look at human needs to anticipate our customers' wishes while providing an inspiring place for employees to work and support the communities in which we live. We commit to building a long-term sustainable future through investments in innovation, people, products and services, infrastructure and community outreach.

In the last year, we demonstrated this commitment through investment in scientific innovation, expansion of global facilities and development of technical and leadership capabilities. Our focus in these areas means we can continue to meet customer needs and generate increased value that equates to not only financial but also meaningful growth for the goods, services, incomes, and community well-being we provide.



In 2019, Promega announced a global collaboration with Merck to develop the Promega MSI technology as an on-label, solid tumor companion diagnostic (CDx) for use with Merck's immune checkpoint anti-PD-1 therapy, KEYTRUDA®. The Promega MSI Analysis System is used to identify tumors that are likely to respond well to immunotherapy. Learn more about this diagnostic and how other technologies are making a difference in the Product Reach section.

Effects of Products and Innovation

We provide innovative solutions and technical support to researchers, technicians and analysts in life sciences, industry and government. Over 4,000 catalog and additional custom products enable our worldwide customers to advance knowledge in the fields of genomics, proteomics, cellular analysis, molecular diagnostics, human identification and applied biotechnology. In the last year, product revenue exceeded \$450 million. The Product Reach section of this report expands on how our products benefit human health and advance the scientific community.

Our growing investment in innovative research resulted in 79 new patent filings in 2019, bringing our intellectual property library to over 434 granted patents and 206 pending patents. In the last year, Promega launched 17 new products, fulfilling customer needs by:

- Aiding life science research with automated solutions.
- Advancing forensic DNA testing.
- Improving methods for studying protein structure and function.
- Optimizing research in clinical labs.
- Expediting discovery of biotherapeutics.

Over 4,000 catalog and additional custom products enable our worldwide customers to advance knowledge in the fields of genomics, proteomics, cellular analysis, molecular diagnostics, human identification and applied biotechnology.



Projects implemented by Promega engineers and our facilities teams in 2019 saved over 2 million gallons of water and enough energy to power 50 homes for an entire year. Learn more about our commitment to environmental sustainability in the Planet Aware section.



The Feynman Center on the Promega Madison campus

Investments in People and Place

Our global facilities exceeded 1.1 million square feet or 110,000 square meters, all applying sustainable design approaches. Expansion of our branch facilities in the UK and Germany completed in 2019, providing creative workplaces and healthy spaces for our employees, customers and community outreach. In addition, construction is well underway in Madison on a world-class research building and also a state-of-the-art component manufacturing facility. These buildings will add 435,000 ft² or 40,000 m² to the Promega footprint when completed in the next few years. For details on these expansions and environmental focus of all operations, see the Planet Aware section of this report.

CONSCIOUS LEADERSHIP

At the heart of science is the understanding of the interdependent, complex and dynamic nature of systems. With nearly 1,700 individuals worldwide, this complexity is increasingly true at Promega as well. In rapidly changing environments, our leaders use their minds and hearts to flourish. We are continuously developing an environment that fosters personal connections and creates trust in the face of ambiguity to encourage conscientious and courageous action. We support the simultaneous use of intuition and the conscious awareness of emotions, sensations, and connections when developing vision and outlook. We want a space in which everyone has an opportunity for self-awareness, personal transformation and professional development. The People Care section of this report expands on ways that Promega invests in our people and focuses on strengthening relationships.



Promega global general managers gather in Madison, WI.



Our active and continuously developing Emotional and Social Intelligence (ESI) initiative emphasizes connection and encourages employees globally to grow and become their best. ESI skills support an environment that respects diverse traditions, heritages, experiences and perspectives. Learn about all the ways Promega supports employees in the People Care section.

Advancing Diversity

As a global company, we acknowledge and honor the fundamental value and dignity of all individuals and pledge ourselves to creating and maintaining an environment that respects diverse traditions, heritages, experiences and perspectives. Being relevant requires continued focus on building diversity and inclusion. Increasing minority and gender diversity is a goal for hiring and promotion. Women represent approximately 47% of employees worldwide and occupy 39% of management positions. With offices in 16 culturally diverse locations, we benefit from the unique cultures and experiences of all employees.

Respecting Human Rights

As a member to the UN Global Compact, Promega follows all regulations regarding employment and has zero tolerance for violations of human rights. We are committed to upholding and advancing The Universal Declaration of Human Rights by developing productive business relationships around the world to continue working cooperatively among different customs and cultures. Issues that we take very seriously include:

- Protecting children from exploitation.
- Protecting all workers from modern slavery.
- Paying at least minimum wage.
- Safe working conditions.

Promega complies with all local workplace regulations and ensures that our employees and community members are treated with respect and dignity. We hold the same expectations for our suppliers and look to align with organizations that uphold international human rights and labor standards.



Promega Corporation and branches in Spain, Singapore, France, Switzerland, Germany and the Netherlands support the International Genetically Engineered Machines (iGEM) competition for emerging scientists. Learn more about this and other efforts to give back in the Community Touch section.

Prioritizing Anti-Corruption

Promega aims to operate with the greatest integrity and has zero tolerance for corruption or bribery. This commitment to anti-corruption is communicated to all employees in a Code of Conduct and additional training is provided to managers and employees in purchasing or sales departments.

ALIGNING VALUES THROUGHOUT THE SUPPLY CHAIN

Promega recognizes the effect and importance that suppliers have in the scope of our Corporate Responsibility and forms partnerships with companies who have similar commitments. Our Supplier Code of Conduct outlines our expectations relating to business ethics, labor, health and safety, and environmental responsibility. This document is shared with new and existing suppliers to encourage collaboration in these areas. A focus on sourcing from local suppliers also supports local communities and reduces environmental effects from shipping.

LIVING IN A BROADER SENSE OF PLACE

“Place” is not singular at Promega. Our sense of place covers all touch points by integrating work, home and community. We understand how any one touch point can impact the others: A tough day at work can mean an irritable evening at home, and poor community connections can leave gaps resulting in misunderstanding. By living with regard to the interactions and dependencies of each of these “places,” we can become more fully fueled in ourselves, our work and our understanding of each other. Just as importantly, we open ourselves to greater learning and innovation for the future.



Promega was recognized by the Wisconsin Economic Development Association (WEDA) for making significant contributions to Wisconsin's economy.

Within the context of each place (work, home, community), we find complexity. For example, Promega engagement in community includes multiple approaches like opening opportunities for employees to give back on their terms, supporting our emerging scientists around the world and fostering greater creativity and learning. Stories on many of these actions are shared throughout this report.

The benefits of this work reach far beyond good will. Our work brings growth and real impact to the community bottom line. In the state of

Wisconsin alone, a third-party economist estimates that Promega has an annual economic impact of over \$1 billion each year.

Growth and success of any business, especially one the size and scope of Promega, can have a positive ripple effect in communities, which comes back again to support long-term, sustainable practices. Creating such a positive cycle happens when we are connected and share our place with all stakeholders.



Product Reach



With passionate dedication to emotional awareness and intellectual execution, people at Promega connect with each other and with scientists around the world to *co-create solutions* to the most relevant problems in life science.

PONCHO MEISENHEIMER

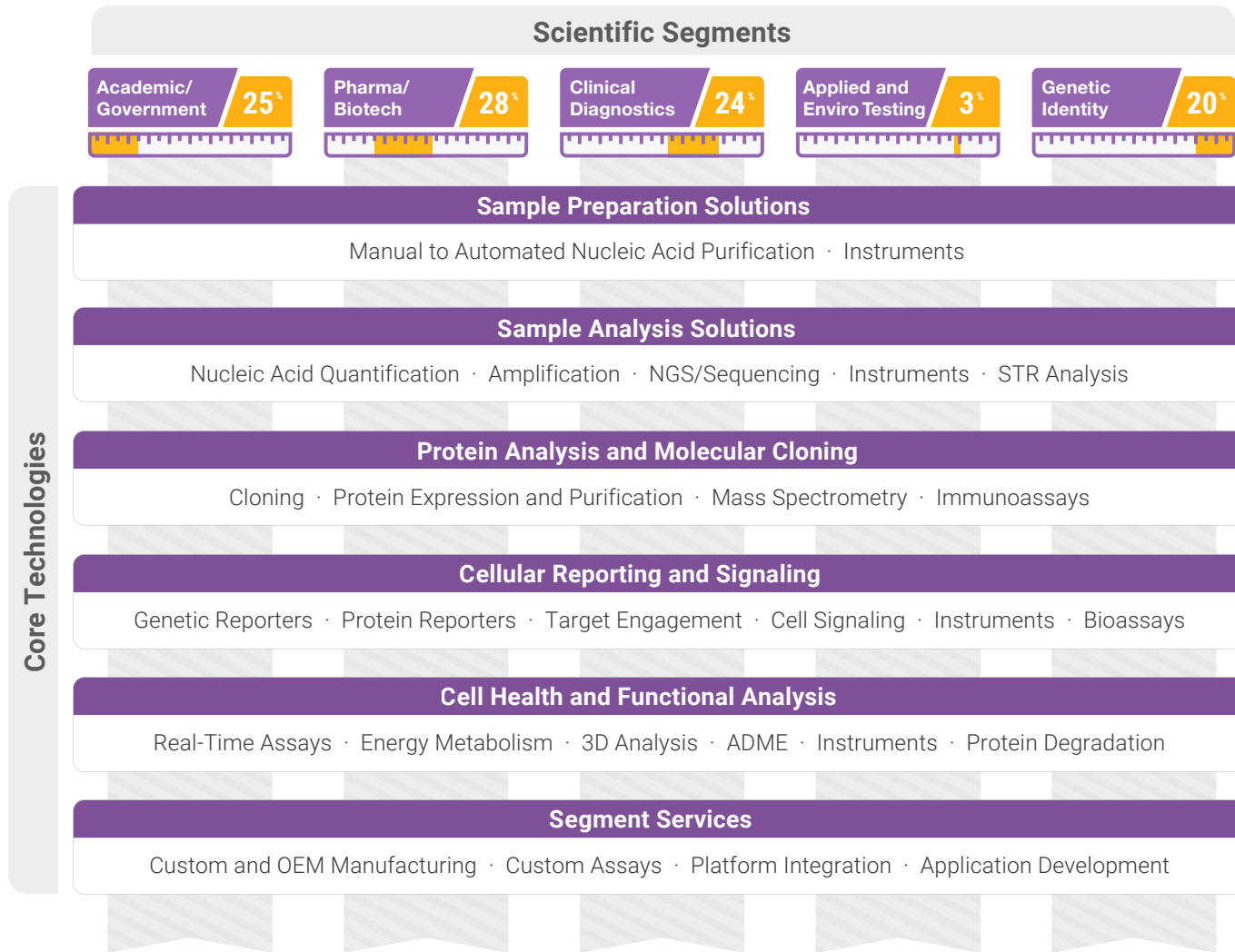
Senior Director, Research and Development

Product Reach

Developing innovative solutions to meet the complex and ever-changing needs of our customers begins with listening. We build solid relationships with our customers by investing time to truly understand their work and anticipate their needs so we can problem solve together. Our alliance with them, coupled with determined scientific exploration and flexible manufacturing capabilities, enable us to support our customers in their work to improve the world in profound ways using science.

Every day, research scientists, technicians, and analysts in laboratories and industrial facilities around the world rely on our products and technical expertise to succeed in the work they undertake. With high-quality, reliable products at their disposal, researchers, applied scientists, clinical practitioners, forensic analysts, quality assurance personnel and others have more freedom to focus on specific questions at the forefront of scientific discovery. This results in the acceleration of research discovery, better health care, and more consistent justice.

Breadth of Capabilities



CUSTOMER FOCUS

Forensics and Paternity Laboratories

Forensics and paternity testing laboratories deal with unrelenting caseloads and tight turnaround times. Dependable results, fast throughput and reliable product supply are critical in this setting. Forensic labs use limited, often challenging samples to develop investigative leads from crime scenes. Sexual assault kits and property crime evidence are some of the more challenging samples for labs to process. Forensic labs process large numbers of reference samples to populate reference databases that help law enforcement connect arrestees to other crimes, with the goal of identifying possible repeat offenders. Ongoing testing of the rape kit backlog has identified over 1,000 suspected serial rapists in the United States alone.

In addition to analyzing evidence collected at crime scenes, forensics labs help bring closure to families whose loved ones are missing or lost in mass disasters, and even help exonerate those who have been wrongly convicted of a crime. These researchers and analysts require optimal and reliable results from valuable and often irreplaceable evidence samples.

We have worked with forensic and paternity laboratories for more than 30 years and support their challenging workflow procedures by providing advanced technologies for efficient DNA extraction through discriminating STR analysis.

With the emergence of new tools and technologies on the horizon, labs will be able to gain more information from challenging sample types, save time with increased sample processing capacity, triage samples for more efficient workflows, solve more cold cases with investigative genealogy and database searches, and even bring the entire workflow to the scene of the crime or event.

We have worked with forensic and paternity laboratories for more than 30 years and support their challenging workflow procedures by providing advanced technologies for efficient DNA extraction through discriminating STR analysis.

Government and Academic Research Laboratories

In the face of increasing pressure and demands, today's academic and government researchers work on the front line of discovery. They require the newest available tools with enhanced sensitivity and specificity to address more complex biological questions compared to methods used just a few years ago. Promega continues to develop and improve technologies from next-generation nucleic acid isolation and PCR to advanced assays for cellular biology, metabolism, 3D cellular structures and organoids, protein manipulation and CRISPR knock-ins for tagging cell lines. To help modern researchers successfully publish their results, fulfill their research programs and nurture carefully planned careers, Promega is committed to developing the most advanced bioassays, target engagement and protein degradation tools.



Rhinoceros in South Africa.

Forensic analyst swabbing the head and ears of a rhino during a dehorning procedure in Port Elizabeth.

Forensics

CSI SAVANNA: OVERCOMING THE CHALLENGES OF ISOLATING HUMAN TOUCH DNA FROM POACHED RHINOCEROS

Rhinoceros numbers are on a steep decline, from 500,000 in the 20th century to an estimated 30,000 alive today. Poaching is the main driver for this decline, which comes from consumer demand for rhino horn. Although the trade of rhino horn is banned, the demand remains high. With prices averaging \$60,000 per kg, the sale of rhino horn on the black market is a lucrative venture. To preserve rhinoceros species, poaching must be stopped.

Poaching cases can be extremely difficult to investigate and prosecute due to the nature of the evidence available at the scene. Current practices use rhino DNA profiling to match horns with carcasses, but due to low genetic diversity among some rhino species there is decreased confidence in matching a horn to a specific animal. Human DNA profiling using touch DNA from poachers could be a better approach.

Humans have very unique DNA profiles, increasing chances of linking a poacher to the scene. However, sample collection challenges exist with this approach that need to be overcome. Human touch DNA samples have

low abundance of DNA, and the dry, rough, dirty surface of rhino skin compounds the recovery issue. Optimal sampling techniques combined with sensitive extraction and DNA amplification technologies will therefore be needed to establish human DNA profiles.

Researchers from the University of the Free State in South Africa are investigating various methods of touch DNA recovery from rhino back, rump, ears, legs, head and horns. Several Promega technologies designed for low-level DNA samples have been instrumental in their work.

The Promega Casework Direct Kit, designed for extraction from low-abundance DNA samples, is being used to prepare lysates for downstream PCR amplification. The sensitive PowerPlex® ESI 16 System and Direct Amplification from swabs method is being used to generate the DNA profiles from these low-abundance touch samples. Preliminary results have uncovered mixed and partial profiles, generating hope that human touch DNA could one day be an essential tool in linking or excluding suspects involved in these crimes against wildlife.



Dr. Soly Ismail, Postdoctoral Fellow, Francis Crick Institute

Research Laboratories

MEETING THE SCREENING CHALLENGE ON PROTEIN:PROTEIN TARGETS TO UNDERSTAND MALFUNCTION OF HEALTHY CELLS

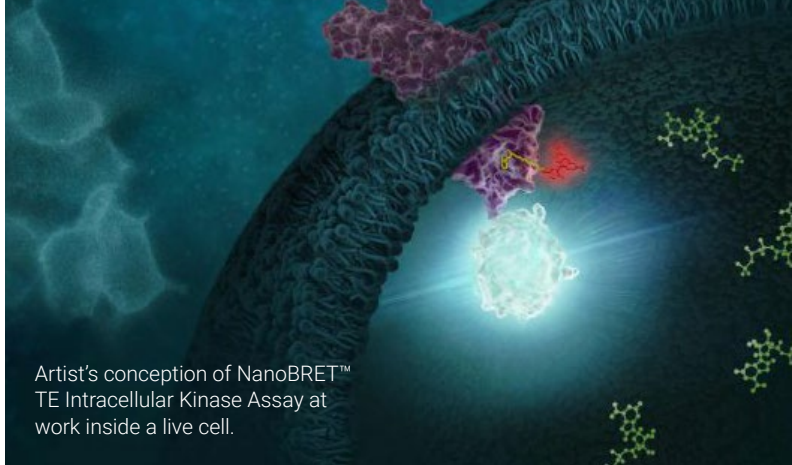
Billions of new cells are made in the body every day, replacing worn-out, dead or damaged cells and keeping us healthy. Cells multiply by dividing—an existing cell splits in half to create two new ones. This process is very tightly organized so that new cells are made only when and where they are needed. Faults in key genes controlling cell division (known as oncogenes) make cells multiply out of control, leading to cancer. The Oncogene Biology Laboratory headed by Julian Downward at the Francis Crick Institute in the UK investigates how the molecular signals received by cells make them grow and multiply, and how faulty signals lead to cancer.

They focus on oncogene function in healthy cells and find out what happens when they go wrong. Some types of cancer can even become 'addicted' to certain oncogenes, relying on just one faulty gene to drive their unchecked growth.

Dr Soly (Mohammed) Ismail, a post doctorate researcher within the Oncogene Biology Laboratory, is particularly interested in a target known as Ras. This oncogenic protein is found to be faulty in almost 30% of human cancers, including bowel, pancreas and

lung tumors, and so it is a very important target to understand. Much work has been done on inhibitors of Ras, specifically those that inhibit the Ras-Raf and Ras-P13K protein:protein interactions. In the past 10 years, the Oncogene Biology Laboratory has shown that inhibition of the Ras-P13K interaction has a significant effect on tumor initiation, development and maintenance so finding out how to switch off Ras signaling could be a powerful way to treat cancer. Soly's aim is to discover and characterize specific inhibitors that could block RAS/P-13K and RAS/RAF for future targeted therapies.

Targeting the interaction of proteins represents a particular challenge for drug screening largely due to the strength by which they bind or their solubility. Promega NanoLuc® Binary Technology (NanoBiT®) was originally developed to detect protein:protein interactions in live mammalian cells. Instead Soly successfully adapted this NanoBiT cellular assay into a biochemical, cell-free format using mammalian cell lysates. The NanoBiT Biochemical Assay now offers an attractive tool for drug screening against challenging protein:protein interaction targets, including the interaction of RAS with PI3K.



Artist's conception of NanoBRET™ TE Intracellular Kinase Assay at work inside a live cell.

Pharmaceutical and Biotechnology Industries

Scientists within the pharmaceutical industry are continuously developing new small-molecule drugs that can enter cells easily and affect specific target proteins. Targeted cancer therapies that block the growth and spread of cancer by interfering specifically with the diseased cells, but not normal healthy cells, are one example where small-molecule drugs are used therapeutically. At early phases of drug development, researchers may screen more than 100,000 compounds at once to identify leads that can be further optimized and turned into new drugs. The availability of high-throughput-compatible, reliable and predictable assays serves a crucial step toward discovering new safe and effective drugs.

Promega has developed a broad portfolio of assay reagents that meet the needs of these pharmaceutical researchers and have been used widely during various phases of drug discovery and development. For example, our NanoBRET™ Target Engagement Assays allow researchers to quantitatively measure the interaction between a molecule and a protein in live cells reliably in a high-throughput manner. This is a significant advancement as these cellular assays can better predict compound performance. In addition to common drug targets like kinases, this NanoBRET™ Target Engagement technology has also been applied to CRISPR-Cas9 gene edited cells to help identify drugs that can lead to oncoprotein degradation.

Pharmaceutical

AIDING IN DRUG DEVELOPMENT AND DISCOVERY

The cell is the basic structural and biological unit of all organisms. How our cells function, including if they divide or die, is tightly controlled by a large collection of proteins called kinases. When these proteins mutate and their signaling capabilities become faulty, cell growth and division can be negatively impacted and diseases such as cancer can occur.

Live-cell model systems are an important tool for laboratory researchers in their quest to develop and evaluate cancer drugs against target kinases. The most helpful live-cell models represent the endogenous biology, or true-to-life conditions, observed within the human body. Studying potential drug compounds in a live cell is a relatively new practice. Scientists typically use biochemical methods with enzymes purified from ruptured cells, but this testing approach isn't always relevant to how drugs behave in the body. Live cells, with the enzymes inside, would provide researchers a more predictive model of drug behavior. Obtaining this more predictive data in the early stages of drug exploration will allow researchers to move through R&D faster and continue to advance human health.

Promega scientists developed a unique way to study kinases using an energy transfer technique and specially designed cell-permeable detection probes that enable testing in a live-cell environment. The NanoBRET™ TE Intracellular Kinase Assays use Bioluminescence Resonance Energy Transfer, or BRET, to measure the binding of the drug to the kinase. This new technique helps researchers determine if the drug gets into the cell, if it interacts with the intended target, and how long it stays bound despite other things in the cell trying to bump it off. With this new live-cell approach, pharmaceutical researchers can arm themselves with the comprehensive data they need for a more complete picture of kinase target effects as they move to the next phases of development.



Over 20 million olive trees in Italy and other parts of Europe are infected with *Xylella*.

Environmental Testing

XYLELLA FASTIDIOSA: SEEKING EARLY DETECTION OF A MICROSCOPIC THREAT TO AGRICULTURE ECONOMIES

Agriculture is the lifeblood of human existence. We rely on the cultivation of plants as a source of nourishment for our bodies and the generation of plant-derived products to support our economies. Agriculture offers a connection to the land and a way of life for generational growers. Destruction of our agricultural ecosystems can have devastating impacts on our livelihoods. Sadly, a global agricultural threat is growing at an alarming rate, and the causative agent is a microscopic one. *Xylella fastidiosa* is a bacterium that infects and reproduces in xylem, a tissue found within vascular plants that transports water and nutrients from roots to stems and leaves. The bacterium is mainly spread by insects feeding on plants. Infection with this bacterium deprives plants of the nutrients they need, resulting in starvation and death. Most plants die within 1–2 years of infection and there is currently no cure.

Globally, infection with *Xylella* has affected over 20 million olive trees in Italy and other parts of Europe, bringing the olive oil industry to its knees. In Brazil, the majority of orange trees have been killed in efforts to control

the disease. In the US, Spain and Middle East, almond trees are infected. With such immense socio-economic impacts at stake, quick detection of this bacterium can go a long way to manage the spread of the disease. Labs are exploring new ways of detection, and DNA purification from plants is becoming one of the key aspects of analysis.

Promega is positioned to help in the quest for early detection and continuous monitoring of *X. fastidiosa* infection. We provide tools for DNA extraction and automated processing that can meet the needs of plant pathogen testing labs as the number of samples continues to grow. Together with the laboratory community, we have developed plant and insect DNA extraction methods that are robust and reliable for use with a variety of materials. The Maxwell® line of instruments provides a walk-away, automated approach to extracting plant DNA from up to 48 samples simultaneously. When used together, this system provides purified DNA to plant pathogen testing labs in under one hour for subsequent immediate use in qPCR and other molecular detection methods.



Our Environmentally Preferable Products require less packaging, include fewer hazardous components and generate less waste to support sustainability efforts of customers. To learn more, visit: [Promega.com/EnvironmentallyPreferred](https://www.promega.com/EnvironmentallyPreferred)

Environmental and Food Testing Laboratories

Demand for food and water testing is increasing as laboratories seek rapid, reliable solutions to ensure products are safe and food ingredient claims are authentic. Biotechnology offers tools for testing labs to detect bacteria or other contaminants in food, water or plants. From GMO testing and pathogen detection in food to water quality and contamination analysis, assays need to satisfy the requirements of food and water testing laboratories, including sensitive detection of unwanted microbes and undeclared ingredients.

To screen plants for GMOs, analyze food for pathogen contamination or authenticate ingredients, DNA must be extracted from the samples. The resulting DNA needs to be pure enough to work in PCR-based analysis, the method most food testing labs use for detection. In Europe, Promega DNA purification reagents have become a reference standard in authenticity determination of meat products, and European Union Reference Laboratory for Animal Proteins in feeding stuffs (EURL) has developed a Standard Operating Procedure for DNA extraction based on our purification chemistry. In addition, our Maxwell® RSC PureFood GMO and Authentication Kit was recently selected by the European Reference Laboratory on GMO Food and Feed Testing for developing new Standard Operating Procedures for food DNA extraction, influencing food companies to use Promega products as part of their routine quality control testing.

Water treatment facilities and desalination plants test water quality and biofilm formation to reduce energy consumption and improve plant operational efficiency. By partnering with these facilities, we have been able to improve our luminescent bacterial detection assay for specific use with water sampling to help with industrial processes like biocide dosage and timing for water cooling systems. Promega Water-Glo™ microbial analysis uses bioluminescence to measure the amount of adenosine triphosphate (ATP) in drinking water, desalinated water and other samples to monitor water quality.

Clinical and Molecular Diagnostics Laboratories

In 2020, Promega's impact on the clinical diagnostic world was demonstrated through our rapid and robust response to COVID-19 testing. Promega solutions supported COVID-19 diagnosis in over 25 million samples around the globe in the first quarter alone. GoTaq® Probe 1-Step RT qPCR System was added to the CDC's 2019-Novel Coronavirus Real-Time RT-PCR Diagnostic Panel Emergency Use Authorization on March 31, 2020, further expanding testing options and capacity for labs in the United States. Promega Viral RNA sample extraction solutions, ranging from manual to high throughput, provided options for clinical labs processing samples in a time of unprecedented demand on public health labs. Promega custom manufacturing supplies critical reagents that are part of 15 COVID-19 diagnostic tests marketed by other diagnostic manufacturers.

OncoMate™ MSI CE IVD became available to the European market in March of 2020. This new molecular diagnostic tool enables labs to determine microsatellite instability status in tumor tissue, an important step in diagnosing and treating cancer patients. Until 2015, MSI testing was part of a workflow to determine if a patient tumor was hereditary, enabling relatives to have preventive testing. More recently, in addition to hereditary tumor testing, MSI Dx Analysis System status is recognized as a key factor

Clinical Diagnostics

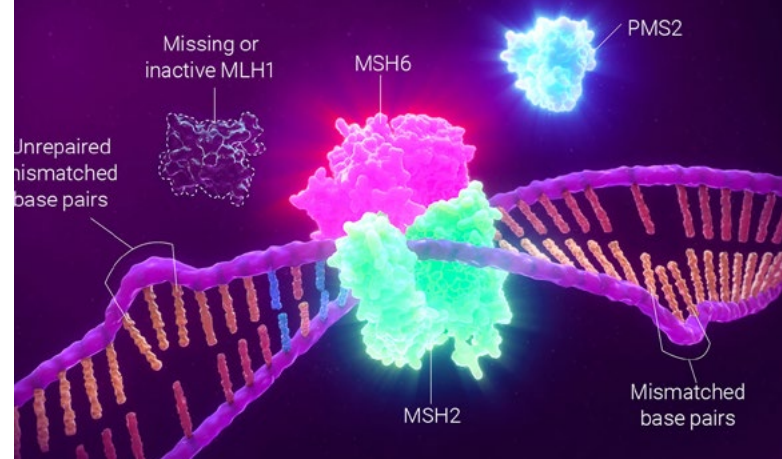
SUPPORTING TAILORED TREATMENT WITH TUMOR CELL TESTING

Promega first developed the Microsatellite Instability Analysis (MSI) system over fifteen years ago, but the advent of immune checkpoint inhibitor therapy has revealed new applications for the technology. Tumors with defects in the expression of functional mismatch repair (MMR) proteins often have somatic mutations that produce “foreign” proteins that can be detected by the immune system. As a result, these tumors are effective at priming an immune response and subsequently susceptible to immunotherapies. MSI analysis can identify the presence of mismatch repair (MMR) deficiency, and thus predict a positive response to immunotherapies such as immune checkpoint inhibitors.

In late 2019, Promega announced a global collaboration with Merck to develop the Promega MSI technology as an on-label, solid tumor companion diagnostic (CDx) for use with Merck’s immune checkpoint anti-PD-1 therapy, KEYTRUDA® (pembrolizumab). KEYTRUDA®, like other immune checkpoint inhibitors, works by activating the body’s own immune system to identify and attack tumor cells. The Promega MSI technology was used in clinical trials to identify tumors that were likely to respond to this type of treatment. The global collaboration will initially seek regulatory approval for the Promega OncoMate™ MSI Dx Analysis System in the United States and China. Plans to seek approvals in additional territories may follow.

In March 2020, the OncoMate™ MSI Dx Analysis System (OncoMate™ MSI) also received CE marking as a new in vitro diagnostic (IVD) medical device in Europe.

Promega’s research-use-only MSI technology has been validated in labs around the world to characterize solid tumor MSI status. As scientists understand more about the biology of MSI-high tumor cells, even more tailored and effective therapies can be developed against tumors expressing the MSI biomarker.



in determining if patients are eligible for a new and effective class of oncology drugs, PD-1 inhibitors, that are having dramatic results in extending the lives of late-stage cancer patients. In November of 2019, Promega signed a global companion diagnostic development agreement with Merck to further develop the OncoMate MSI assay as a companion diagnostic for Keytruda, a PD-1 inhibitor. Clinical trials are underway in China for this indication.

Medical Affairs

Accelerating the impact of research on the practice of improving human health and well-being is the highest priority for the Medical Affairs team. Our dedicated team of scientific experts focuses on providing technical and scientific support to the clinical research and healthcare communities around the world.

Medical Affairs plays a critical role in the interchange of scientific and medical knowledge as it relates to patient care. We engage with key scientific leaders and clinicians to provide perspective and input on the evolving needs for medical information, education and support of new product development efforts.

From infectious disease to oncology, impactful science and emerging resilience tie Medical Affairs to our global community.

INVESTMENT IN INNOVATION

To sustain our contributions to scientific exploration and application, Promega invests in the development and discovery of new technologies. In 2019, over 11% of total revenue was allocated to research and development. Research is not solely focused on the development of new products; our Advanced Technology Group and a group funded by the Federal Government perform basic research.

Our growing investment in innovative research resulted in 79 new patent filings in 2019, bringing our intellectual property library to over 434 granted patents and 206 pending patents. Promega research scientists had 21 scientific papers published in the last year. We also work with academic institutions and other entities to license and develop promising technologies.

Patents

Issued and Pending Applications



QUALITY PROCESS AND PRODUCT

Promega Corporation has a long history of supporting our customers with high-quality products, services and information. Promega Madison, WI, USA, was first certified to International Organization for Standardization (ISO) for quality management systems in 1998, and our commitment continues with our current ISO 13485 and ISO 9001 certifications. The ISO series of quality management system standards are developed and maintained by the International Organization for Standardization. An organization achieving ISO certification has demonstrated to a third party that the organization meets all requirements of the standard and has implemented a quality system capable of developing, manufacturing, testing and delivering high-quality products around the world. ISO certification assures our global customers that Promega is committed to quality and has established reliable and effective processes. ISO certification exemplifies commitments to our customers, to our business, and to all those who rely on and benefit from the use of our products. Currently, 16 Promega locations around the world are certified to meet the requirements of ISO 9001, ISO 13485 or both.

In February 2016, ISO 18385:2016 was published as the first international standard specific to the forensic manufacturing community. In 2017, Promega became the first major forensic manufacturer to achieve third-party certification of the published ISO 18385 standard to minimize the risk of human DNA contamination in products used to collect, store and analyze biological material for forensic purposes. Promega products manufactured in alignment with the ISO 18385 standard include a “Forensic Grade” certification logo.

GOING ABOVE AND BEYOND FOR OUR CUSTOMERS

I am so thankful and proud to work for Promega and with such amazing co-workers! We received a call from a clinical lab late yesterday afternoon, after our corporate office had closed. The lab was in a pinch with clinical samples to run on their Maxwell® AS3000 Instrument. Their external computer had crashed, and they could not get the replacement computer to connect to the instrument. They had pending patient reports that they needed to release to clinicians and needed to run additional samples today, on Christmas Eve. Team members from multiple departments globally connected late into the evening to begin the troubleshooting and devised a plan to help this lab before Promega closed for the holidays. I visited the lab the next day to trouble-shoot on-site with the remote support of several Promega team members. We were all taking time away from family Christmas eve celebrations. After trying multiple different things over several hours, we were able to access the patient sample run data files and print them to pdf per their SOP. One of the runs was a viral screen of a child pending results. The lab was able to move forward per their SOP and release the results to the doctors. The level of support this lab felt from Promega was astounding. We were literally jumping for joy when we were successful. They are back in business and will be running samples through the holiday. The gratitude and joy the customers and I felt were awesome. Promega co-workers truly are a family and a support network that can always be relied on! This would not have worked without everyone's input and tenacity.

— Amy Parman, Sr. Regional Manager
with gratitude to Rebecca Roberts, Brian Leininger,
Jessica Rossol-Allison, Promega Korea, Promega Australia



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

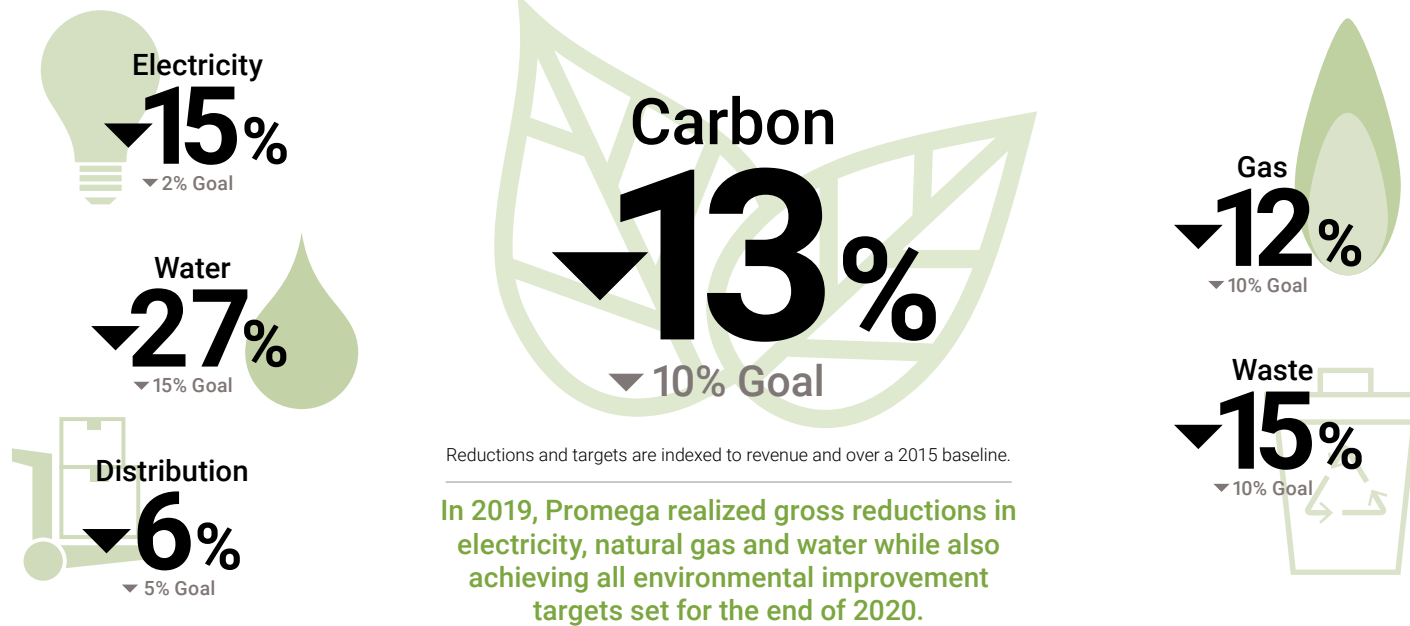
In 2019, Promega realized gross reductions in electricity, natural gas and water while also achieving all environmental improvement targets set for the end of 2020. As indexed to revenue, we have seen carbon emissions reduce by 13% and water use reduce by 27% since 2015. These accomplishments are thanks 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 CO₂ Per Million USD

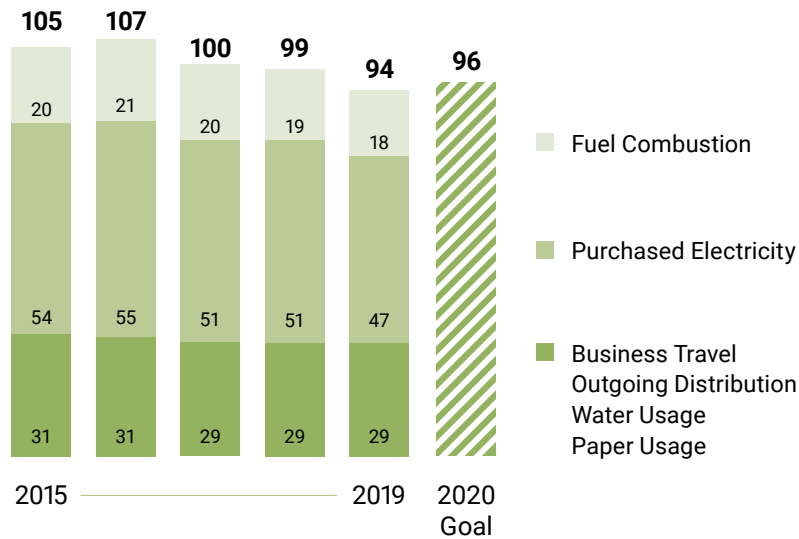
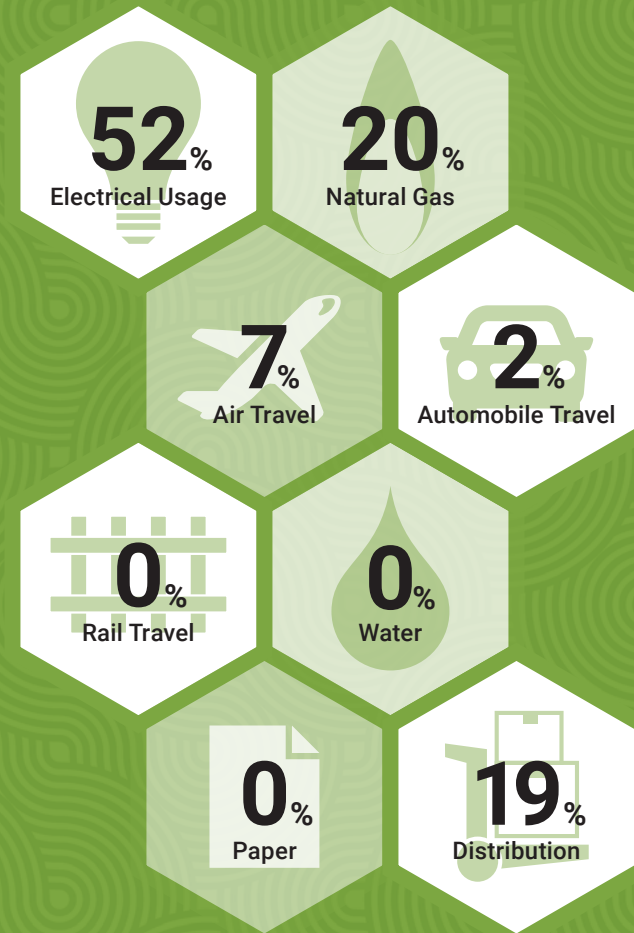


Figure 1. Global carbon footprint as indexed to revenue has reduced by 13% since 2015. Carbon is calculated from fuel combustion (scope 1), purchased electricity (scope 2), and business travel, outgoing distribution, water usage and paper usage (scope 3).

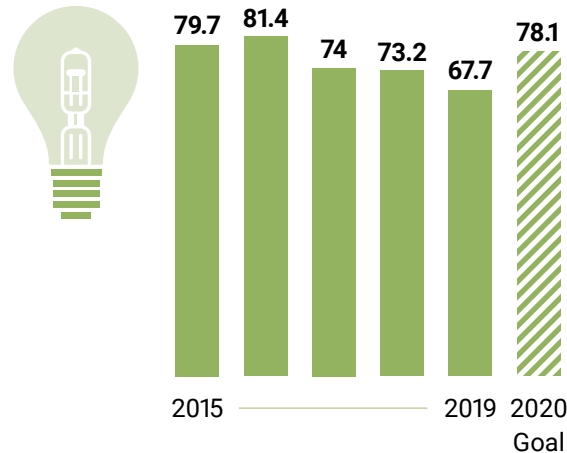
Global Carbon Footprint Composition



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

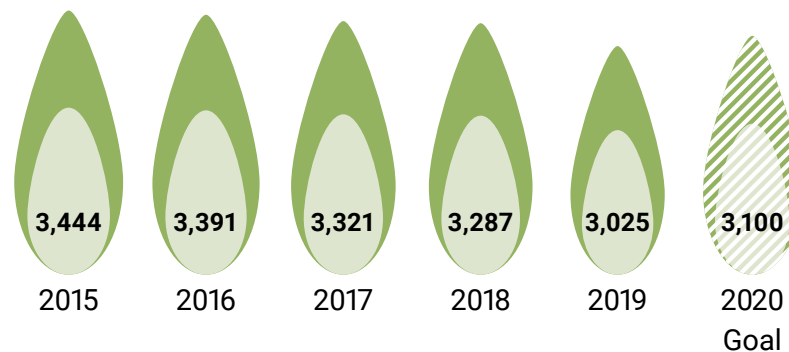


Figure 4. Natural gas usage as indexed to revenue.

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 1,700m² (18,000 ft²) 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 m² (150,000 ft²), 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 m² (287,000 ft²) 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 m² (158,000 ft²) 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.

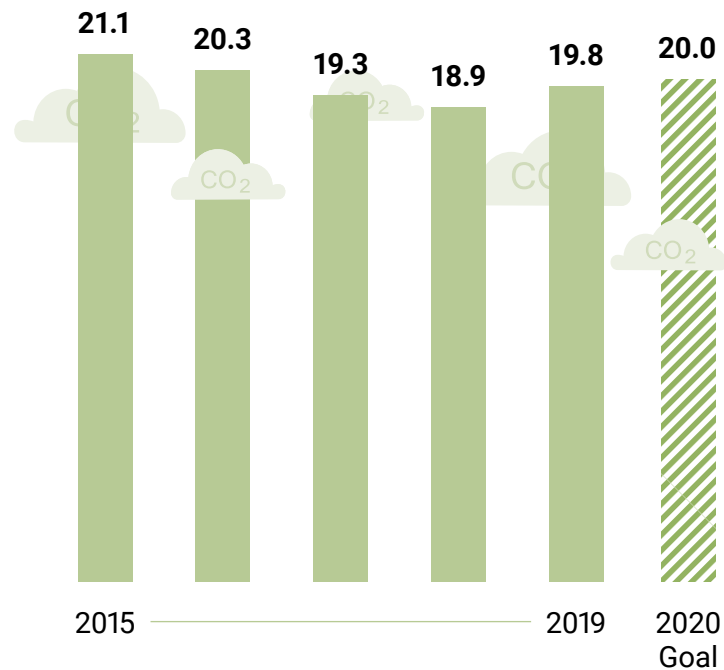
To understand the indirect emissions from outgoing shipments, data was collected from Promega-owned global distribution hubs on weight, distance and mode of transportation.

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 CO₂ 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:

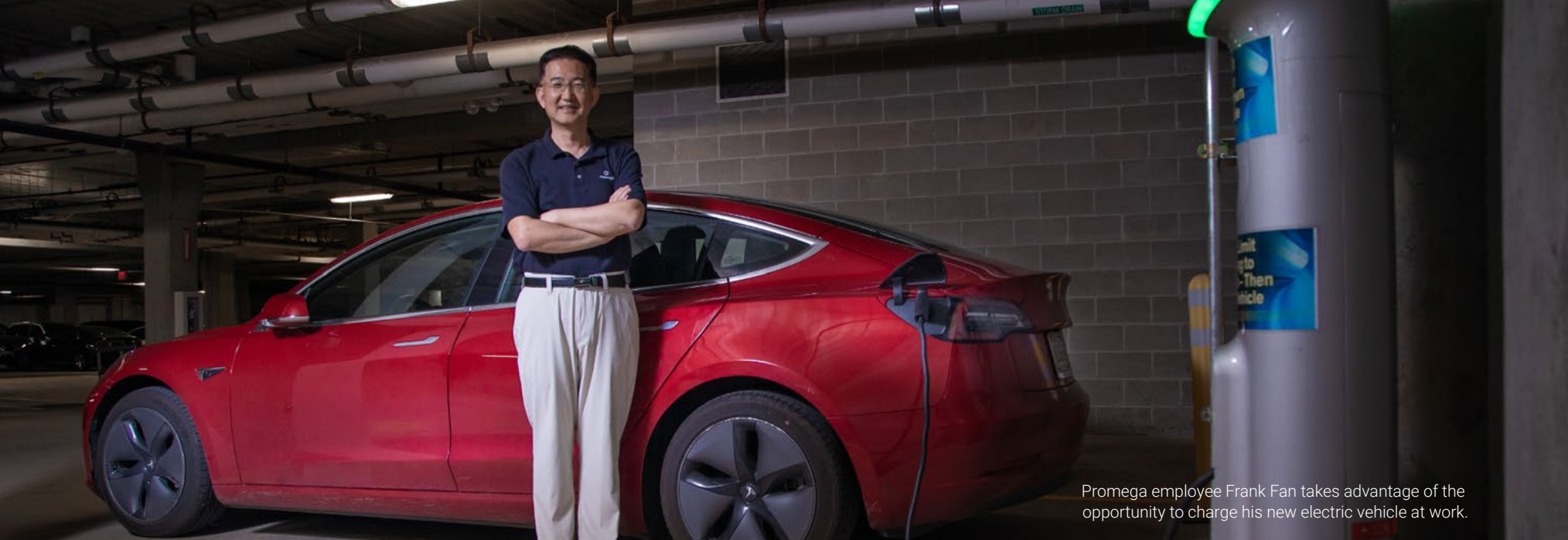
- Blandin Improved Forest Management Project in Minnesota, United States
- Rimba Raya Biodiversity Reserve REDD+ in Indonesia

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



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+

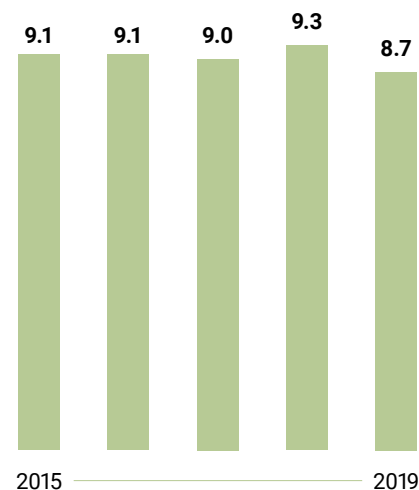
Carbon offsets are another strategy used to mitigate emissions from unavoidable travel. Since 2009 we have offset over 3,000 tons of CO₂ from automobile travel in North America through the Emkay GoGreen program. Our North American branch also elected to offset emissions from air travel with over 550 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 CO₂ 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

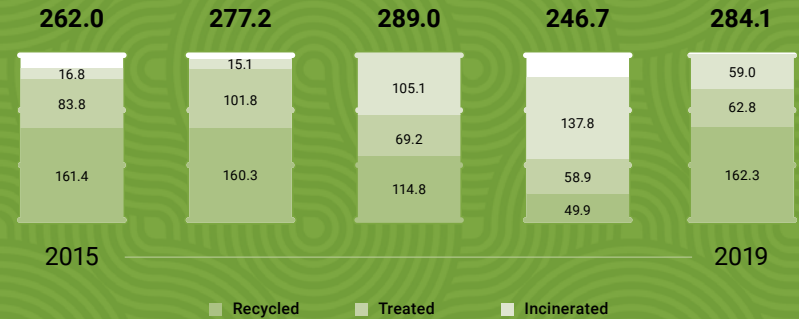
Minimizing Waste

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.

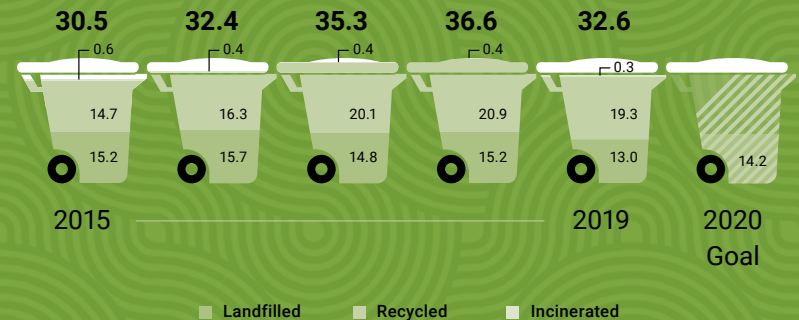
Hazardous Waste

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.

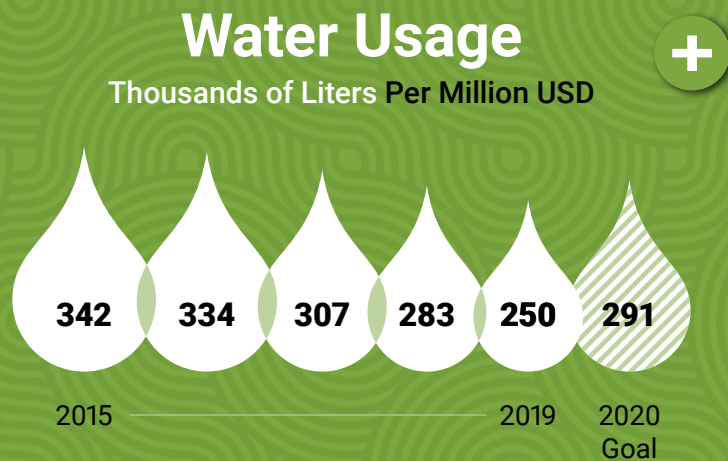
“Company-wide, around the world, we’re continually looking for ways to reduce the environmental impacts of everything we do. Every improvement is shared, celebrated, and motivates us to keep looking for better ways of doing things.”

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.



People Care



Employees celebrate the opening of the new Promega UK facility in 2019.



Promega is so much more than a place to work. It is a family where we all support each other to be our best selves. We are blessed with a culture of giving and going the extra mile just because it's the right thing to do. Promega provides the opportunity to create *a different way of working and being.*

DARBIE MILLER

Director, HR Organizational Development

People Care

Promega provides the opportunity and space for employees to grow as individuals and professionals. Our culture nurtures creativity, prioritizes emotional and physical well-being, and emphasizes self-actualization. Employees are given flexibility in how they work, and we acknowledge the individual differences of each employee. Our 19 worldwide locations provide support in ways that meet the specific needs of each region and encourage employees to achieve a balance of work-home integration. We live the notion that every one of our employees has the potential to make a meaningful difference. And they do.



The team at the Promega Europe Training and Application Lab (PETAL) enjoys some bowling.



Promega employees in the field.

NURTURING EMPLOYEE CREATIVITY, GROWTH AND SELF-ACTUALIZATION

Feeling fulfilled is crucial to our development as humans, and realizing our personal potential means we grow and strive to achieve our true capabilities. As a company, Promega provides a work environment and culture that offers each employee the opportunity for individual development and to build meaningful relationships with one another.

The Promega Culture

The psychology of the organization—our “cultural DNA”—provides a foundation through which company principles and operations are shaped. For us, these principles include:

1. Nurturing creativity, self-discovery and individual growth, creating an environment where the unique contributions of each employee are embraced.

2. Believing that both people and companies can self-actualize, and that growth at either level lifts the other into realizing their greater potential.
3. Structuring a culture that reinforces the idea that all stakeholders (customers, employees, community and shareholders) can find growth and transformation through:
 - a. Organizational reporting that provides for easy collaborative communication across and at all levels of the organization.
 - b. Decision-making that is shared among the group, not controlled, and the organization remains nimble because people in key nodes are empowered to act, having considered all voices.
 - c. Physical work environments, including design, lighting, communication systems and access to information.



Promega BioSystems in Korea visited Jeju Island to celebrate its anniversary and the production of over 500 Maxwell® Instruments last year. Teams stayed active by surfing, paddle boarding, fishing and horseback riding.

- d. Resources that employees need to do their best work.
 - e. A financial structure that supports organizational goals and values for personal development. Economic metrics provide guidance on sustainable business practices but are not the only drivers for business decisions.
 - f. Selection and support of employees entering the organization who reflect our values.
4. Contributing to life science research and related discoveries have been and will continue to be important to society and human development by designing and supplying products, systems and services that simplify this research and give more reliable and accurate results.

We seek employee feedback in annual climate surveys and monthly employee sessions to understand employee happiness and engagement. Feedback from the survey in 2018 highlighted that employees feel they work in a collaborative environment, are proud to work at Promega, enjoy the people they work with, and find their work to be meaningful.

2019 Climate Survey Top Ten

| Question | Positive |
|--|----------|
| I work with great people. | 99% |
| I'm proud to work for Promega. | 98% |
| I have a reasonable work schedule. | 97% |
| Promega has an overall good reputation in the community. | 96% |
| I have the tools and resources to do my job. | 96% |
| I have an intimidation-free and harassment-free workplace. | 96% |
| I work in a collaborative environment. | 95% |
| I'd recommend Promega to my friends. | 95% |
| My manager is approachable. | 94% |
| I have a boss with high integrity. | 94% |



Creative workspaces invigorate and inspire employees.

Creating Workspaces to Inspire

As a business based on creative output and employee satisfaction, Promega prioritizes environmental quality and stimulating experiences in the workplace. Invigorating spaces come both in the design and variety of space offerings. Key components of workspaces include abundant light (natural light whenever possible), a variety of art and comfortable, warm furniture. The variety of spaces gives employees the opportunity to work in a creative “third space,” exercise, meditate or grab a bite to eat. Throughout Promega, there are opportunities to discover stories, history and whimsy.

Employees are engaged in the design of new space and the renovation of existing workspaces to improve functionality, ergonomics and foster group collaboration. This process considers all aspects of a space, including types and quality of lighting, sound levels and air flow. Additionally, customizable workspaces for employees encourage collaboration.

Architecture and design that “brings the outdoors in” encourages an appreciation of natural beauty. For example, our new facility in Germany incorporates an extensive array of indoor plants and trees to add life and warmth. Locations globally use local resources, art and culture to provide comfortable, functional and unique work environments. Our priority is to create environments with an attention to detail that is inspiring, flexible and aligned with the needs of employees.

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Cultivating Emotional and Social Intelligence (ESI)

To foster a supportive and dynamic work environment, Promega embraces the principles of emotional and social intelligence (ESI). ESI helps employees improve relationships, manage stress and enhance connections. The components of the ESI program include 1:1 and group coaching, daily guided meditations, formal trainings and company-wide initiatives. Beyond strengthening our ESI skills, these programs bring employees together in ways that are both professional and personal, thereby strengthening our community.

To date, over 200 employees have attended our flagship program, the ESI Bootcamp. The ESI Bootcamp is an immersive experience that gives participants the time, space and support to focus deeply on learning and integrating the building blocks of ESI.

As the number of employees actively participating in ESI activities grows, we have continued to expand and deepen our programs with the fundamental goals of seeding and anchoring ESI widely throughout the business. A first cohort of Promega employees has now engaged in a job enrichment, train-the-trainer program called the Advanced Practitioner Training (APT), which makes ESI a formal part of the APT graduate's role. Through dedicated Communities of Practice, these employees refine and share best practices and come to serve as listeners and advisors to each other on journeys of personal and professional growth. We have also engaged Promega employees to act as ESI Teaching Assistants who are first tasked with deepening their own understanding of the topics they will teach. In so doing, their ESI Building Blocks courses come alive with personal stories, making ESI more real and tangible to fellow employees. People from all walks of Promega life report that our shared ESI language allows us to connect and evolve in response to challenges in ways that are more satisfying and effective.



Promega KK actions to support employees on their ESI journey included scratch art cards and 'body scan' meditations.

"I am participating in the most rewarding and exciting project of my career—embedding Emotional and Social Intelligence (ESI) deeply and broadly throughout Promega. The tremendous leadership support; the unparalleled enthusiasm of the entire Promega team; and the capacity of an open and resilient organization to learn and integrate new ideas quickly, yet still with heart, has produced a culture that can stand as a role model for businesses everywhere."

Tim Weitzel
ESI Architect



Employees at Promega KK in Toyko connect and cultivate their emotional and social intelligence skills



The team at Promega Biotech Ibérica in Spain take part in leadership training

PROVIDING PERSONAL DEVELOPMENT AND GROWTH FOR EMPLOYEES

Promega takes an innovative approach to employee development that focuses on a series of conversations to recognize employee strengths and encourage growth based on employee passions. Since growth starts from the inside, we have shifted from the more standard manager-driven review process to one that starts with the employee. More and more departments use a conversational approach that facilitates individual development plans, personalized growth goals and a listening session to understand what our talent needs to keep them with Promega.



Leadership Training and Employee Development

Professional development programs like Coaching for Leaders, Leadership Forum, Transformational Leadership, Leadership Conversations and Manager Roundtable programs support managers at all levels. Individually targeted leadership development is available on site, or with external or training partners. In addition, organizational development services include talent management resources, personality and leadership assessments, coaching and consulting. Initially these programs were limited to North America, but they have expanded to our branches in Italy, Sweden, France, BNL, Spain and UK in the last year.

Employee development sessions are available for all employees and currently include Seeking & Receiving Feedback, Influencing without Authority, Conflict Management and much more. Due to overwhelming popularity, the number and diversity of programs increased in the last year. Two sessions on Coaching for Individual Contributors were added



Employees have added a sticker with the Principles of ESI to the back of their badge to help remind them to 'check in with yourself' and 'listen with empathy' throughout the day.



Training at PETAL (Promega European Training and Application Laboratory) in Lyon, France.

in 2019 for 45 attendees and 75 people on the wait-list before the 2020 sessions were even advertised. These on-site programs are facilitated by Human Resources team members or external training partners.

“I am so grateful for this mind-bending experience. I made “To Do” notes to myself during the progression of the day-long event, and followed through with expanded attitudes and directed actions, built upon the course’s concepts. I feel I’ve been changed for the better in many wonderful ways.”

KATHARINE HOFFMAN

Senior Scientist in Response to Coaching for Individual Contributors



Scientific Training

The Scientific Training team designs, develops and implements product and sales trainings for employees around the globe, which are delivered in live and virtual classrooms. Live courses are available in Madison, WI; Lyon, France; and Singapore to address the training needs of employees globally. These facilities also incorporate video conferencing equipment for scientists and trainers to participate from off-site locations.



English Classes for Employees

Our branches in Korea, Japan, and Germany offer employees English lessons to improve communication across the company and with clientele. These efforts help employees access the resources they need to advance their career.



Promega Italia celebrating their move to a new office space in 2019.



Promega Australia celebrating their 35th Anniversary on the water in Sydney.



Our Japanese team on a trip to Hokkaido to build connections with their colleagues and appreciate the natural beauty of the region.



Employees across Promega let loose to 'The Git Up' Challenge in 2019.



Colleagues at Promega France play bocce ball on the courts outside their office.



Promega AG from Switzerland visited the Aletsch Glacier, the largest glacier in the Alps, on a company outing in August 2019.



Managers at Promega Biotec Ibérica participated in the DISC personality assessment training program to facilitate the communication process between different departments.



Employees at Promega headquarters who are musically inclined have joined forces to create the band "Lead Generation." For over a decade, employees ranging from scientists, marketers, IT specialists, and administrators have come together to share their talents.



Promega Korea celebrated their 10th anniversary by visiting Namsan Hanok Village or "A Village of Traditional Houses in the Namsan Valley" to appreciate Korean history and reflect on their successes.

INTRODUCTION

CORPORATE MIND

PRODUCT REACH

PLANET AWARE

PEOPLE CARE

COMMUNITY TOUCH

ADDITIONAL INFO

BUILDING RELATIONSHIPS AND CONNECTIONS

We cultivate an environment of connection among employees so strong bonds can be nurtured and extend through the company to our families and community. From team-building activities to employees joining together to share in hobbies, strong relationships are the foundation of what we do.

Eppendorf Exchange Program

For Promega's 40th anniversary, we received a generous gift from a friend in the industry: Eppendorf. The teenage child of any Promega employee was given the opportunity to visit an Eppendorf family in another country, and in return host the Eppendorf family's child in their home. The goal was for both children to experience another culture and build a relationship with each other.

In 2019, 11 Promega children bid good-bye to their parents, hopped on a plane, and flew to Germany. There they would stay for three weeks or more with a family they'd never met. For all involved, it proved to be a valuable and positive learning opportunity.

“The change in the way I view the world, a more artistic and abstract view, will serve me well in school and life as I move forward. Before I took this trip, I was told that it would change my life. I never realized how true that would be.”

EPENDORF EXCHANGE PARTICIPANT



Teenage children of Promega and Eppendorf employees spent the summer of 2019 experiencing each other's countries and cultures.

PROMEGA WELLNESS BY THE NUMBERS: 2019

774

KNOW YOUR NUMBERS
PARTICIPANTS



1,600

WELLNESS CENTER VISITS

381

FUN RUN
REGISTRANTS



20

FITNESS CLASSES/WEEK

PHYSICAL THERAPY APPOINTMENTS

1,674

142

ACUPUNCTURE
APPOINTMENTS

768

NUTRITIONAL AND MENTAL
HEALTH COUNSELING
SESSIONS ADDED IN 2019



FLU VACCINES ADMINISTERED

530

290

EMPLOYEE MESSAGES
AT THE ZEN ZONE

250+

WELLNESS FAIR ATTENDEES

4

NEW YOGA INSTRUCTORS
ADDED IN 2018
WITH A TOTAL OF

8

YOGIS

Biopathways

A new event, called Biopathways, was offered for junior-high and high school children of Promega employees in 2019. This was our take on “Bring your child to work day,” allowing children the chance to learn about their parent’s company and expose them to the multitude of careers revolving around science. We want the future generation to be excited about what they can do in this industry and give them insights that can proactively help them turn an “undecided” degree into something they are sure of.

PRIORITIZING EMPLOYEE HEALTH AND WELL-BEING

Promega takes a multifaceted approach toward employee well-being. Physical health and wellness start with safety but expand to include fitness and health care facilities, wellness programs and benefits packages.

Employee Safety

Employee health and safety is a high priority. Environmental Health and Safety programs are committed to establishing, maintaining and improving work environments for the safety and well-being of our employees as well as the communities in which we operate.

Resources and Benefits That Support Employee Wellness

Promega employees are offered comprehensive benefit packages based on country standards. These programs typically include medical, dental and vision coverage as well as a competitive 401(k) plan and flexible spending accounts for health care. Short- and long-term disability insurance, life insurance, tuition assistance and paid time off are also provided to ensure the well-being of our employees and their families.



“Emmy has been instrumental in helping me transform my life and get healthy. I started working with her last February... She recommended a new diet for me, helped educate me on what to eat, what to avoid, and how to balance it. And, she helped motivate me to start exercising regularly, and the right way. Since working with her I’ve lost 30 pounds and have gotten my bio numbers back on track. Her expertise, along with Promega’s great workout facilities, have given me the opportunity and motivation to get healthy.”

— Michael Bjerke, Sr. Product Manager, Promega

Wellness Center Offerings

The Wellness Center located at our Madison, WI, headquarters provides all employees on-site health consultations and counseling, which is available five days a week. Services include routine blood draws, travel and routine immunizations, consultations for general health concerns, physical examinations and physical therapy. In 2019, Promega added a licensed professional counselor and a registered dietician to the Wellness Center Staff, offering free consultations to all employees. Counseling services can help a variety of needs like anxiety, depression, nutrition or navigating career and workplace challenges.

Health Assessments with ‘Know Your Numbers’

Each year Promega employees are encouraged to participate in the Know Your Numbers program, which provides a free basic health screening for those interested in participating. Employees obtain a finger-stick test and meet with our Nurse Practitioner the same day to review their results. This program is offered every year and aims to help employees understand what health risks they might face. These diagnostic indicators can help employees formulate a plan around lifestyle changes they can make to prevent or delay the onset of certain diseases such as diabetes and heart disease. In 2019, 774 employees participated in this program.

Supporting Employees During Times of Need

Caregiver Leave was made available to Promega employees in the US for the last few years. Employees can use two weeks of paid time to care for aging parents, ill spouses, children with medical needs, or time off to bond with a newborn or newly adopted child without sacrificing their own paid sick leave or vacation. Nearly two hundred employees have used this program since it was offered.

Encouraging Active Lifestyles

A multitude of options are made available to employees so that they may develop healthy and active lifestyles supported by Promega at our headquarters and across the globe. Many locations offer on-site fitness facilities, yoga classes and group fitness instruction. Some branches also offer reimbursement for health club memberships and support for participation in sports or competitive events like marathons or triathlons.



Promega received a Health Transformation Award from The Alliance in recognition of our Caregiver Leave as a progressive benefit offering in 2019.

Promega C25k

Each year Promega challenges employees to train for the annual Couch to 5k program, which provides new runners the education and training support to complete a 5k race.

“I am grateful to work for Promega because the way of thinking is different, and my experiences have made me a stronger, more relaxed and empathic person.”

NICOLAS SCHAFER

Clerk Export & Spoke Support, Promega Euro Hub

Promega Annual Fun Run/Walk 5k

The 10th Annual Promega 5k Fun Run/Walk encourages employees to stay active and collects donations for the local food bank. In 2019, the team collected 565 pounds in addition to monetary donations.

Eating Well, Living Well

Employees have access to fresh and local produce from our on-site culinary garden at the Madison, WI, location. Thousands of pounds of produce are harvested annually from the garden and, in conjunction with over three dozen local farms, are used to create healthy and organic menus across the campus. Employees may also select their own plots within an on-site community garden so they can exercise their own green thumbs. An additional way Promega supports employees is with take-home meals provided by the culinary team at Promega.

1. Employees at Promega Biosciences in California played dodgeball as part of a fundraiser for Big Brothers and Big Sisters.
2. Employees from Promega Shanghai took part in a cycling event to encourage employees to bike more. Seven employees participated with three in the team competition group winning third place.
3. Employees at Promega Biotech Ibérica participate in sporting events like Carrera Internacional de la Ciencia to support the scientific community and stay active.
4. The culinary team at Promega uses fresh and local produce from the culinary garden and local farms to create healthy and organic menus.
5. Employees from Promega Italia participated in Wanderlust, dubbed 'the world's only mindful triathlon' featuring a 5k run, 75 minutes of yoga and a 25-minute guided meditation in an outdoor setting. This gathering looks to spread love, peace, and compassion.
6. Employees at Promega Singapore participate in the Annual Fun Run.
7. The team at Promega India participated in Airtel Delhi Half Marathon to stay active and help raise funds for charitable work in India. Over 40,000 people participated and raised the equivalent of 65 million USD.
8. Our team at Promega France has added honeybee hives at their office in Lyon to help safeguard the bee population and educate employees on how to maintain a hive. An added benefit has been the ability to harvest fresh honey for employees.



1



2



3



4



5



6



7



8



Community Touch

Promega was a Gold Sponsor for the Wisconsin Science Festival interacting with thousands of children on school field trips about the science of bioluminescence.



I am amazed by the open hearts of the people at Promega. They have a *genuine desire to make a difference* in communities around the world by educating and inspiring young minds, volunteering their time, and donating to causes they are passionate about. There is an innate awareness that we all rise by lifting others up.

STEPHANIE SHEA
Employee Giving Coordinator

Community Touch

In communities across the globe, Promega employees find meaningful ways to make a difference. They connect directly with their local communities to identify volunteer and philanthropic opportunities, empowering them to work with organizations they care about. After all, they are most familiar with the unique needs of their own communities and the most effective approaches to address those needs. They seek to better the world in the distinctive ways that match their unique skills and bring meaning to their lives.

Promega celebrates this passion and supports a culture that catalyzes employee involvement through policies such as volunteer time-off and matching gifts.




Promega Corporation and branches in Spain, Singapore, France, Switzerland, Germany and the Netherlands support the International Genetically Engineered Machines (iGEM) competition. Learn more about this and other efforts to give back in the Community Touch section.

There is an overall sensibility that not only encourages but actively backs the unlimited potential of employees who put action behind ideas for how they, their team, or the company as a whole, can engage meaningfully in the world. On a global scale, each branch and manufacturing location has the autonomy to focus on the unique needs of its community through an integrative and authentic approach to provide support at a local level.

On a broader scale, Promega continues a level of corporate giving that contributes to the advancement of science for improving life in the global community. Our giving is inspired by the components that fuel this advance, which includes science, education, and creativity.

SUPPORTING SCIENCE AROUND THE WORLD

to change the world for the better

 In 2019, Promega continued to support students participating in the **International Genetically Engineered Machines (iGEM)** competition as a Partner Sponsor of the iGEM Foundation. This annual competition encourages education, collaboration and the advancement

of synthetic biology as multidisciplinary teams of high school and university students from around the world design, build, test and measure a system of their own creation using interchangeable biological parts and standard molecular biology techniques.

■ In addition to sponsoring the iGEM Foundation, Promega awarded \$2,000 in reagent sponsorships to ten international teams competing in the 2019 iGEM competition. Promega branches and distributors in Spain, Singapore, Germany, Japan, Israel, France, Switzerland, North America and the Netherlands sponsored additional teams. Promega also provided technical support and three iGEM-exclusive webinars to all iGEM teams globally in 2019.

■ The nonprofit **Revive & Restore Catalyst Science Fund** identifies and develops advanced techniques for genetic rescue and brings new tools to conservation work benefiting endangered species and threatened ecosystems. Promega launched the fund in 2018 with a 3-year pledge of \$1 million annually. Designed to hasten impactful innovations in conservation that enhance biodiversity, the fund supports early-stage,



transformative bioscience research and proof-of-concept projects that can be applied to a variety of high-value, high-impact conservation challenges. A key barrier to the adoption of genomic solutions by the conservation community is the lack of success stories. The Catalyst Science Fund aims to support the work that results in these innovative scientific solutions.

In 2019, the Catalyst Science Fund grew from one project the year before to eight projects. Areas of focus include Genomic Insight, Synthetic Alternatives, Restoring Diversity, Facilitated Adaptation, and De-extinction. While most projects are focused on a single species, the purpose of each project is to catalyze biotechnology developments that will be useful across species and applications. Learn more at: reviverestore.org

■ The **Marine Biological Laboratory (MBL)**, founded in Woods Hole, Massachusetts, in 1888, is one of the largest nonprofit biological laboratories in the world and is an affiliate of the University of Chicago. MBL attracts a diverse population of over 500 trainees from more than 300 institutions and over 30 countries. Course directors and faculty are leaders in their fields, drawn globally from leading universities and research institutions. The Promega Discovery Fund, established in 2013, supports the MBL Education Department in offering highly competitive, discovery-based courses and research programs, as well as providing tools and technologies. Promega scientists also work on-site to assist students during summer courses. Promega provides additional monetary support for the MBL Director's Vision Implementation Fund to ensure the institute's future growth. Learn more at: MBL.edu

The Catalyst Science Fund, managed by Revive & Restore and supported by a \$3M contribution from Promega, funds projects that are using cutting-edge biotechnology and genetic tools to rescue endangered species. One of the first grants from this fund was awarded to the lab of Dr. George Church at Harvard University for its project to synthesize the genome of a strain of Elephant Endotheliotropic Herpesvirus (EEHV).


EEHV can be fatal to young Asian elephants, a vulnerable species declining in population. The virus causes rapid onset, often fatal hemorrhagic disease and is even known to thwart breeding programs in zoos. In fact, some estimates suggest that EEHV is the cause of death for at least 25% of Asian elephants.

Research on EEHV has struggled because existing methods for culturing viruses have not worked with EEHV. The inability to study the virus to understand how it interacts with its host hampers efforts to pursue possible vaccine strategies or screen for effective antiviral compounds.

George Church, an American geneticist, molecular engineer, and chemist, is widely recognized for his innovative contributions to genomic science. The Church Lab plans to synthesize the genome of the virus and transfect it into cultured elephant cells. If the cultured cells successfully produce EEHV viral particles using the synthetic genome, then the system can be used to propagate EEHV and help researchers find more effective methods for treating and preventing the infection in Asian elephants.




Dr. Haitao Li (left) and Dr. Guanghui Liu (right) received The Promega Award for Biochemistry, given to innovative researchers in China.

 In 2019, Promega Spain won the **iGEM Voluntades** award given for our commitment to mentoring young scientists. Our branch in Spain supported an innovative group of students who coordinated a research project that demonstrated the close relationship between the start of metastasis (malignant growths) and palmitic acid (a common fatty acid found in animals). The iGEM team was awarded with VIP access to Promega Spain's technical services department, products that were free of charge to conduct the experiments needed, and a visit to the Promega Spain office to receive training and professional development on the latest molecular biology topics and technologies.

■ The **Promega International Scientific Internship Scholarship** supports undergraduate students at the University of Wisconsin-Madison

who are undertaking an international internship aimed at using science to improve the quality of life in the world. Students from all scientific fields are eligible but preference is given to those whose internships use molecular biology techniques. Students must be based in a country other than their own and cannot be in a country where the recipient has already spent significant time. The scholarship is awarded annually to four students.

 Established in 2013, the **Promega Award for Biochemistry** recognizes important collaborations in the study of stem cells by innovative researchers in China. Promega grants the award annually in partnership with the Chinese Society of Biochemistry and Molecular Biology (CSBMB). Two researchers were honored in 2019, Dr. Guanghui Liu from The Institute of Zoology at The Chinese Academy of Sciences, and Dr. Haitao Li from Tsinghua University School of Medicine.

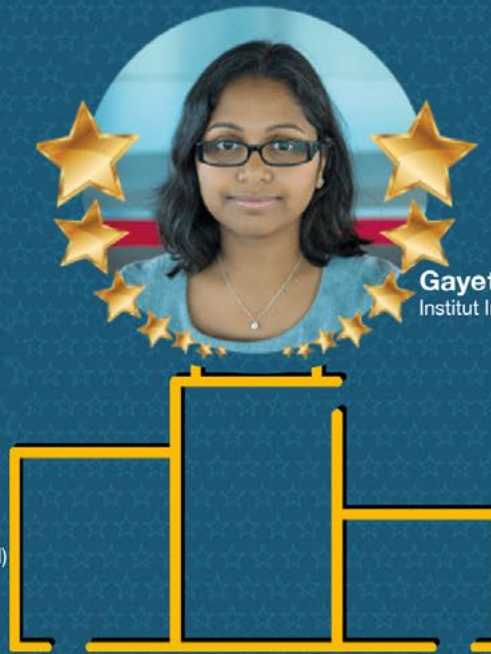
 Our Australian branch supports the **Lorne Genome Conference** each year with a student prize, which is awarded to a delegate enrolled in a post-graduate or undergraduate degree who, as first author, submits the best abstract for oral presentation. Over the years, the meeting organizers have consistently placed great importance on accessibility to students by offering several free student registrations when the supervisor registers, as well as making student travel awards available.

■ Celebrating its 40th year in 2019, the **International Symposium on Human Identification (ISHI)** has grown into the world's largest conference focused on technologies, policies and innovations in forensic DNA analysis for human identification. The annual meeting, launched and sponsored by Promega, draws 1,000 scientists, DNA analysts, law enforcement professionals, and legal and ethical experts from 40+

Prix National Jeunes Chercheurs



Alexis Porcher
Institut de Recherche en
Horticulture et Semence (IRSH)



Gayetri Ramachandran
Institut Imagine



Mélodie Dupré
IGEM

**FÉLICITATIONS
AU TRIO GAGNANT!!!!**

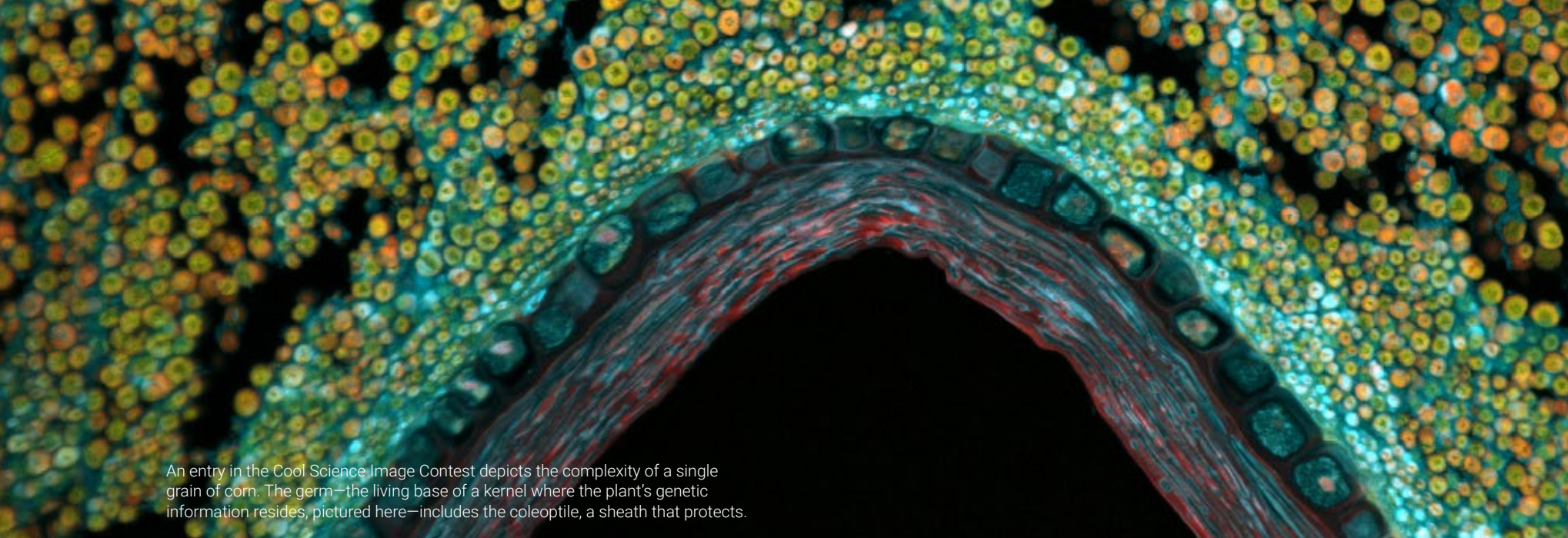
Programme Jeunes Chercheurs created by Promega France supports young researchers using Promega technology for innovative applications

countries to share knowledge through interactive workshops, presentations, case studies and scientific poster sessions. Many labs and industry agencies count hours attended towards continuing education requirements. ISHI is an inclusive forum open to all practitioners and suppliers of DNA analysis for human identification. Learn more at: ishinews.com

■ The **Wisconsin Science Festival** is a four-day statewide celebration that connects people of all ages with science, technology, engineering, art and math. Events at hundreds of venues across Wisconsin include hands-on science exhibitions, demonstrations, workshops, speakers and more. Promega was one of four Gold Sponsors for the 2019 “Curiosity Unleashed” Festival and participated in the two-day Discovery Expo

at UW-Madison, interacting with thousands of children on school field trips about the science of bioluminescence.


■ **Programme Jeunes Chercheurs** or Young Researchers Program is a competition offered by Promega France that rewards the best scientific articles that discuss using Promega technology and highlight an innovative application. The winner gets a trip to the United States for a conference and a visit to Promega Headquarters to meet with the R&D team. The winner this year was Gayetri Ramachandran from the Imagine Institute Paris.



An entry in the Cool Science Image Contest depicts the complexity of a single grain of corn. The germ—the living base of a kernel where the plant's genetic information resides, pictured here—includes the coleoptile, a sheath that protects.

■ Technical Services Scientists from Promega Madison regularly visit local elementary and middle school classrooms to provide students with hands-on experience in molecular biology. In 2019, Promega scientists visited 53 classrooms in 16 Madison and surrounding area schools, where they helped 1,153 students extract DNA from strawberries.

■ The Promega Training Support Program gives instructors who teach courses using DNA, RNA, protein or cell-based techniques at the high school, undergraduate and graduate levels the opportunity to receive up to \$2,000 in Promega products to supplement their classes. For more information, visit: promega.com/training-support


 Scientists at Promega GmbH sponsor the **BlueGenes Project** that provides middle school students an early microbiology experience. Two basic molecular biology experiments can be completed with limited reagents and lab materials that the branch provides at a discount. Twelve schools participated in the project in 2019.

■ Is it science? Is it art? Yes. The **Cool Science Image Contest**, sponsored by Promega, acknowledges that images from microscopes, satellites, telescopes and other technologies are informative and can also be true works of art. The annual competition challenges students, staff and faculty at the University of Wisconsin-Madison to capture and share compelling science images. Winning artwork is showcased at Promega headquarters, the Wisconsin Science Festival, and UW-Madison web sites and communications.

“The Cool Science Image Contest, sponsored by Promega, acknowledges that images from microscopes, satellites, telescopes and other technologies are informative and can also be true works of art.”





Since 2016, Promega has organized the Beijing Bioassay Forum, which is part of the highly influential Chinese Pharmaceutical Association's Forum on Biopharmaceutical Characterization and Quality Control. Promega is one of the key contributors and organizers.

 In 2019, Promega Italy continued to refine an innovative initiative to support and connect with customers in meaningful ways. For the last three years, the Italy branch has facilitated a two-day course with Human Resources facilitators from Promega Madison leading **management training sessions** that focus on leadership conversations, as well as identifying strengths, motivators and challenges in oneself and team members. New this year, participants from multiple customers were invited to partake and share learning by having multiple viewpoints represented.

"The effort, craftsmanship and knowledge which I experienced was artfully delivered upon us in the training session. I received tools to become a better person and professional."

—MANAGEMENT TRAINING SESSION PARTICIPANT

 Promega Biotech Ibérica has partnered with the Universidad Autonoma de Madrid to offer a **Career Orientation** to help young scientists identify and prepare for career paths in biology. This program included practical courses in Biotechnological Applications with our latest luminescent technologies.

 Promega India collaborated with Forensic Science Laboratory Delhi to host the **Forensic DNA Profiling Workshop** as part of a skill development program. This workshop provided leadership tools to advance forensic science, foster interdisciplinary research, embrace new technology, nurture young minds and encourage collaboration in the scientific community.



Peju Okungbowa is a 4th grade teacher that received support from the BTC Institute to start a biotechnology club at The International School of IITA, Nigeria.

COMMITTING TO CORNERSTONE INITIATIVES

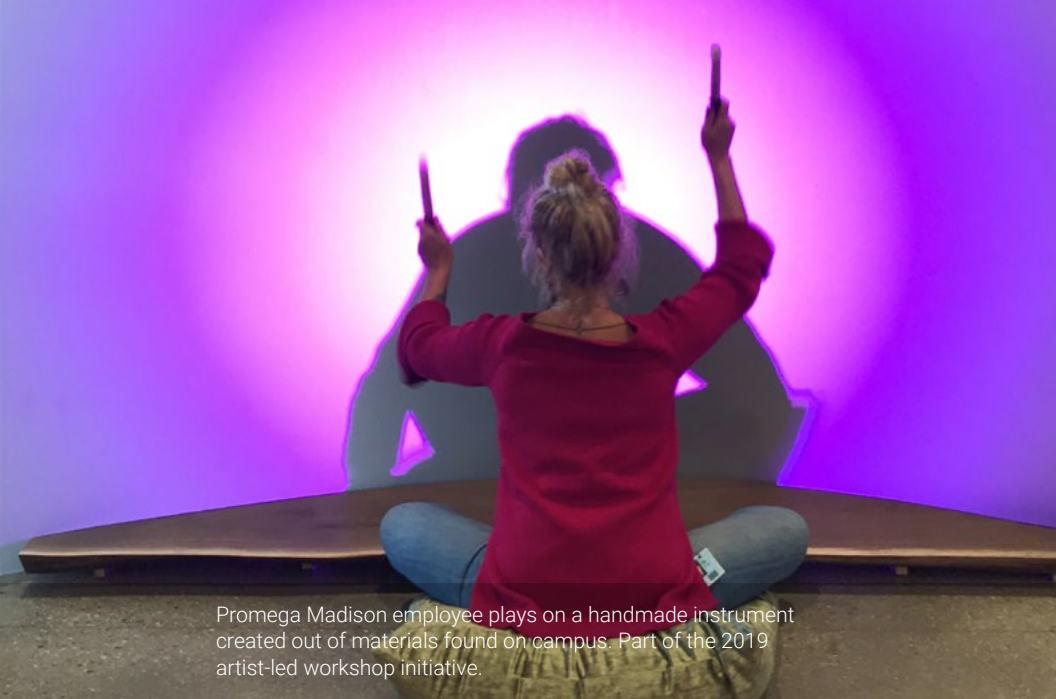
maintaining long-term, deep-rooted ties for meaningful outcomes

■ The **BioPharmaceutical Technology Center Institute (BTC Institute)** is a not-for-profit organization founded by Promega in 1993 and located on the Madison, WI, campus that provides educational, scientific and cultural enrichment experiences. Educational programs focus on the life sciences for a wide range of learners from upper elementary students to college and graduate students, as well as career scientists in academia, industry and the general public.

During the 2018–2019 academic year, approximately 3000 middle and high school students participated in the BTC Institute’s Biotechnology Field Trips program. Students and their teachers either visited BTC Institute labs for hands-on, molecular biology-based education or were served by an on-the-road program that brings BTC Institute teachers and lab activities directly to classrooms. In addition, 28 teachers participated in two week-long summer courses designed for middle and high school teachers to facilitate integration of biotechnology topics and techniques into their own classrooms. Teachers represented a wide range of educational settings including rural, suburban and urban. Learn more at: btci.org

“I have sent a proposal to my principal about starting a Biotechnology Club in January 2020 and it has been approved. We will also be starting a unit on Earth and Space in February and I will be able to explore the NASA resources with my students. I will be happy to share how these activities will go. Thank you for giving me the opportunity to teach a subject that I knew nothing about before summer 2019.”

—**PEJU OKUNGBOWA**, 4th Grade Teacher,
The International School of IITA, Nigeria



Promega Madison employee plays on a handmade instrument created out of materials found on campus. Part of the 2019 artist-led workshop initiative.



Hand-dyed lab coats were created during an artist-led tie-dye workshop. Over 70 employees participated and showed off their creations at the 2019 Spring Art Showcase opening reception.

Annually, BTC Institute hosts the International Forum on Consciousness, bringing together the worlds of natural and social sciences, and the Wisconsin Stem Cell Symposium in partnership with the UW-Madison Stem Cell and Regenerative Medicine Center. Learn more at: btci.org

“It’s very heartening to see this level of professionalism, scientific inquiry, and concern for furthering human well-being.”

– 2019 INTERNATIONAL FORUM ON CONSCIOUSNESS PARTICIPANT

■ **Woods Hollow Children’s Center** is located on the main corporate campus and serves Promega employees as well as families from surrounding communities. The nonprofit facility provides early childhood education and care for children 6 weeks to 10 years old and is fully accredited by the National Association for the Education of Young Children (NAEYC). Promega founded Woods Hollow in 1991 and has provided ongoing support ever since. In line with the company’s commitment to the long-term success of Woods Hollow, Promega completed a 9,300 square foot expansion in 2019 that included construction of additional classrooms

for after-school programming for school-age children and a gymnasium for indoor large-motor activities for all enrolled children. Learn more at: woodshollow.org

■ For many, science and art are often considered to be two different worlds, but scientists know that their work requires individual artistry, and artists in many ways understand the science within their art. For more than 20 years, Promega has hosted the **Promega Art Showcase** on the Madison, WI, campus that attracts hundreds of community members each year. The quarterly art shows feature the work of local and international painters, photographers, sculptors and artists in many other media. Professionally curated exhibitions free and open to the public offer both well-established and up-and-coming artists a venue for their work and provide opportunities for Promega employees and the surrounding community alike to explore diverse perspectives. Showcase-opening symposiums consistently attract hundreds of art enthusiasts. An annual Promega Employee Art Show supports a corporate culture that encourages creative expression. Learn more at: promega-artshow.com

In 2019, the Promega art program added a series of artist-led workshops for employee participation. Employees brushed up on their chemistry skills in a tie-dye workshop and helped Arizonan artist Joe Willie Smith build a functioning art-instrument out of materials found on campus.

“It was a more collaborative experience than I ever expected. It was fun to watch the artist truly learn and evolve his art through interactions with people & materials and by watching people interact with his art.”

–PROMEGA ART WORKSHOP PARTICIPANT

Hello PhD Art Contest for Creative Scientists was created to celebrate the creative side of the Hello PhD podcast listeners. Students submit their artwork for a chance to win a free trip to the Promega Employee Art Showcase in Madison.

Promega sponsors the Hello PhD podcast as a resource for young scientists and leads discussions covering all things related to graduate school and careers in science.

The Hello PhD podcast was started by Joshua Hall and Daniel Arneman, who met during their grad school admissions interview, and after “... countless conversations that helped guide their paths, they wanted to ease the way for students, postdocs, faculty and scientists who navigate these same hard questions every day.” For more information, visit: hellophd.com



2019 Hello PhD grand-prize winner, Aparna Shah, and her submission of “an image of an immuno-histochemically stained mouse brain slice acquired on a confocal microscope”.

ENGAGING IN COMMUNITY: SUPPORTING GLOBAL AND LOCAL INITIATIVES AND ORGANIZATIONS THAT ENRICH HUMANITY

Promega in Action is an opportunity for employees at Promega headquarters in Madison, Wisconsin, to use paid time to volunteer. Employees can apply for a grant of up to 40 hours to work for the charity or organization of their choice. In return, employees are asked to document their interactions and present their experiences and insights to their colleagues.

To date, 33 organizations have benefited from the Promega in Action program, including local programs such as Madison Area Food Pantry Gardens and global programs such as SizaBantwana in South Africa. Employees' involvement with these groups often does not end when paid volunteer hours are exhausted. Many continue to actively volunteer, as well as recruit others to the cause. Promega keeps an updated database of organizations where employees have served, and many employees who are not Promega in Action participants will do volunteer work for these causes on their own time.

To date, 33 organizations have benefited from the Promega in Action program, including local programs such as Madison Area Food Pantry Gardens and global programs such as SizaBantwana in South Africa.



Sarah Theos, a senior client support consultant at Promega Madison, applied for a volunteer service award through the Promega In Action program in 2018. Sarah's son was diagnosed with Chronic Recurrent Multifocal Osteomyelitis (CRMO) in 2016. Sarah used her time to co-found the CRMO Foundation, with the goal of building a collaborative research network for patients, caregivers and researchers working on CRMO.

In 2019, the CRMO Foundation is one of 30 patient-led rare disease foundations selected to receive a \$450,000 grant from the Chan Zuckerberg Initiative (CZI) Rare As One Program. One goal of CZI is to cure or manage all disease by the end of the century. This network will provide relationships and learning opportunities, enabling them to support infrastructure to build a self-sustaining patient-fueled, productive research network.

"The Promega in Action award was the catalyst that gave me the dedicated time to focus on helping start the foundation."

The CRMO Foundation will expand their CRMO patient registry so that the community can get a more accurate idea of the prevalence of CRMO, cause of the disease, natural history, and potential diagnostic tools and treatment options. The CRMO Foundation embodies how the Promega in Action program can reach far beyond a single act of community service; it can grow into a force that changes lives on an even larger scale.

2019 Promega-in-Action awardees donated their volunteer hours to the following organizations and programs:

- Agrace Hospice
- Bethel Horizons
- Dane Net
- Horizon Elementary
- Kandu Industries
- Leopold Community School
- Madison Area Food Pantry Gardens—Lacy Garden
- National Allegiance on Mental Illness (NAMI)
- Our Lady of Perpetual Help Catholic School—Scholastic Book Fair
- Science Olympiad
- Second Harvest Food Bank
- St. Vincent de Paul Food Pantry
- Three Gaits Therapeutic Horsemanship Center
- Wings as Eagles on Pine Ridge Reservation (Oglala Lakota nation) in SD
- World Hope Chicago (WHC) USA—Children in Haiti

For over 22 years, the Promega Madison Employee Giving Campaign has matched dollar-for-dollar employee charitable donations to Community Shares of Wisconsin and United Way of Dane County. Promega Madison was recognized by **United Way of Dane County** as a ‘Community Builder’ helping the non-profit raise more than \$18 million dollars from county-wide employee giving campaigns. Promega was also awarded The Seeds of Change award, which is presented to local businesses that show innovation, growth, and commitment to **Community Shares of Wisconsin**. Over the past 15 years, Promega and our employees have collectively contributed over \$717,000 to this non-profit.



Promega was presented the Seeds of Change Award for showing innovation, growth and commitment to community.

■ Promega leaders are lending their expertise to **Edgewood College** in Madison, Wisconsin, by serving on the school’s Advisory Council on Sustainable Leadership. Edgewood offers the first place-based, face-to-face social innovation and sustainability leadership MA program in the nation. The program teaches leadership that co-creates well-being “in ourselves, our workplaces and in our communities...”

■ Promega sponsors the Advanced Manufacturing Scholarship at **Madison Area Technical College** to support students training in advanced manufacturing technology and processes—skills vital to the future success and innovation of Promega as a biotech manufacturer.

■ The employee-led Community Action Team (CAT) at Promega Biosciences in San Luis Obispo, CA, works to support the growth of their local community in civic vitality, cultural richness, human welfare, environmental sensitivity, educational opportunities and providing for and protecting those in need. In 2019, CAT supported twelve local organizations through fundraisers and employee match requests including **Community Action Partnership of San Luis Obispo County, Jack’s**





Promega India was awarded with Udyog Ratan Award from Members of Parliament for providing economic development and betterment of the country.





The Promega Biosciences Community Action Team raised funds for a local humane society during Oktoberfest.

Helping Hand, and United Way. They also collected over fifty-five donations of blood and organized two road cleanups. Promega Biosciences offers all full-time employees four hours of paid time each month to use toward volunteer activities.

 Promega India was awarded with **Udyog Ratan Award** for outstanding contribution to the economic development and betterment of the country. The award was presented by Members of Parliament at The Constitution Club of India. Promega India has reached many milestones for excellence in corporate social and responsibility activities, in turn bringing new employment opportunities, making the nation healthier and safer through its innovative products and services.

 The Promega team in Korea organized a charity auction and bazaar to benefit their local community. Employees donated goods for the event to be auctioned off and the proceeds were donated to the **Korea Food for the Hungry International (KFHI)**. The donations enriched the lives of two families who needed support during the challenging winter season.

 The **Strongerthanever Challenge** is an initiative to inspire and  motivate (ex)cancer patients to implement sports into their lives as part of the recovery process. Studies have shown that athletic activities during and after treatments help patients stay physically and mentally fit. For the last four years, Promega Benelux has been one of the key sponsors of the Strongerthanever Challenge. Participants completed a sprint triathlon, which included a 750m swim, 20km of cycling and 5km of running.

“Working at Promega means growing and developing with a very innovative company that stands for progress and knows how to combine economic and social aspects. The cultural diversity and scientific inspiration make the company a place where people enjoy working.”

CAROLINE END, Product Manager, Promega Germany



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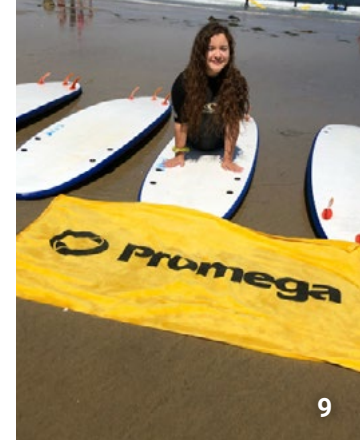
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INTRODUCTION

CORPORATE MIND

PRODUCT REACH

PLANET AWARE

PEOPLE CARE

COMMUNITY TOUCH

ADDITIONAL INFO

1. The Molecular Cellular Biology Reporters (MCBR) group built new hiking trails with the Madison, WI, based non-profit, Ice Age Trail Alliance.
2. The Scientific Applications group shelved and sorted donations at St. Vincent de Paul Food Pantry.
3. A Madison, WI, employee taught English to students in Haiti through the World Hope Chicago USA—Children in Haiti organization.
4. The RFC Protein Purification group benefited 2880 families through volunteer work at Second Harvest Food Bank .
5. Madison, WI, employees helped the Department of Natural Resources search for fawns to be tagged, collared, and biopsied for genetic tests.

6. Madison employees developed a new volunteer training program for Badger Prairie Needs Network food pantry.
7. Promega Singapore ran the JP Morgan Corporate Challenge benefiting Movement for the Intellectually Disabled of Singapore.
8. Inspiring young girls to be joyful, healthy and confident by integrating a running curriculum, a Madison employee coached a "Girls on the Run" team.
9. Dedicated to providing tools to empower young women to create meaningful lives through healthy choices, self-awareness, mindfulness, movement, camaraderie and community involvement, a Madison employee served as a Y-Strong Girl Mentor for Copley Price YMCA .



INTRODUCTION

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ADDITIONAL INFO

- 10. Promega France colleagues participated in the 2019 Courir Pour Elles (Run For Them) race to support the fight against women's cancers.
- 11. The Madison-based HR Team raised money for Big Brothers Big Sisters of Dane County by participating in Bowl for Kids' Sake.
- 12. R&D Protein & Nucleic Acid team's work at Second Harvest Food Bank equaled 2,772 meals.
- 13. Cell Manufacturing, MCBR, and Distribution teams packed 279,436 meals for Feed My Starving Children in Madison, WI.
- 14. Promega India participated in 'Splash' to support and encourage artistic ability in children with disabilities.

- 15. Operations Molecular Cellular Biology Reporters (MCBR) team picked up litter for "Adopt A Highway."
- 16. The Promega Madison Marketing team created cardboard couture for the Ready to Wear competition benefiting the Madison Reading Project.
- 17. One employee from Madison chaired the Royal Oaks School Community Organization's annual "Rocket Run" fundraiser.
- 18. Each year at the holidays, the employees at Promega Italia collect donations for Banco Alimentare della Lombardia, a food bank in northern Italy. The entire staff collects monetary donations and provides more than 40 kilos of food for babies and children.



Additional Information

Employees are encouraged to explore their creativity and self-expression.

2019 Report Parameters

Reporting on Promega Corporate Responsibility progress is completed on a calendar year basis with information in this report sharing results and actions from January 1, 2019, to December 31, 2019. This is the twelfth Promega report in this area following the initial report released in July of 2009. This process of reporting will continue annually in the future. Corporate Responsibility reporting attempts to focus on the environmental and social impacts of Promega operations worldwide using the framework established by the Global Reporting Initiative Guidelines and the principles of the United Nations Global Compact.

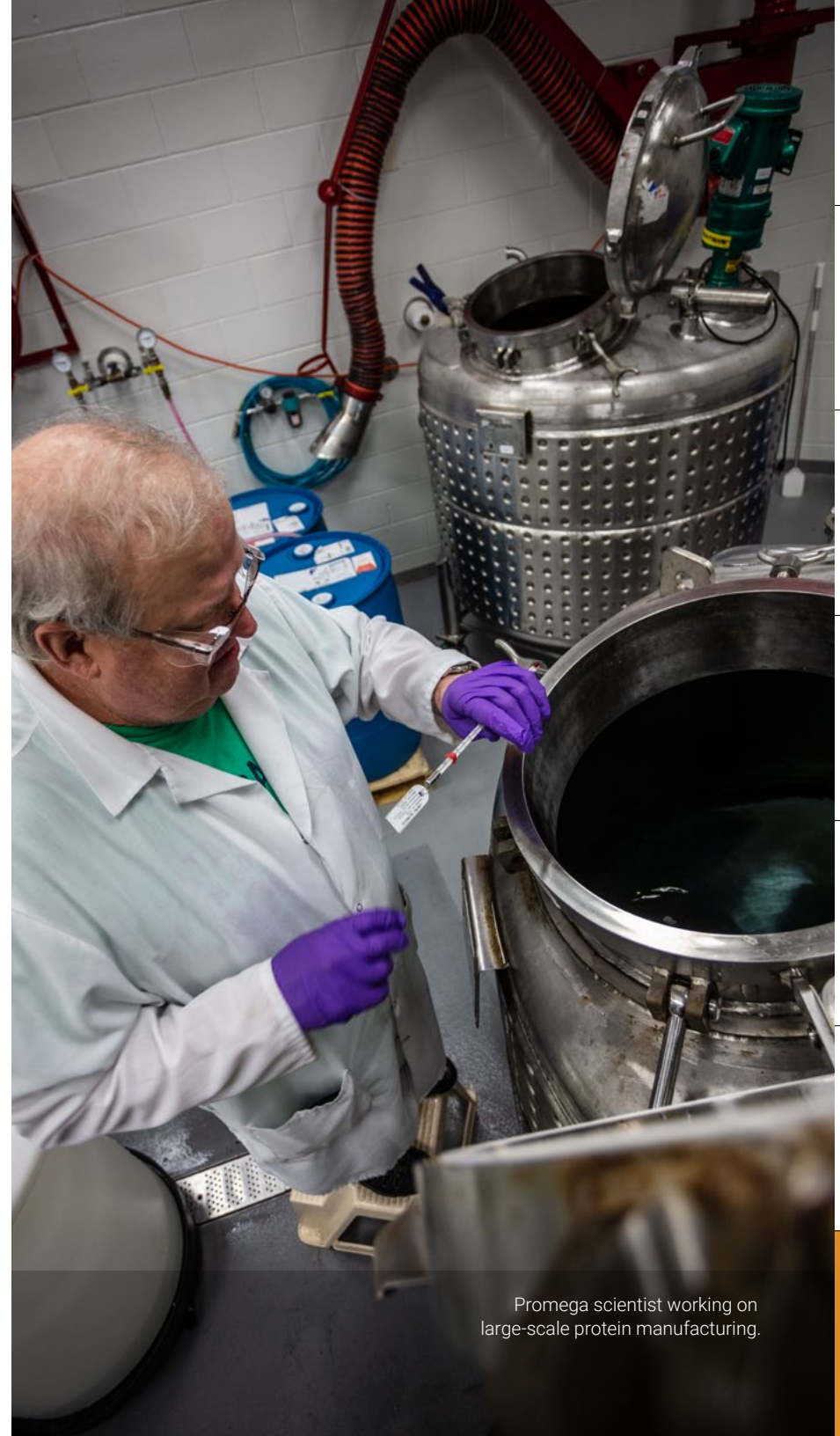
Information for this report has been gathered from all 22 Promega branch and subsidiary locations worldwide. Engagement with internal stakeholders has been focused on areas identified as key impacts or opportunities. Our current process captures information on a wide range of indicators but we recognize that there is still room for growth in the information we capture. In rare instances, additional or adjusted information for prior periods was captured resulting in slight variations from previously reported indicators.

Carbon footprint calculations have been made using emission factors provided by the World Resources Institute Greenhouse Gas Protocol on energy and business travel. Reported emissions from distribution were calculated with the conversion factors provided by DEFRA's 2019 Greenhouse Gas Conversion Factors and have incorporated the new methodology for emissions for air freight that include radiative forcing. Lastly, the Environmental Defense Fund's Paper Calculator has been used for calculating the life cycle impacts of our paper usage. Current and previous years' carbon footprints have been calculated using the most updated information and emission factors from the resources above.

Some sections of the GRI that were not covered in the report will be addressed below. In 2019 we had no incidents or issues in the following areas:

- Environmental fines or sanctions (G4-EN29)
- Incidents of discrimination and action taken (G4-HR3)
- Incidents of violations involving rights of indigenous people and actions taken (G4-HR 8)
- Legal actions for anti-competitive behavior, anti-trust, and monopoly practices (G4-SO 7)
- Fines and non-monetary sanctions for noncompliance with laws and regulations (G4-SO 8)

Please contact sustainability@promega.com with any questions on the Promega Corporate Responsibility Report.



Promega scientist working on large-scale protein manufacturing.

Key Indicators

| Economic | 2008 | 2015 | 2016 | 2017 | 2018 | 2019 |
|--|------------|-------------|-------------|-------------|-------------|-------------|
| Number of Employees | 958 | 1,381 | 1,440 | 1,483 | 1,601 | 1,696 |
| Building Footprint (Square Meters) | 66,991 | 101,722 | 104,601 | 107,241 | 107,941 | 110,685 |
| Number of Global Locations | 16 | 19 | 19 | 19 | 19 | 19 |
| Environmental | | | | | | |
| Greenhouse Gas Emissions (Tons of CO ₂) | 22,397 | 37,021 | 38,983 | 39,154 | 42,291 | 42,010 |
| Emissions Per Million in Revenue (Tons of CO ₂ /Million Dollars) | 111.1 | 106 | 106 | 99 | 99 | 92 |
| Emissions Per Building Footprint (Tons of CO ₂ /Thousand Sq. Meters) | 334.3 | 364 | 373 | 365 | 392 | 380 |
| Energy Consumption | | | | | | |
| Electricity (kWh) | 16,880,814 | 27,772,864 | 29,915,213 | 29,263,972 | 31,352,221 | 30,827,243 |
| Natural Gas (Therms) | 683,201 | 1,200,449 | 1,246,266 | 1,313,131 | 1,408,187 | 1,376,992 |
| Water Consumption (Liters) | | | | | | |
| Water Consumption (Liters) | 53,909,442 | 119,265,434 | 122,648,487 | 121,627,418 | 121,472,799 | 113,552,272 |
| Solid Non-Hazardous Waste (Cubic Meters) | | | | | | |
| Solid Non-Hazardous Waste (Cubic Meters) | 7,884 | 10,622 | 11,912 | 13,947 | 15,751 | 15,659 |
| Incinerated (Cubic Meters) | 249 | 214 | 163 | 162 | 174 | 133 |
| Land Filled (Cubic Meters) | 3,973 | 5,297 | 5,752 | 5,854 | 6,528 | 6,331 |
| Recycled (Cubic Meters) | 3,661 | 5,111 | 5,996 | 7,932 | 9,049 | 9,195 |
| Chemical Waste (Kilograms) | 65,950 | 83,949 | 92,444 | 104,104 | 94,099 | 117,127 |
| Infectious Waste (Kilograms) | 4,226 | 7,475 | 9,527 | 10,446 | 11,681 | 12,241 |

GRI Index

We are committed to transparent reporting on our environmental, social and economic performance. This report uses Standard Disclosures the Global Reporting Initiative (GRI) Sustainability Reporting G4 Guidelines. The following table has been developed to help users locate specific information in the report.

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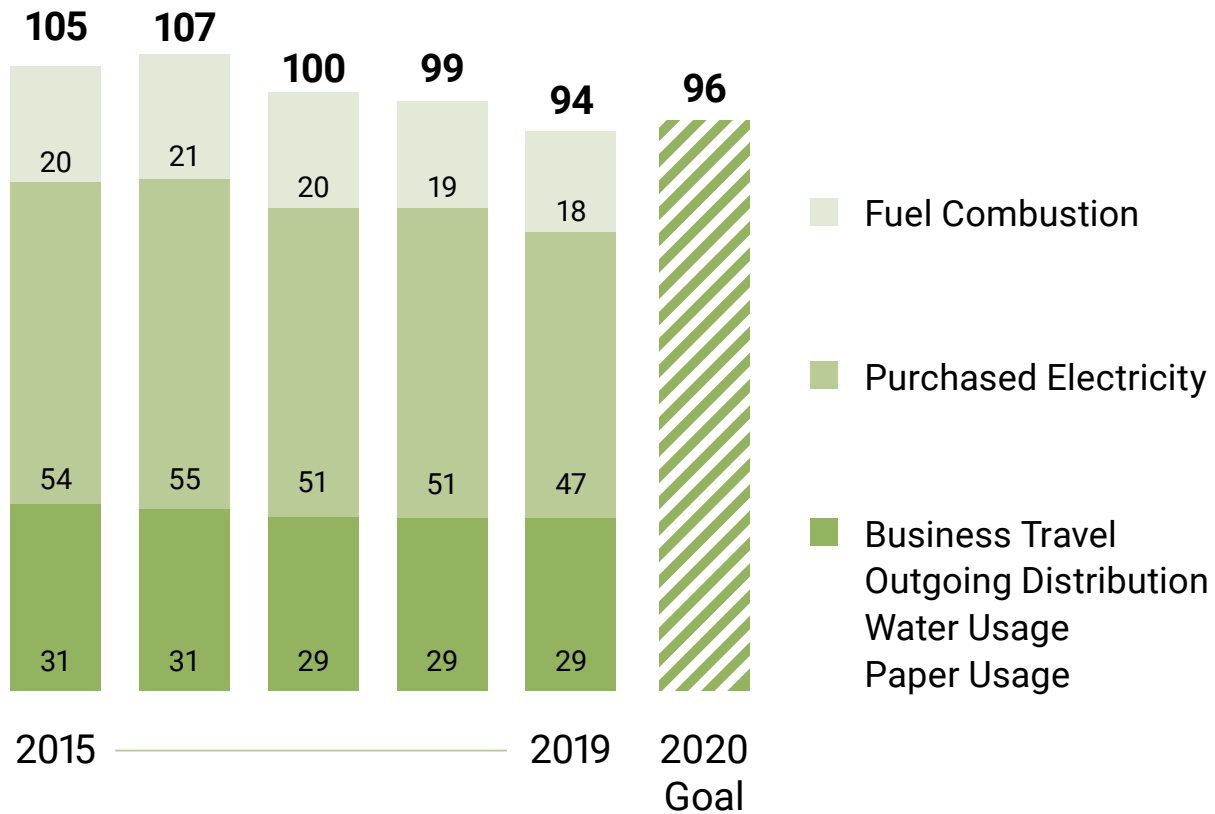
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Carbon Footprint

Tons of CO₂ Per Million USD



 **BACK**

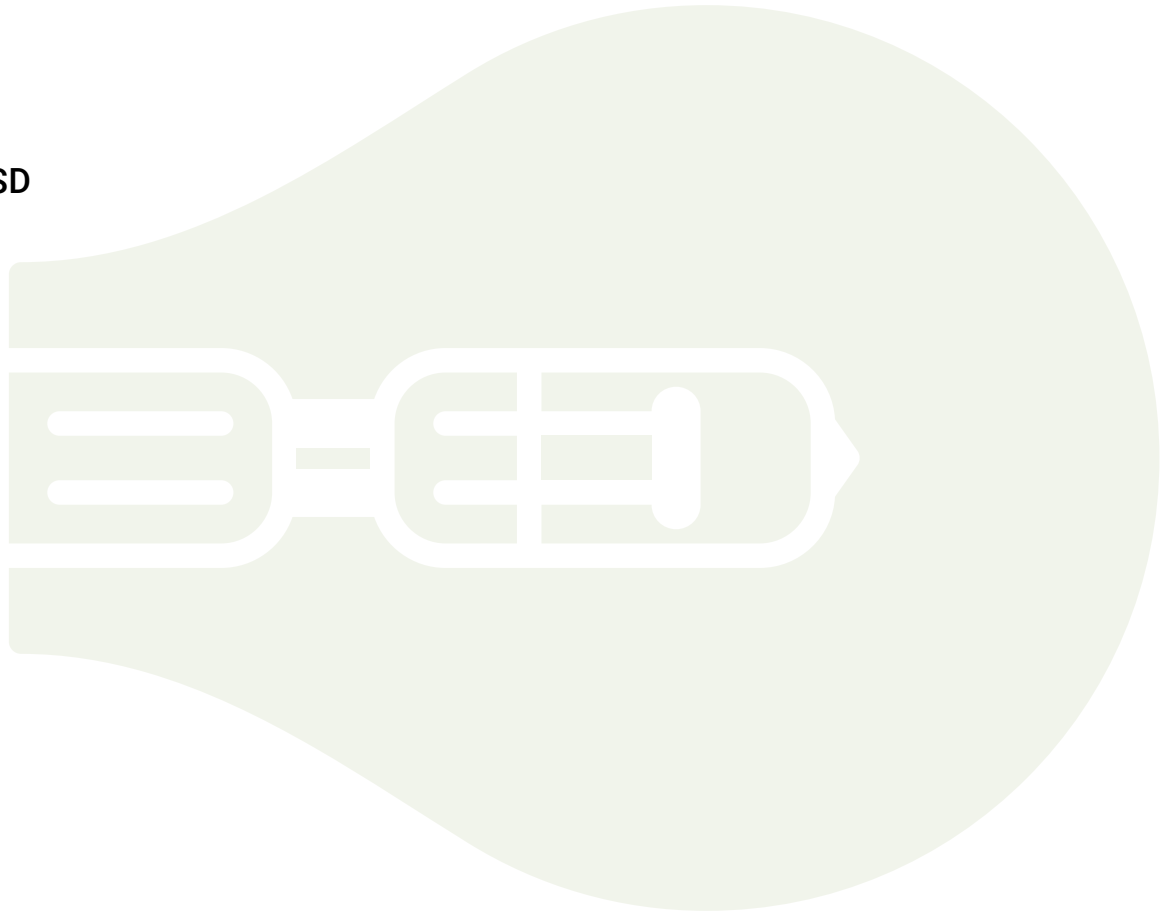
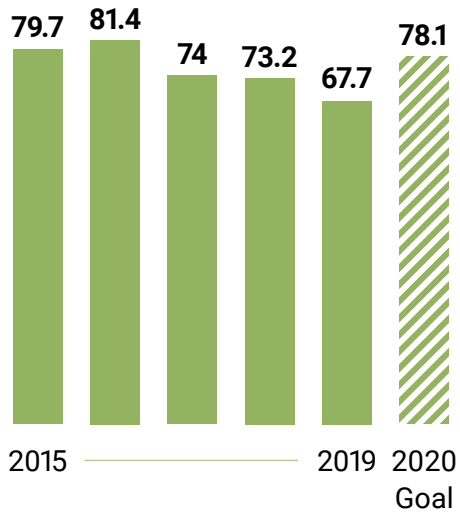
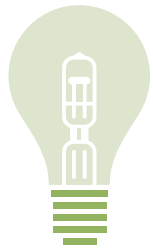
Global Carbon Footprint Composition





Electricity

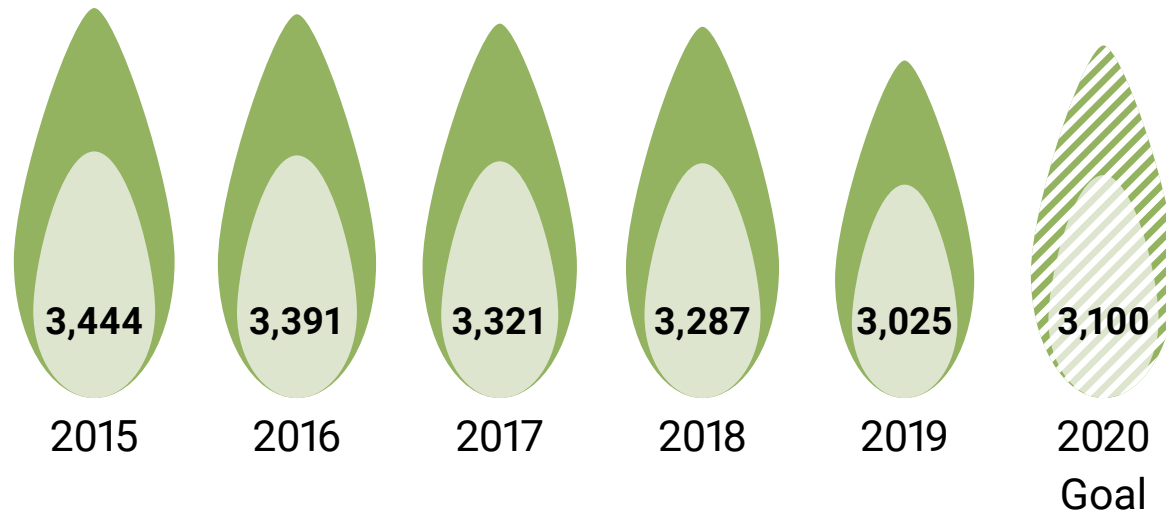
Thousands of kWh Per Million USD



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Natural Gas

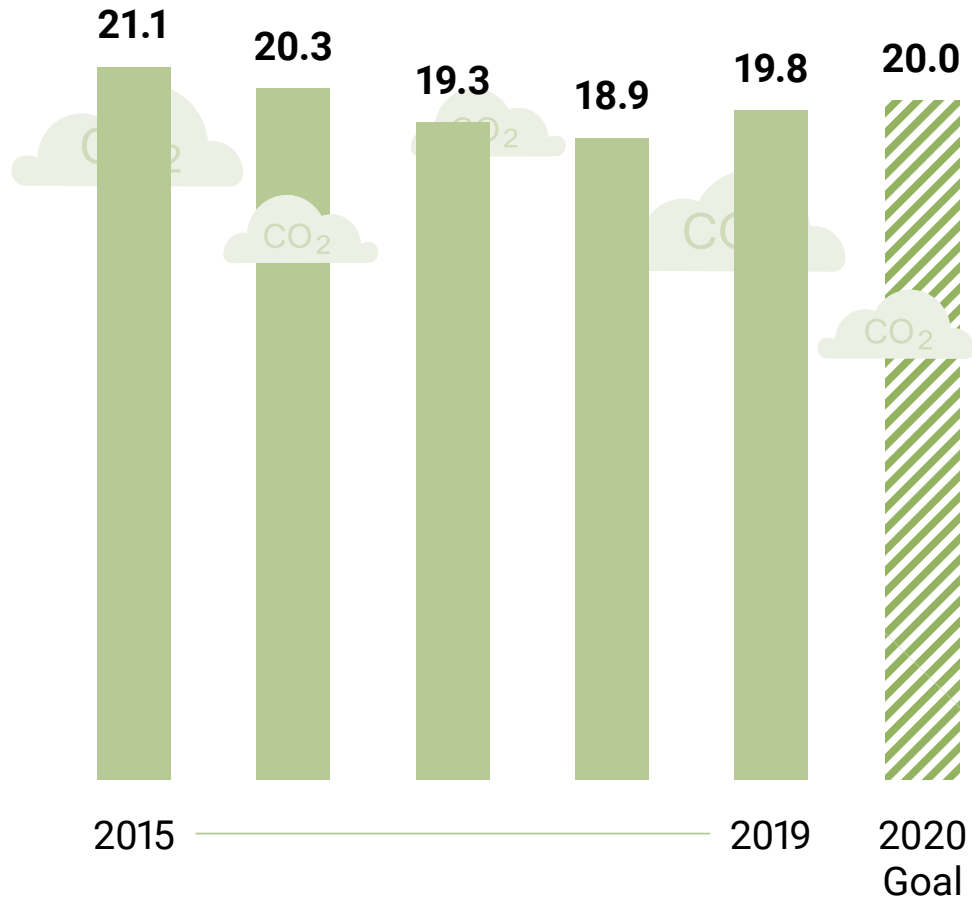
Therms Per Million USD





Distribution Emissions

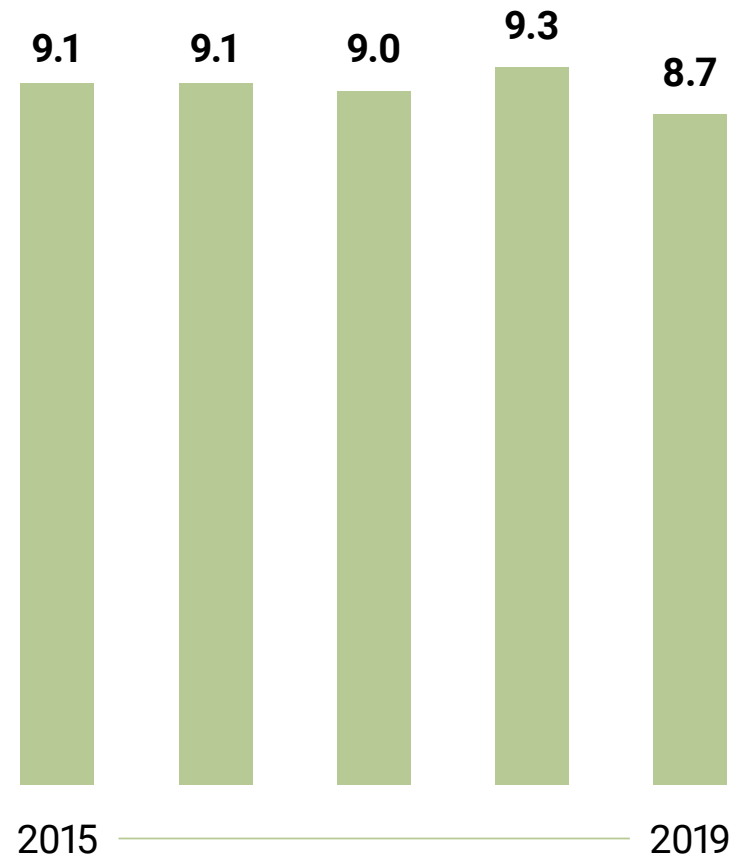
Tons of CO₂ Per Million USD





Business Travel Carbon Footprint

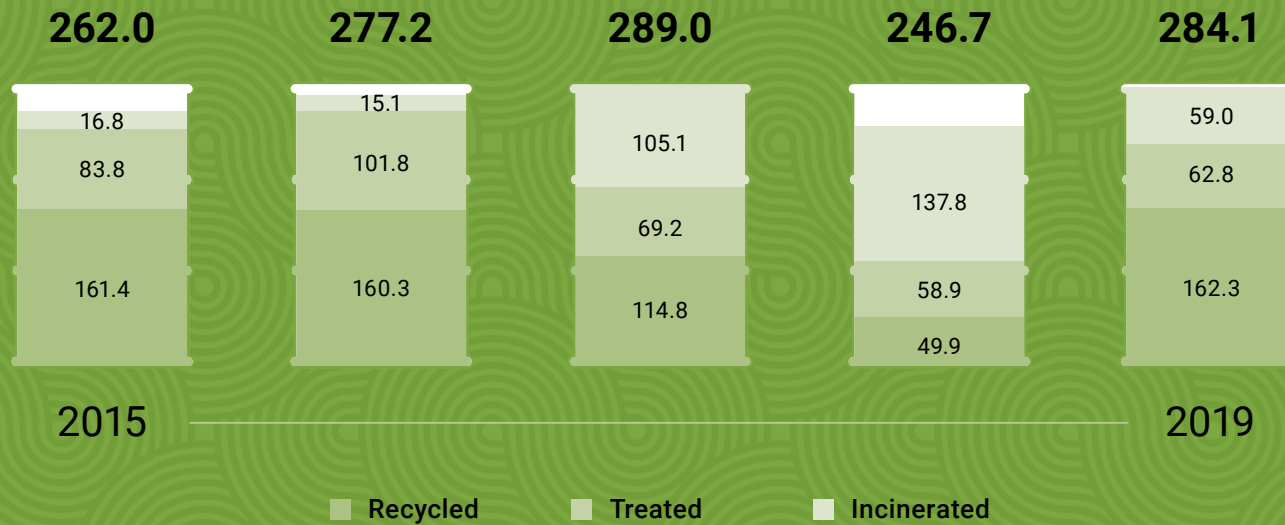
Tons of CO₂ Per Million USD





Hazardous Waste

Kilograms Per Million USD



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Non-Hazardous Waste

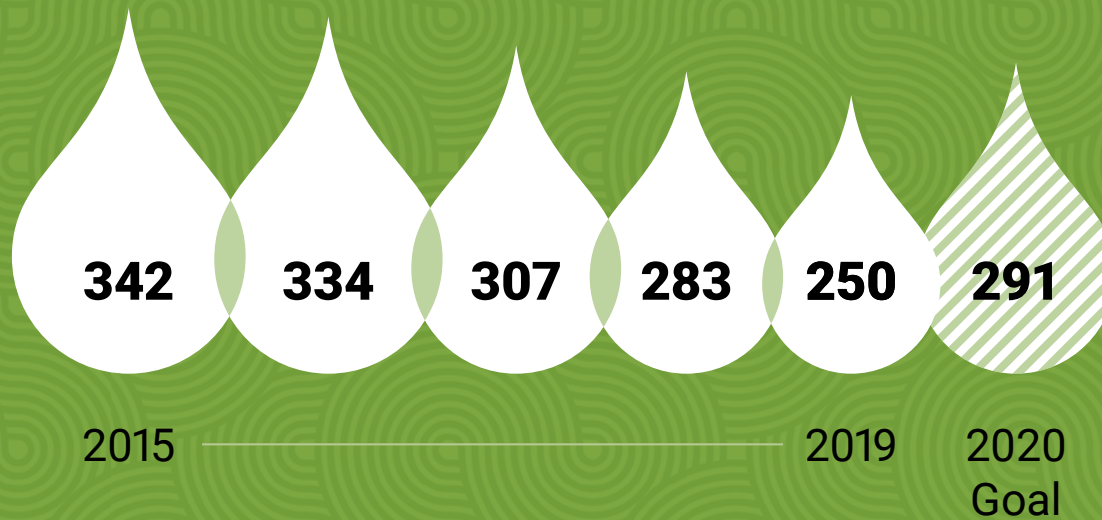
Cubic Meters Per Million USD



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Water Usage

Thousands of Liters Per Million USD





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