

CORPORATE SUSTAINABILITY REPORT WHAT WE DO MATTERS

BURNS  MCDONNELL

2018





Making change for the better.

Sustainability is deeply embedded within our firm's mission: making our clients successful. It boosts innovation, drives strategy and informs decisions as we design, engineer and build extraordinary projects around the world. We invest in the communities where we live and work, we support a healthier planet, and we reaffirm our commitment to each other as employee-owners.

As a 100% employee-owned firm, personal responsibility is our common thread. It propels us toward developing remarkable solutions that strengthen communities, encourage growth and help address the world's biggest challenges.

This report includes environmental, social and economic issues that are material to Burns & McDonnell employee-owners, clients and stakeholders. It encompasses our worldwide office locations and is informed by the Global Reporting Initiative (GRI) Standards for sustainability reporting.

The confidence to propose world-changing solutions and the knowledge, experience and fortitude to implement them: These common threads run through our company's history, from our founders in 1898 to our newest hire. Factor in the deep sense of personal responsibility that comes with 100% employee ownership, and the result is a powerful commitment to creating a brighter future — for our clients, our communities, each other and the planet.

Evaluating our company's performance each year sets the stage for consistent progress. We continue to strengthen our sustainability efforts through innovative project work, more accurate tracking of our environmental footprint, considerable community investment, and a lasting commitment to our most important asset — our employee-owners.

In 2018, key accomplishments included:

- We opened the Chariton Hills Conservation Bank — the first in the United States to protect two species of endangered bats — and ramped up our development of mitigation banks.
- For the eighth time overall and seventh consecutive year, we were named to *Fortune's* list of 100 Best Companies to Work For, earning the No. 50 spot.
- The Burns & McDonnell Foundation invested nearly \$7.5 million and more than 20,000 volunteer hours for the benefit of more than 500 organizations.
- We sustained our period of profitable growth, announcing an expansion to our world headquarters and hiring goals of 1,000 employee-owners annually for the next several years.

I feel privileged to work alongside people with the vision and capability to skillfully shape the built environment for this generation and the next. Our 2018 Corporate Sustainability Report is a snapshot of the millions of actions our employee-owners take each day to change the world for the better.

Looking back at the accomplishments of the past year fills me with gratitude for our employee-owners, our clients and our communities — and excitement for what we'll accomplish together moving forward.



A handwritten signature in black ink that reads "Ray Kowalik".

Ray Kowalik
Chairman and CEO



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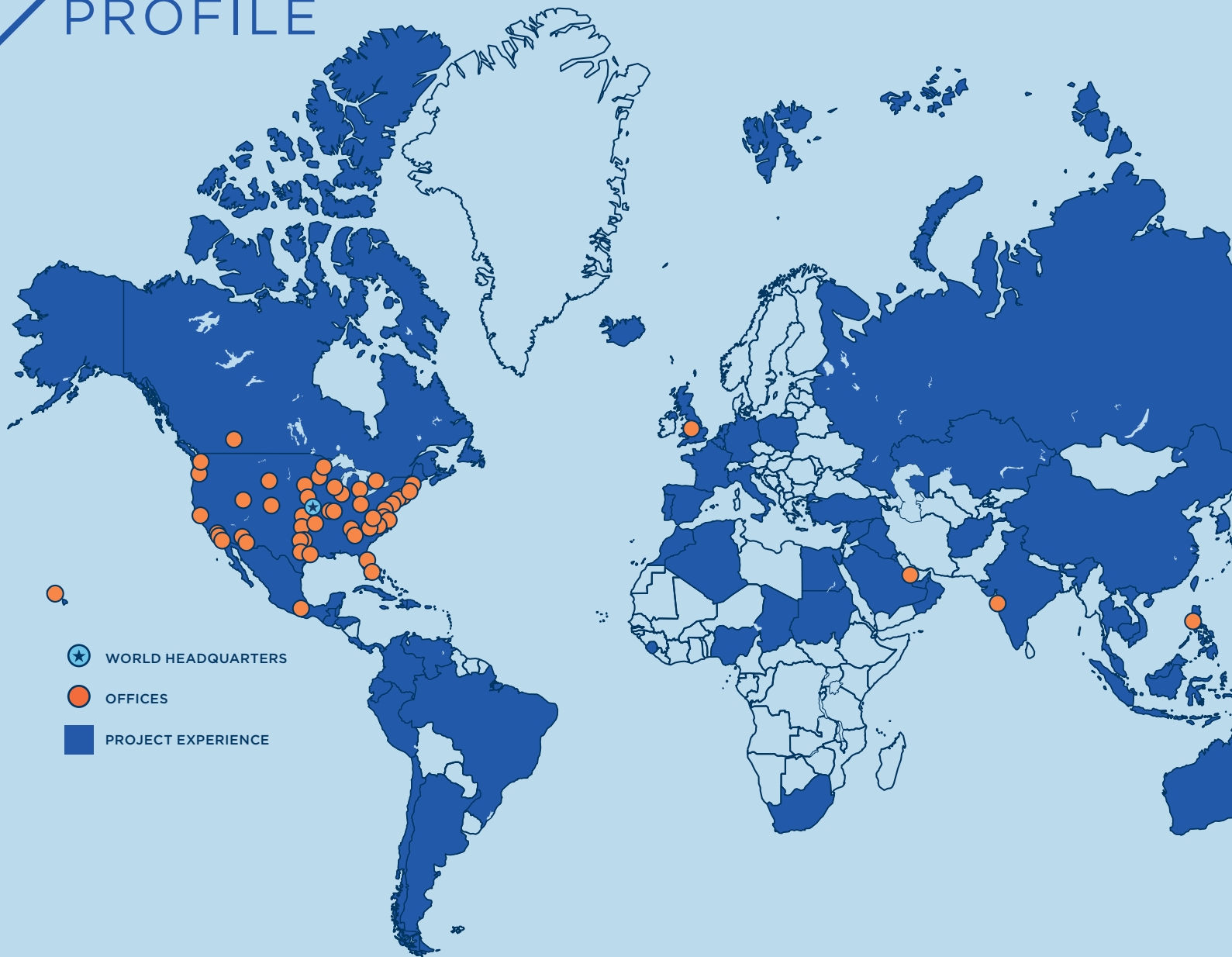
COMPANY

For 120 years, Burns & McDonnell has navigated an enterprising path to making the world a better place. Today's employee-owners honor the firm's founders by delivering on their calling to address global challenges, their vision to develop pioneering solutions and their capacity to execute ambitious ideas.

This section provides information about our services, markets, diversity, financial strength, growth and business ethics, and outlines our fundamental commitment to safety and quality.



PROFILE



7,000+

IN

50+ OFFICES

WORLDWIDE



ENGINEERS, ARCHITECTS, CONSTRUCTION PROFESSIONALS,
SCIENTISTS, CONSULTANTS AND ENTREPRENEURS



See more at
burnsmcd.com/locations



TOP 10

IN ENGINEERING NEWS-RECORD'S
2018 INDUSTRY-SPECIFIC LISTS

#9

IN TOP 500 DESIGN FIRMS

#1 IN POWER

#1 IN TRANSMISSION
AND DISTRIBUTION

#2 IN COGENERATION

#2 IN WIND

#3 IN AEROSPACE

#3 IN FOSSIL FUEL

#4 IN AIRPORTS

#5 IN GOVERNMENT
OFFICES

#5 IN TRANSMISSION
CABLES

#6 IN FOOD
AND BEVERAGE

#7 IN REFINERIES AND
PETROCHEMICAL

#7 IN WATER TREATMENT

#8 IN SOLAR

#8 IN
TELECOMMUNICATIONS

#9 IN NUCLEAR

#10 IN SITE ASSESSMENT
AND COMPLIANCE

TOP 15

IN BUILDING DESIGN + CONSTRUCTION'S
2018 GIANTS 300 LIST

#2 IN AIRPORT FACILITIES
ENGINEERING

#3 IN ENGINEERING/
ARCHITECTURE FIRMS

#5 IN OFFICE SECTOR
ENGINEERING

#8 IN UNIVERSITY SECTOR
ENGINEERING

#11 IN DATA CENTER
SECTOR ENGINEERING

#15 IN REFINERIES AND
PETROCHEMICAL

25



LOCAL PUBLICATIONS THAT NAME
BURNS & MCDONNELL A BEST PLACE
TO WORK YEAR AFTER YEAR

TOP
100

CORPORATE HEALTH & WELLNESS
ASSOCIATION'S 2018
WELL-BEING AWARDS

#1

IN COMMISSIONING
CONSULTING-SPECIFYING ENGINEER'S
COMMISSIONING GIANTS REPORT



#50

FORTUNE MAGAZINE'S
2018 LIST OF 100 BEST COMPANIES
TO WORK FOR NATIONWIDE

#1

IN ELECTRICAL DESIGN
ELECTRICAL CONSTRUCTION AND
MAINTENANCE'S TOP 40



OWNERSHIP AND GOVERNANCE

In 1986, Burns & McDonnell achieved a defining milestone: 100% employee ownership. As owners, we share a stake in our company and receive comprehensive information about strategic, financial and operational performance. Employees participate in two annual meetings: a spring shareholders meeting and a fall financial update. We are governed by a seven-person Board of Directors chaired by our CEO, supported by a leadership team including officers and principals.

Supporting the board and leadership team are appointed employee-owner representatives, who participate in quarterly meetings, relay important questions and propose new ideas to upper management. Meeting minutes are accessible to all employee-owners on our intranet.

Chairman and CEO:

Ray Kowalik

Board of Directors:

- Paul Fischer, president and general manager, Regional Office Group
- Randy Griffin, president and general manager, Construction/Design-Build Group
- John Olander, chief operating officer and president, Transmission & Distribution Group
- Bob Reymond, president and general manager, Oil, Gas & Chemical Group
- Denny Scott, chief financial officer and senior vice president
- David Yeamans, president and general manager, Aviation & Federal Group

7
BOARD
MEMBERS

66
OFFICERS

134
PRINCIPALS



CLIENT SATISFACTION SPOTLIGHT

Our clients' success is the ultimate measure of our success. So, when an independent entity honors our commitment to the client experience, it's especially resonant.

In 2018, we once again earned recognition as a winner of the Premier Award for Client Satisfaction by PSMJ Resources (PSMJ), the world's leading authority, publisher and consultant on the effective management of AEC firms. The award — bestowed this year to 24 firms in the U.S. and Canada — recognizes firms that have performed exceptionally well in client communication, project delivery and cost-effective

solutions, based on an independent survey gauging performance on a number of key criteria.

"This award has special meaning to us, because it speaks to our mission that fuels everything we do: to make our clients successful," says Ray Kowalik, chairman and CEO. "To receive an award for exemplary client service, based purely on feedback from our clients, is important validation that we are continuing to meet our mission."

This year marks the seventh time Burns & McDonnell has achieved this honor.



FINANCIAL STRENGTH

Our historic growth and stability reflect our strong financial performance. Annual revenue in 2018 was \$3.5 billion and has remained above \$2.3 billion in each of the past five years. We maintain positive net income, cash and investment balances and an aggregate surety program of over \$3.2 billion in assets as of Dec. 31, 2018. Our current backlog levels are at approximately \$1 billion in assets, and the company has no current or long-term debts.

Through the Burns & McDonnell Employee Stock Ownership Plan (ESOP), employee-owners — who are enrolled automatically — participate directly in the company's profitability. At year-end, our company makes a cash contribution to the ESOP, which is allocated to eligible employee-owners. An independent valuation consultant reviews our financial performance to determine our ESOP stock price each year.

GROWTH

Our entrepreneurial spirit continually propels us forward to new services and markets. Our growth comes organically — we plan to hire at least 1,000 annually over the next several years. When we do grow by acquisition, it has been through long-term relationships that solidify a good fit, fill a definite need and represent a solid financial decision for employee-owners.

In 2018, we acquired Ref-Chem*, a premier heavy industrial services contractor that for the past 20 years has served as our frequent partner on successful projects. Our shared commitment to safety and customer service is an intrinsic factor in how our operations mesh perfectly to enhance our contracting services. Our acquisition of AZCO* in 2016 is another example of this approach, enhancing our construction capabilities for heavy industrial projects by offering in-house fabrication and direct-hire construction as options.

We see new opportunity in all the markets we serve:

- The U.S. is seeing a rebound in major investments, including in the chemicals markets, due in part to new corporate tax law changes and low energy prices.
- The need for greater resiliency in essential infrastructure in the U.S. is driving significant funding increases to rebuild and modernize aging facilities.
- The power sector remains strong globally as the generation mix continues to evolve, creating opportunities in the transmission and distribution and generation markets.
- Airline passenger traffic is at record levels and seeing further growth, stressing commercial service airports in North America and throughout the world.

GROWTH IN 2018



**Numbers associated with Ref-Chem and AZCO INC. are not included in this report.*

**BURNS & McDONNELL****EXPANSION
HIGHLIGHTS**DESIGNED AND BUILT
BY BURNS & McDONNELL142,000-SQUARE-FOOT,
FOUR-STORY OFFICE BUILDING
WITH 780 SEATS

550-STALL PARKING GARAGE

8,000 TONS OF STEEL

395 PRE-CAST
CONCRETE PANELS

PROJECT BUDGET: \$42 MILLION

OPENING SUMMER 2020

GROWTH SPOTLIGHT

In August 2018, the news media descended on Burns & McDonnell world headquarters in Kansas City, Missouri, to learn more about the company's expansive growth and vision for the future. With a need to hire at least 1,000 new employees in 2018 (and each successive year for the foreseeable future), we announced a \$42 million, 142,000-square-foot expansion of our world headquarters, which came on the heels of another major expansion two years prior.

Upon arrival, journalists saw a literal window to the future — a special window cling providing an augmented reality perspective of what the expansion will look like on the actual site. A dynamic virtual reality/drone flyover video —

completed by our in-house visualization team — further brought the project to life.

The headlines spoke to the fastest growth in our firm's 120-year history and its lasting commitment to creating new jobs in the communities we serve. The experiential media event provided a glimpse into the future of Burns & McDonnell while spotlighting our current design-build and technical capabilities for potential clients and prospective employees. The continued recruitment efforts for top talent will support growth in all of our locations, with more than 50% of our employees based outside of Kansas City in offices across the country and throughout the world.

GLOBAL PRACTICES

Our business diversity is one of our biggest strengths. It means we can bridge the gaps and respond to market changes without compromising our most important asset: our people. Our global practices might be internal business divisions, but they're united around the same mission: to make our clients successful. And although global practices have a defined focus, they adopt a collaborative approach. This gives employee-owners the opportunity to make an impact on projects spanning multiple industries.

BUSINESS ETHICS

We are committed to conducting business lawfully and ethically, in accordance with the detailed requirements in our Business Conduct Guide. All new hires are required to complete business ethics training within three months of their start date. We also require all employee-owners to complete a refresher course every two years. Every employee-owner is required, upon risk of penalty including possible termination of employment, to adhere to our high standards of personal and professional integrity.



SAFETY

Keeping employee-owners, our clients and our subcontractors safe is our highest priority, the first and most important of our corporate values. Because safety relies on the daily mitigation of hazards, our employees are constantly trained on its importance. Each global practice also identifies an employee to guide safety efforts. In 2018, employees and contingent workers completed more than 27,000 hours of safety training.

During the average workday, a team member encounters safety messaging a minimum of five times. Through training, management, behavior modification and recognition, our Safety & Health Department aims to achieve the goal of zero

recordable incidents. While we provide safety guidelines, we also give employees the freedom and expectation to strengthen them — an approach that results in persistent vigilance and constant improvements in safety standards.

In addition to physical safety, our team of four Certified Information Systems Security Professionals and one Certified Ethical Hacker addresses cybersecurity threats for on-site and cloud-based environments. Internally and on behalf of clients, we develop and implement strategic security postures to defend against evolving threats — whether from ransomware, social engineering or next generation tools.



I am proud to say our safety program is among the best. I can't leave at the end of the day knowing I didn't do everything I could to keep people safe. It's almost a physical, visceral thing. I feel protective of every single person and every single project, and I know everyone else feels the same way. I am just 1/7,000 of the reason our safety program is so successful."

Jamie Butler
Vice President, Safety & Health



Physical safety and cybersecurity tools we utilize include:

- Onboarding training
- OSHA 10-hour construction/general industry safety training
- 40-hour HAZWOPER training
- First-aid and CPR training
- Hazard-specific training
- Pre-task analyses on-site
- Site safety orientation
- Safety toolbox talks
- Task safety observation
- Site and workplace signage

OUR SAFETY RECORD

Our safety record at Burns & McDonnell compares favorably with the Bureau of Labor Statistics and the Construction Industry Institute (CII) contractor averages. We further demonstrate our commitment by including subcontractors in our safety statistics — one of few firms to do so — though it's not an OSHA requirement.

- We experienced zero fines, OSHA citations or work-related fatalities in 2018.
- Our combined recordable incident rate is 95% lower than the industry average.
- Our combined Days Away Restricted or Transferred (DART) rate is 96% lower than the industry average.

SAFETY IS OUR TOP PRIORITY



OUR RECORDABLE INCIDENT RATE IS
95% LOWER
THAN THE INDUSTRY AVERAGE

PLACED IN THE
TOP 5%
OF SAFEST AEC FIRMS

TRIR

Total Recordable Incident Rate

DART

Days Away Restrictions/Transfers Rate

Fatalities

Hours Worked

2016

0.16

2017

0.17

2018

0.13

0.04

0.09

0.06

0

0

0

16,761,044

16,224,971

19,543,704

Graphic combines employee-owner and contractor data.



SAFETY SPOTLIGHT

We hosted the FBI's and DHS' Defense Security Alliance Council (DSAC) Integrated Analyst Symposium (IAS) training course at our world headquarters. This workshop provided analytical training for 24 security professionals to better understand how to mitigate threats, risks and vulnerabilities against corporate America. The symposium was designed to increase the opportunity for strategic information sharing and networking between analysts in the private sector and the United States government.

"Sharing intelligence — among the industry's corporate security departments as well as local and federal law enforcement — is key to adapting to the dynamic threat environment," says Robert Hope, Burns & McDonnell director of corporate security. "Physical and cybersecurity practices must continually evolve to keep up with those who might seek to disrupt vital infrastructure. Intelligence keeps us all on the same page to prepare clients for those threats."

As a member of DSAC, Burns & McDonnell is positioned to receive critical intelligence from not only the FBI but also other federal agencies, which allows us to make better decisions in managing our business.

QUALITY

We achieve operational sustainability through the quality of our projects. Burns & McDonnell is an industry leader in providing professional services that meet and often exceed applicable requirements. We maintain this high standard by continually reinvesting in our people and processes. A stringent quality management system directs the development of all project-related work products.

Our corporate Quality Assurance Department maintains and communicates quality policies, monitors implementation and evaluates effectiveness to foster continuous improvement. A quality assurance manager from each regional office and global practice helps implement corporate quality standards, concentrating on initiatives and activities that provide the most value.

Our Quality Management System (QMS) is a set of policies, processes and practices directly associated with the planning, execution, evaluation

and improvement of our services and deliverables. The system helps identify and mitigate risk, and fosters a framework to provide innovative solutions for our clients' complex challenges.

Quality is integrated throughout the entire project process, and frequent visioning sessions anticipate and identify issues with the greatest client impact. Our robust quality manual defines requirements and best practices. Metrics are measured and delivered to decision-makers for constant evaluation.

A key attribute of our quality approach is an atmosphere of integrity and personal accountability. All employee-owners contribute to the program's continuous improvement by individually striving for excellence in every step of project development. As employee-owners, we believe every work product is an opportunity to put our best foot forward and exceed client expectations.



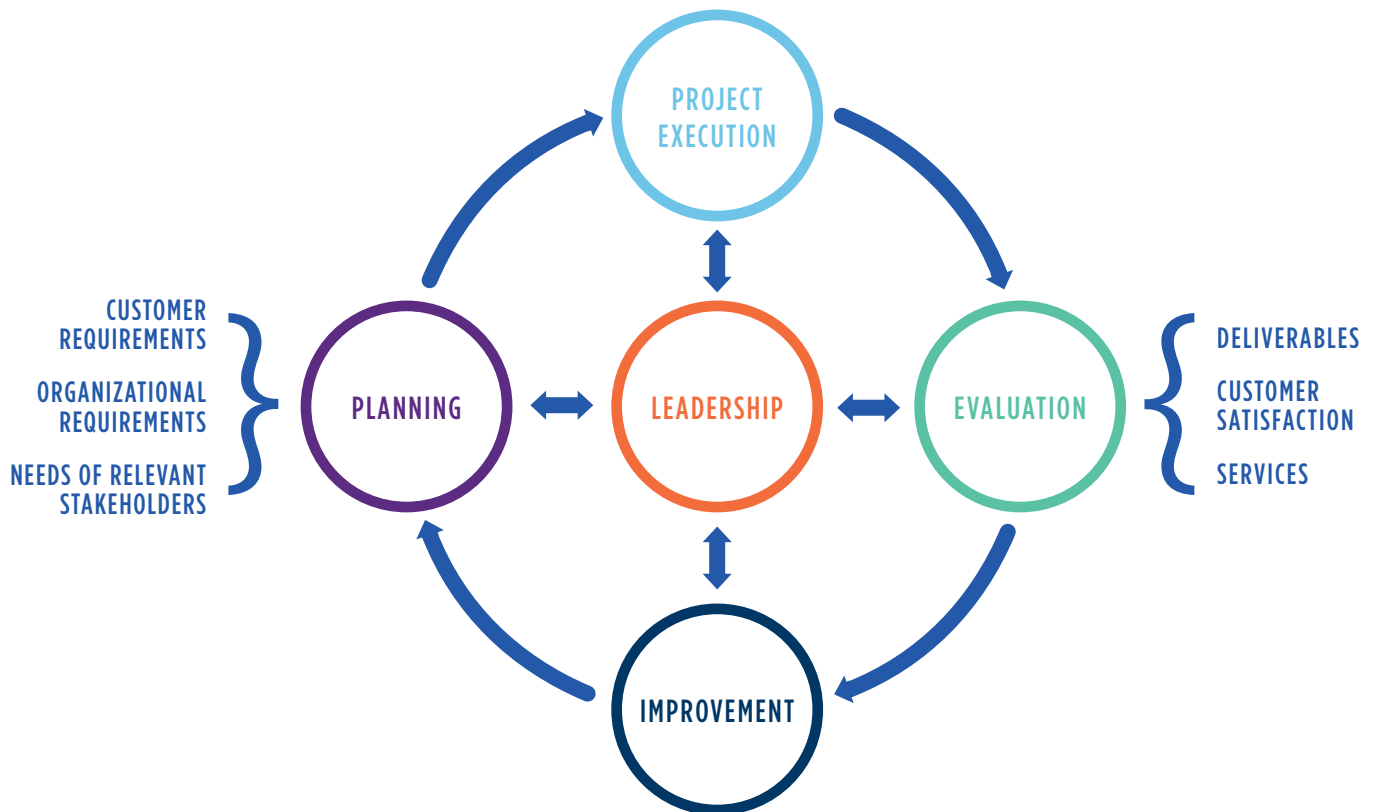
Quality is everyone's responsibility. Our policies and processes — combined with our commitment to achieving high standards — enables our team members to deliver on our clients' expectations and goals every day."

David Rogers
Director of Quality Assurance





QUALITY MANAGEMENT PROCESS



QUALITY TRACKER SYSTEM (QTS)

The Quality Tracker System is a proprietary electronic system that manages workflow and implementation for a well-defined quality process. Employees who create or review project-related work products receive training on the software. The review process includes an employee-owner's evaluation of his or her own work, as well as reviews from independent peers with specialized knowledge about the work product being considered.

The system enhances the Quality Assurance Department's ability to identify and correct individual and systemic quality issues through an intuitive interface and tools, including guides and checklists for specific review types. Reporting capabilities allow employees to better track on-time completion, analyze client relationships across global practices, and identify opportunities for process and technical improvement.

GLOBAL QUALITY CERTIFICATIONS

Teams within Burns & McDonnell have earned certification with the International Organization for Standardization (ISO) and Occupational Health and Safety Assessment Series (OHSAS). These certifications are globally recognized standards validating that rigorous quality control processes and standards are being followed.

Burns & McDonnell U.K.

- ISO 9001:2015 for quality management
- ISO 14001:2015 for environmental management
- OHSAS 18001:2007 for safety and health management

Burns & McDonnell Transmission & Distribution, Kansas City, and Burns & McDonnell India

ISO 9001:2015 certification for engineering design of electrical transmission, distribution, oil and gas, energy and network telecommunications for power infrastructure



QUALITY SPOTLIGHT

STEVEN McKENNA

A deep understanding of ever-evolving codes and regulations is a key component of delivering high-quality work. It certainly helps to have the perspective of someone involved in the code development process. That's what Steven McKenna provides as a member of the American Society of Mechanical Engineers (ASME) code committee for B31.4 Pipeline Transportation Systems for Liquids and Slurries.

As our manager of quality assurance, Steven directs quality assurance/quality control managers, turnover coordinators, loop check coordinators and inspectors on projects throughout the United States. In completing safe, operable projects for clients, he often relies on his distinct experience.

"Working with all these codes daily — and understanding how they are developed and refined — I can offer a special insight and access to subject matter experts for the benefit of the project," he says.

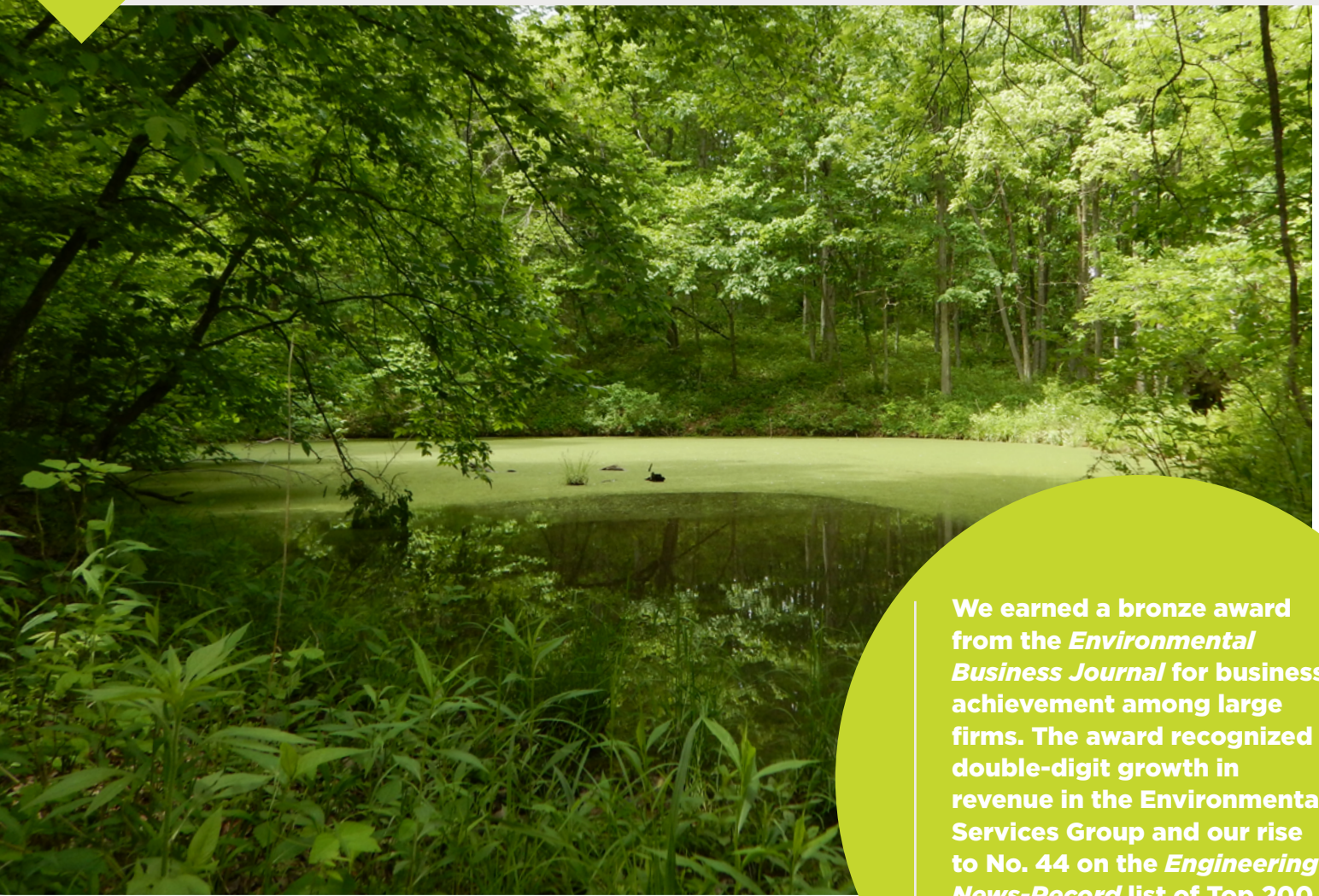
Steven also applies his unique knowledge to mentoring: "There's a learning curve to understanding codes and regulations. I can help new engineers understand why each code is necessary, how codes are set up, and why it might take a bit longer to get edits and improvements written into the code. A better understanding means better implementation — and higher quality."



ENVIRONMENT

As a company and individually, we share a responsibility and commitment to focus on environmental responsibility — from how we conduct business in our offices to our work worldwide for clients. This section tells the story of our efforts in energy, emissions, water, waste and materials, and biodiversity.





We earned a bronze award from the *Environmental Business Journal* for business achievement among large firms. The award recognized double-digit growth in revenue in the Environmental Services Group and our rise to No. 44 on the *Engineering News-Record* list of Top 200 Environmental firms in 2018.

KEY INITIATIVES

In 2018, our sustainability initiatives included:

- Comparing environmental performance metrics from our Environmental Management System against baseline figures from the previous year. This let us identify areas with the most significant need and those offering the greatest future potential.
- Publishing an enhanced, comprehensive Corporate Sustainability Report, spotlighting environmental objectives, tracking efforts to reduce our carbon footprint, and highlighting client projects that include a green approach.
- Opening the Chariton Hills Conservation Bank, the first in the United States to protect the Indiana bat and northern long-eared bat. Conservation banks are areas of land set aside to permanently protect threatened or endangered species and their habitats. Developers can use credits from the bank to compensate for anticipated adverse impacts to similar habitats. The effort earned a 2018 project merit award from the *Environmental Business Journal*.

GREEN COMMITMENT SPOTLIGHT

DOUG DIETRICH

Doug Dietrich helps build and sustain healthy environments, an interest he has nurtured through his educational and professional experience. As sustainability manager at Burns & McDonnell, he is deeply engaged every day in our environmentally focused initiatives, from tracking carbon footprints to exploring opportunities such as electric vehicles in our corporate fleet.

Doug is also an advocate for Envision, a framework for guiding and measuring the sustainability of infrastructure projects. We have long recognized the value of this initiative and were a charter member of the Institute for Sustainable Infrastructure (ISI), which created the Envision program in 2012. By 2013, we had more than 100 employee-owners credentialed as ISI Envision Sustainability Professionals, and by 2014 we were just the second firm worldwide to have 150 professionals credentialed. The number keeps growing, with more than 315 Envision sustainability professionals in all disciplines in 2018.

“With the help of Envision, we can deliver projects for our clients that are designed, built and operated sustainably,” Doug says. “It helps organizations be more transparent and efficient. When people see and become part of the process, they understand better how and why decisions are made — and the support for sustainability grows.”



PROJECT SPOTLIGHT

ENERGY EFFICIENCY ANALYSIS FOR TORAY PLASTICS

In North Kingston, Rhode Island, we're working with National Grid to explore energy conservation measures for a manufacturing facility addition at Toray Plastics. Using a defined methodology, we helped evaluate several custom measures and their impact on building energy consumption, guiding decisions for efficiency efforts.

The effort capitalizes on National Grid's Integrated Design Path program, which offers incentives to the building owner and design team for delivering buildings that perform from 10% to 15% better than the applicable energy conservation code. Focusing on energy efficiency early in the design development process makes implementation of conservation measures more cost-effective. The path generally results in higher levels of energy savings, a benefit for the environment and the owner.

Proposed energy efficiency measures included high-efficiency lighting, chiller system, compressed air system and cooling towers; lighting control for storage spaces; a thermal oil boiler with economizer; and high-efficiency adiabatic humidifiers.



ENERGY

As engineers, architects and builders, our work shapes and affects the world around us. Beyond integrating energy-saving strategies into our own offices, we have the opportunity to incorporate these tactics into the project development process on our clients' behalf.

In 2018, we earned an ENERGY STAR score in the 90th percentile for energy efficiency at the primary buildings of our world headquarters. These scores signify the buildings are top performers for energy

efficiency, based on U.S. Environmental Protection Agency methodology. We continue to deploy techniques for reducing electricity and natural gas consumption at our headquarters and our offices around the globe. These include:

- High-efficiency lighting and LED lighting retrofits
- Energy-efficient HVAC systems
- Energy-efficient doors and windows
- Motion sensor lighting
- Optimized building system control

2018 ENERGY USAGE*

2018 ELECTRICITY USAGE:
3,960 kWh
PER PERSON



2018 NATURAL GAS FOR HEATING USAGE:
70 THERMS
PER PERSON

**Data calculated based on world headquarters per person electricity and natural gas consumption.*



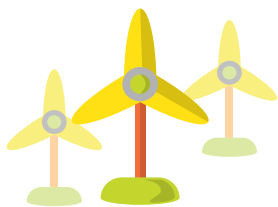


MOVING OUR CLIENTS FORWARD

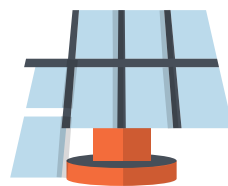
We design projects that conserve, generate or distribute energy. For some clients, we're advancing the transition to renewable energy: solar photovoltaic and solar thermal facilities, wind turbines, hydropower, biomass, and even experimental renewable energy pilot projects. We leverage our significant transmission and distribution experience to help our clients deliver energy from such renewable power sources to the communities where the power is used.

For other clients, we're helping buildings function more efficiently, taking advantage of advanced systems and building controls to achieve optimized energy management strategies. These high-performing projects can sustain or increase performance over buildings' life cycles, reducing environmental impact and operating costs while maintaining safe and reliable energy delivery.

We focus on identifying innovative technologies, research projects and new opportunities to improve energy efficiency.



200+
WIND PROJECTS
60,000+ MW
WIND EXPERIENCE



50+
SOLAR PROJECTS
5,000+ MW
SOLAR EXPERIENCE*

**in the last decade*



INNOVATOR SPOTLIGHT

ROBERT HEALY

For Robert Healy, challenges are better viewed as opportunities. He relies on that confident approach to help clients achieve sustainability goals, whether that's net-zero carbon emissions or a smart battery storage solution. As a regional practice manager in the Phoenix office of Burns & McDonnell, he leads a team helping clients develop wind, solar, biomass and other projects focused on renewable energy.

With a background in the energy industry, Robert shifted entirely to renewable energy efforts soon after he joined the firm — and he's never looked back. "We're approaching a tipping point in many areas," he says. "Energy storage, for example, will see the boom the solar market saw a few years ago. New policies will drive change, and technology will be a key component. It's our job to help all these technologies and innovations work together in a way that's safe, reliable and cost-effective."

As more utilities shift to renewables and toward a carbon-free electricity system, new opportunities will emerge, such as how best to interconnect solar generating plants with the current grid. Robert and his team are ready for what's coming.



PROJECT SPOTLIGHT

SMART ENERGY NETWORK DEMONSTRATOR AT KEELE UNIVERSITY

The Smart Energy Network Demonstrator (SEND) at Keele University in Keele, England, is the first of its kind in Europe — a living laboratory where new energy-efficient technologies are researched, developed and tested in a real-world environment. We're proud to support the effort as its main technical adviser, overseeing the technical design and project execution.

Using the university's privately owned and operated utility networks, SEND will research and evaluate a wide range of smart energy innovations, including new approaches to demand-side management, low-carbon generation and

regulatory models. The project will be expected to support more than 240 local businesses and save around 4,000 tons of carbon dioxide annually.

"We share Keele University's vision of delivering energy networks that embrace innovation and new technologies in order to deliver a sustainable, clean and efficient energy future," says Jonathan Chapman, managing director of the Burns & McDonnell United Kingdom office. "We'll support the university in delivering an innovative future network to help the U.K. realize its potential as a low-carbon economy."



EMISSIONS

Reducing emissions extends beyond simply meeting regulatory requirements. For ourselves and our clients, we focus on optimal efficiency in processes and facilities to convert environmental challenges into opportunities. It's good for business and for the planet.

We strive to limit our carbon footprint through in-house initiatives. Our efforts to reduce the consumption of electricity, natural gas and water at our offices also serve to reduce the amount of greenhouse gases (GHGs) emitted.

We value face-to-face connections with our clients, so business travel is a major component of our emissions output. One way we're reducing that impact is by opening new and expanding existing regional offices, hiring locally to reduce the physical distance between our employee-owners and our clients. We are also pragmatic in deploying tech tools to reduce travel through telecommuting, videoconferencing and other collaboration technologies.



GREEN TRANSPORTATION SPOTLIGHT

SUSTAINABLE WAYS TO GET TO WORK

Geographic proximity to our clients is one way we can provide exceptional service — making sure our employee-owners are accessible where they are needed. Our significant growth in regional offices supports this priority. More of the 50% of the 1,000+ employees we plan to add annually will work in regional offices across the country and throughout the world.

This also represents a way we can minimize our carbon footprint. Not only do our regional offices reduce the need for air travel, but many of the employee-owners who work in these locations can choose green transportation for their commute. A new office in downtown Los Angeles — which will enable us to double our local workforce — is located in a walkable district close to public transit.

In Chicago, many employees take the train to work. In other regional offices, walking and biking to work are popular options. At our world headquarters in Kansas City, electric vehicle charging stations are an incentive for employee-owners to opt for EVs.



PROJECT SPOTLIGHT

FOOTHILL TRANSIT BUS ELECTRIFICATION PROGRAM

As the first transit agency in the United States to bring a fast-charge electric bus into service, Foothill Transit has long held a leadership position in electrified transportation. Our team is helping the agency take the next step, developing a comprehensive master plan to transition its gas-fueled bus fleet to 100% battery electric by 2030.

Foothill Transit's commitment to electrification is among the first projects of this scale in the nation. The agency serves 22 cities in Los Angeles County in California, supporting nearly 40 routes with more than 350 buses.

Our team is providing consultative planning and conceptual engineering services for the effort in partnership with ebusplan, Greenlots and AMMA Transit Planning. Developing a comprehensive master plan requires a thoughtful and thorough consideration of numerous variables. The team will model the energy consumption of bus routes to determine the capability of all-electric buses to complete each route and outline the resultant charging needs at two centralized depots.

DEFINING OUR CARBON FOOTPRINT

Our carbon footprint is the total amount of GHGs produced to directly and indirectly support the human activities associated with our company's efforts. In 2017, we began using an Environmental Management System to track GHG output, establishing a baseline for measurement of progress. Our total carbon footprint decreased from 38,588 in 2017 to 37,584 in 2018.

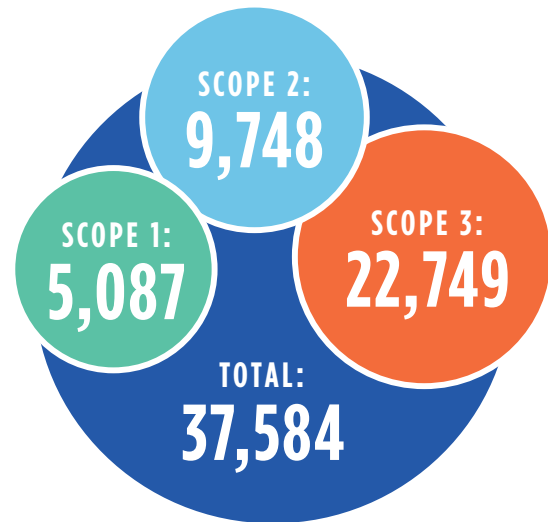
Launched in 1998, the Greenhouse Gas Protocol is a universally recognized joint effort of the World Resources Institute and the World Business Council for Sustainable Development. It establishes global standards for the measurement and management of GHGs. The protocol categorizes GHG emissions as Scope 1, 2 or 3 based on the source of the emission. We've calculated our 2018 numbers in accordance with the protocol's guidelines.

Greenhouse Gas Protocol

- **Scope 1 — Direct GHG:** Emissions from sources owned or controlled by the company, including office natural gas consumption and fleet gas consumption.
- **Scope 2 — Energy Indirect GHG:** Emissions from the consumption of purchased electricity.
- **Scope 3 — Other Indirect GHG:** Emissions that are a consequence of our company's operation, but not directly owned or controlled by us. This includes employee commuting, business travel, and purchased products and materials.

2018 CARBON FOOTPRINT*

Carbon Dioxide Equivalent (mtCO₂e)



- SCOPE 1 — DIRECT GHG
- SCOPE 2 — ENERGY INDIRECT GHG
- SCOPE 3 — OTHER INDIRECT GHG

**Data gathered through our new Environmental Management System.*



INNOVATOR SPOTLIGHT

ROBYNN ANDRACSEK

When members of the industry look for leading-edge thinking about air quality permitting, they find Robynn Andracssek. In her nearly 20 years as an environmental engineer at Burns & McDonnell, she has built a sterling reputation based on her endless thirst for knowledge and her project work with utility clients, federal and state agencies, and other key organizations.

She's not shy about sharing her passion and understanding with others, speaking at conferences and publishing articles 20 to 25 times a year. She's a contributing editor and monthly columnist for *Power* magazine, and she has served in a similar role for *Power Engineering* magazine. She has covered topics ranging from EPA reclassification to burgeoning opportunities for women in STEM, all presented within the framework of her forward-thinking outlook.

When she's not tackling an environmental engineering project or meeting a publication deadline, she keeps up with the industry by serving on the advisory board for the Department of Civil, Environmental and Architectural Engineering at the University of Kansas.



PROJECT SPOTLIGHT

UNIVERSITY OF MISSOURI BIOMASS BOILER

In 2018, the EPA ranked the University of Missouri in Columbia sixth on its list of top 30 on-site green power generation partners — ahead of several large corporations. Much of the recognition centered on the university's 100% biomass-fired boiler, which supplies power to meet 40% of campus energy demand.

Our team handled air quality permitting for the effort, which came online in 2013. Now the biomass-fed boiler, designed with a bubbling fluidized bed, consumes more than 100,000 tons of regionally and sustainably sourced wood residues annually. The boiler's technology can accommodate a wide range of biomass sources — including wood, corn stover and switchgrass — depending on what is available.

How big of a difference is this making? The university now generates more renewable energy on campus than any other university in the country. Furthermore, it has reduced GHG emissions by more than 50% over the last decade — a GHG reduction of 73,260 tons per year. The effort has also generated more than \$4 million each year in economic development through the local sourcing of biomass.

MOVING OUR CLIENTS FORWARD

Worldwide, buildings account for nearly 40% of annual global GHG emissions — a statistic that represents significant opportunity for improvement. We construct high-performing buildings that save energy, water and resources. Our comprehensive approach to reducing a facility's carbon footprint is reflected by our LEED-accredited professionals and in our LEED-certified projects.

We take measures to reduce embodied carbon — the energy and emissions from materials and construction. Our global reuse services team identifies opportunities for reclamation and reuse. We engineer efficient structural systems. We often specify high-recycled-content and low-carbon materials.

Our environmental professionals track evolving rules and regulations to support air quality and

compliance. Our team estimates emissions, conducts air pollution control analyses, prepares air permit applications and predicts ambient air impacts through dispersion modeling.

Efforts to reduce emissions can encompass an entire campus. Retro-commissioning efforts can optimize mechanical and electrical systems to minimize energy use and meet campus sustainability goals.

We're also supporting efforts to adopt electrified transportation globally. In our United Kingdom office, we're working with international graduate students on an in-depth research project into the U.K. EV infrastructure market to determine its scale, impact and long-term potential. In Southern California, we're partnering with Greenlots and Volvo Trucks to engineer, construct and install new EV charging infrastructure for electric trucks.

GREEN RATING SYSTEMS



260+ LEED-ACCREDITED PROFESSIONALS
315+ ENVISION SUSTAINABILITY PROFESSIONALS (ENV SPs)

**U.S. Energy Information Administration
and U.S. Green Building Council*



PROJECT SPOTLIGHT

GREEN OMNI TERMINAL DEMONSTRATION

A Port of Los Angeles project is showing how large industrial facilities can run on clean energy. The Green Omni Terminal Demonstration Project at the Pasha marine terminal is a full-scale demonstration of zero and near-zero emission technologies.

The effort creates a working laboratory to test clean energy vehicles, cargo handling equipment and infrastructure. It's expected to reduce 3,200 tons of greenhouse gases and nearly 28 tons of other harmful emissions annually. This equates to removing 14,100 cars a day from the road.

The project also increases the terminal's resiliency by enabling off-grid operations in the event of a power loss. With a solar-powered microgrid, a 2.6-megawatt-hour battery storage system, and charging equipment that can receive and supply power, Pasha has the potential to generate all its energy needs from renewable sources. Launched in 2016, the project was nearing completion at the end of 2018.

WATER

Water sustains life, making thriving communities possible. This resource is critical — and threatened. In the past century, water use has grown at more than twice the rate of the population. To protect this vital resource, we develop critical infrastructure — facilities, systems and more — that curbs water consumption, and reduces runoff and contamination on our job sites.

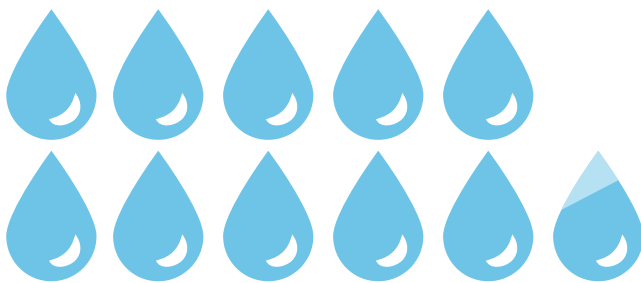
We help clients conserve, cleanse and capitalize on what's retained and released, and we apply the same level of focus to our own facilities. Techniques for the proper management of water at our headquarters and at offices around the globe include:

- Aerators at sink fixtures
- Drought-tolerant landscaping
- Dual-flush toilets
- Reclaimed water for landscaping and irrigation
- Stormwater management systems
- Water-efficient appliances in kitchen areas

In 2018, *Environmental Business Journal* honored Burns & McDonnell with four *EBJ* Business Achievement Awards related to water, including:

- New Practice Area award for the environmental sequence stratigraphy (ESS) approach to groundwater remediation projects, which the EPA has embraced as an emerging best practice.
- Project Merit award in Stormwater for a dual-purpose solution to remove high selenium concentrations from Big Canyon Creek in California during dry weather and to treat transportation-related pollutants during rains.

2018 WATER USAGE*



10.8K Gallons
PER PERSON

**Calculated based on employment and water consumption at world headquarters.*



PROJECT SPOTLIGHT

JUVENILE JUSTICE CENTER

The Juvenile Justice Center in Wyandotte County, Kansas, is setting a precedent for how green stormwater infrastructure is incorporated in future community updates. In addition to improving services for juveniles and their families, our team is helping the Unified Government of Wyandotte County and Kansas City, Kansas, put an innovative plan into action that helps meet EPA goals of the Clean Water Act and raises the standard for stormwater management.

The project sites for the new facility and parking lot were already contributing to a combined sewer overflow point on the Kansas River. Traditional stormwater installations could have exacerbated the problem, risking increasing system overflows and

backups. To address and reduce combined sewer overflows, the team turned to green infrastructure to treat stormwater runoff from the project's impervious area. Bioretention, stormwater tree planters and permeable pavers capture and infiltrate stormwater runoff from the parking lot surface, building roof leaders and adjacent streets.

This approach serves a dual purpose, solving the project's needs while providing the Unified Government its first opportunity to analyze the impact of green stormwater infrastructure in the area.



MOVING OUR CLIENTS FORWARD

Our company was founded on the principles of providing clean water and efficient wastewater systems, and we're still an industry leader more than a century later. We deliver solutions for our clients — whether small rural water providers or large regional wastewater districts — as they face increased demand, aging infrastructure, evolving regulations and limited resources.

Together with our clients, we design and build sustainable water systems. We track the regulatory environment. We dive into the science of wetlands and other waters. Above all, we serve as problem solvers to meet our clients' varied needs.

Often, one of the biggest challenges is solving complex issues without adversely impacting customers who count on uninterrupted water services. In Topeka, Kansas, our team relied on a progressive design-build delivery method to

rehabilitate the Layne High Service Pump Station — built in 1953 — which had long outlasted its original design life.

A phased approach allowed the plant to continue producing up to 60 million gallons of treated water per day during the rehabilitation, which extended the life of the aging facility by 30 years and strengthened the city's ability to provide consistent, high-quality water services. In 2018, the work earned significant awards from both the Associated General Contractors of Kansas and the Mid-America Region of the Design-Build Institute of America.

"The partnership between the City of Topeka and Burns & McDonnell was integral," says Paul Bodner, water facility engineer for the city. "Knowing that a failure in the existing system could cause total and systemwide consequences, we approached this as a team project from the very beginning, with maximum collaboration."



PROJECT SPOTLIGHT

MERAMEC ASH POND CLOSURE

As EPA regulations around coal combustion residual (CCR) landfills and surface impoundments become stricter, some operators of coal-fired plants are looking for solutions that move beyond compliance to reflect a more progressive approach.

Ameren Missouri operates Meramec Energy Center, an 831-megawatt generating facility at the confluence of the Mississippi and Meramec rivers in St. Louis County, Missouri. As Ameren tackled two ash pond closures — its first under the EPA's CCR rule — we helped the utility demonstrate proactive management of CCRs in an environmentally responsible way. For the larger of the two ponds, the final cover system utilizes a sustainable solution that incorporates a flexible geomembrane material, geocomposite drainage layer, nominally compacted infiltration soil layer and an erosion layer capable of sustaining native plants.

The project represented one step in a comprehensive program to increase recycling and beneficial use of CCRs, perform extensive water safety assessments and implement significant reductions in water usage. Ameren's aggressive pond closure schedule aims to reduce long-term water usage and industrial wastewater generation across its portfolio to save approximately 11 billion gallons of water annually.



PROJECT SPOTLIGHT

CLINTON WATER SUPPLY SERVICES

Located in western Oklahoma, the City of Clinton thrives on an oil- and agriculture-based economy accompanied by a low cost of living. But years of extreme drought had put residents and the local economy at risk. With only a year of projected water supply remaining, the city turned to us for immediate and long-term solutions that would allow it to survive and thrive over the next 50 years, including an expected doubling of the population.

Groundwater in this region is rarely found at a quality that doesn't require additional treatment. We started construction on a single well that allowed water to flow into town almost immediately. The groundwater

well — with a potential for generating 500,000 gallons of water per day — connects to an existing 24-inch pipeline that flows into the city from Clinton Lake.

The long-term solution extends further, calling for multiple groundwater wells, 17 miles of raw water pipelines, a 3 million-gallon-per-day reverse osmosis (RO) water treatment plant, finished water storage, high-service pumping and integration of the new supply into the city's existing system for distributing water. With these improvements, the city could confidently move into a future with a secure water source.

PROJECT SPOTLIGHT

GRANDVIEW STORMWATER MASTER PLAN

Deferred maintenance and a rising number of rain events have become an overwhelming combination for aging stormwater systems. In Grandview, Missouri, a random inspection found stormwater infrastructure was no longer compliant with municipal requirements for separate storm sewers. The city needed a plan — and quickly. Officials were already focused on updating its 30-year-old stormwater master plan after a summer of significant rainfall caused severe flooding.

To address compliance issues, our team evaluated best management practices for each minimum control measure, then suggested a resolution for each that city staff could feasibly and financially implement. The master plan update demanded a modern approach that could better communicate how stormwater moves through the city; a capital-intensive plan, however, wasn't a realistic option.

Instead, we developed a suite of tools — including hydrologic/hydraulic parameters for delineated watersheds and flow path obstructions — to provide real-time analysis of stormwater issues using current city data. The tool set, developed in a geodatabase framework, is compatible on a multitude of platforms, including Esri's ArcMap, Google Earth and Esri's ArcOnline dashboard.

Layering these tools together greatly enhances the knowledge base for city engineers, creating an evolving master plan that allows them to better manage stormwater on a day-to-day basis and more accurately address current and potential drainage issues.



LEADERSHIP SPOTLIGHT

RON COKER

In 2018, the *Environmental Business Journal* spotlighted the water industry, with an industry forecast and viewpoints from leaders — including Ron Coker, general manager of the Water Group at Burns & McDonnell. Some of his perspectives are excerpted below.

“We have been fortunate that our infrastructure put in place over the last 100 years has far outlived its life expectancy. It is time to start rebuilding that infrastructure. ... We believe the public is more aware than ever of the need for infrastructure reinvestment. Now, municipalities and utilities must take that goodwill and bring innovation to the equation, both in developing more efficient methods of delivering capital projects and by investing in innovative materials and technology to make those systems last even longer in the future. ...

“Geography is just part of the equation when it comes to providing ample water supplies. Creativity in tapping new water supply sources and managing existing sources to extend the life of those sources is equally important. Also key is a willingness to explore new sources, such as reuse, and to invest in the development of the resources needed to diversify water supplies and increase resiliency to climatic conditions.”

WASTE AND MATERIALS

Because office materials make up a sizable percentage of landfill waste, we work to minimize the impact our operations have on the environment. We start within our offices with sustainable material choices and recycling programs. Through the decisions we make with our clients, we go beyond traditional recycling by reusing materials and designing smart solutions for solid waste.

At our offices around the globe, we exercise policies and procedures to minimize waste, including:

- Comprehensive recycling programs at offices and job sites.
- A shift to digital documentation to reduce the need for printed copies.
- Minimal paper file storage to encourage electronic filing.
- Electronic archiving program.
- 3D scanning and building information modeling for design development.
- Digital transfer of plans and drawings to suppliers, clients and subcontractors.
- Dishwashers and dishware provided to minimize use of paper goods.
- Green cleaning programs.

While paper plays a key role in ongoing operations — from accounting to production of specifications — we also understand that paper manufacturing is a resource-heavy endeavor, one dependent on the utilization of forests, water and energy. To reduce this impact, we've pledged to purchase paper with a minimum of 30% recycled content from environmentally and socially responsible suppliers. This policy helps align our paper and print procurement decisions with our overarching sustainability commitments.

Our world headquarters is certified LEED Gold for the operations and maintenance of existing buildings. This means we have achieved ambitious targets for solid waste management, indoor environmental quality, purchasing, water efficiency, energy and atmosphere, and innovation in operations.



INNOVATOR SPOTLIGHT

ALLISON RAY

For Allison Ray, an environmentally conscious approach doesn't end when her workday does. As an environmental project manager at Burns & McDonnell, she partners with some of the largest utilities in North America to deliver environmentally conscious projects that meet power demands while alleviating impacts from the construction on the environment. "Every project I work on is a collaboration that I'm proud of," Allison says. "At Burns & McDonnell, our people truly care about reducing the footprint of our projects."

Her commitment to sustainable issues extends to her personal passions. She advocates for environmental preservation, including serving as a board member for the Bushnell Park Foundation in Hartford, Connecticut, which spearheads the conservation and restoration of the oldest public park in the United States. She is also a champion for STEM education and women in STEM, and — among her many efforts in that arena — volunteers with the Connecticut Science Center's Women in Science program.



MOVING OUR CLIENTS FORWARD

As the world moves toward sustainable goals, one of the most dramatic ways we can help clients is through solid waste management and resource recovery. Our global reuse services team connects usable materials removed from renovated spaces with new projects incorporating reclaimed materials.

As population growth generates increased solid waste, our clients are facing local challenges that carry global impacts. Improperly managed solid waste may be a threat to the environment and a risk to human health. Our resource recovery team helps state and local governments in all steps of the waste management process. We help communities such as Johnson County, Kansas, and Cheyenne, Wyoming, develop solid waste management plans that provide the vision and framework for infrastructure, programs and policies needed to manage the future of waste generation. We develop successful recycling educational programs focused on increasing recycling participation and decreasing contamination, such as for the North Central Texas Council of Governments, specific to the quantity and quality of materials in communities' recycling systems.

We design and build solid waste management facilities all across the country: material recycling facilities (MRFs) to process recyclables, composting

facilities to process organic materials, landfill facilities for the disposal of waste materials, and transfer stations that allow waste to be centrally collected and shipped to landfills farther from the communities they serve. These projects include hydrogeological and geotechnical stability investigations, liner and geosynthetic system design, operations and closure plans, and a variety of ways to manage the liquids and gas formed by the degradation of waste.

Waste-to-energy projects can be part of an innovative solution for waste management, air quality and energy independence. We've helped our clients construct emerging conversion technologies and systems, including thermal, biological, chemical and other waste-to-energy systems. We work with solid waste and utility clients to harness renewable landfill gas to generate electricity and, more recently, to produce pipeline quality and compressed natural gas.

We help waste management facilities comply with the regulatory requirements for the protection of human health and the environment. If the effects of waste management — often liquid or gas byproducts — migrate off-site or become an environmental concern, we assist our clients with cleanup. Our teams of geologists, chemists and engineers remediate water and soil contaminants to counteract risks to the environment.





PROJECT SPOTLIGHT

SUSTAINABLE MATERIALS MANAGEMENT — VISION FOR IOWA

The Iowa Department of Natural Resources (DNR) and the state of Iowa plan to transition the state to a system focusing on sustainable materials management, shifting from a traditional waste management policy approach. Sustainable materials management considers the full life cycle of materials and products and their impacts on natural resources and the environment, as opposed to focusing on only the end-of-life disposal of items.

To initiate this transition, the DNR retained Burns & McDonnell to assist with the development of a Sustainable Materials Management — Vision for Iowa Report. It is intended to provide a road map supported by policy priorities, strategies and actions for the state to achieve this policy and program transition.

Burns & McDonnell facilitated discussions with key stakeholders throughout the state, using a unique data-driven planning process. This process included

having stakeholders complete a survey reflecting program understanding and future preferences, applying data visualization tools to characterize stakeholder preferences, and collaborating with other stakeholder meeting participants at a “Think-Tank” to identify preferred future sustainable materials management scenarios envisioned for Iowa.

We also assisted the DNR with the benchmarking of sustainable materials management programs throughout the U.S., provided input on the facilitation process and composition of the Think-Tank and focus groups, led the stakeholder engagement meetings, and documented the outcomes of the planning process. Overall, the planning process resulted in support from key stakeholders to make the transition, provided informed feedback on issue priorities and strategies, and offered a foundation for creating the preferred sustainable materials management vision for the state.



SOLUTION SPOTLIGHT

PREFABRICATION

Traditional construction can be inefficient, so we're always looking for new ways to think about the building process. One option that's gaining ground in a wider range of industries is prefabricated building solutions, in which project elements are fabricated off-site in a controlled environment before being assembled on-site.

In addition to offering a host of other benefits — including enhanced safety and a speedier schedule — prefab can significantly reduce waste through avoidance upstream. “Modularization is economical and sustainable, with less wasted time and fewer wasted materials,” says James Isom, a commercial construction lead. The project team designs for

modularization in a building information model, providing accurate information for procurement and reducing material waste. It's also a more socially sustainable practice, offering better and safer working conditions.

Prefabricated elements can present a lower carbon footprint by accelerating the construction process and reducing carbon emissions that otherwise would result from the continuous transportation of materials and workers on a more traditional job site. It can also lead to more efficient energy use, as modular buildings are often installed with energy-efficient glass, solar panels and other sustainable elements.



BIODIVERSITY

Through conscientious efforts over the course of a project's life cycle, we help development and the environment coexist successfully. For instance, when we designed an expansion to our world headquarters, we transformed 1,100 feet of open concrete channel to a restored, natural, high-quality stream channel with native plant riparian buffers.

The stream captures and filters stormwater, improving the quality of runoff from our headquarters and positively affecting biodiversity downstream. The project, which exceeded U.S. Army Corps of Engineers requirements, is one way we show that we do more than merely follow

environmental laws and regulations — we believe in doing the right thing for our clients, communities and company.

MOVING OUR CLIENTS FORWARD

Environmental services are a core part of our business, from upfront ecological studies to environmental monitoring post-construction. We go beyond helping clients mitigate the impacts of project work — we help locate and design projects to limit impacts to biodiversity in the first place. We help clients avoid impacts to wetlands, nesting birds, important habitat, and land and aquatic special-status species.

INNOVATOR SPOTLIGHT

SUNDEEP AMIN

Over the past several years Burns & McDonnell has invested heavily in mitigation banks: areas of land set aside to offset development impacts to wetlands, streams and threatened or endangered species and their habitats. The addition of Sundeep Amin to our team in 2018 complements that commitment, setting the stage for our leadership in the sector well into the future.

Sundeep has spent nearly 15 years working as a biologist, restoration ecologist, environmental compliance specialist and project manager. His specialties include habitat restoration, biological constraints analyses, leadership and execution of sensitive species surveys (floral and faunal), mitigation monitoring and botanical surveys. As a senior environmental scientist, he guides mitigation and conservation banking projects through entitlement efforts, including land acquisition, property analysis and baseline data establishment.

“Having spent the majority of my career on the development and permitting side, it’s great to be able to use those same skills to help establish mitigation banks and mitigation solutions to meet the needs of the varied clients Burns & McDonnell serves and for the market in general,” Sundeep says.



PROTECTION THROUGHOUT THE PROJECT

Our multidisciplinary teams understand potential effects on biodiversity throughout a project life cycle, from project planning to post-construction:

- During siting and routing studies, we consider wetlands, habitats, nesting and hibernation areas, and archaeological and historic resource areas when recommending the right location.
 - To reduce potential impacts, project planning identifies best management practices (BMPs) to reduce any potential impact, including brightly colored flagging, buffer zones and timber matting.
 - During construction, field inspectors and environmental monitoring staff work together to confirm compliance with BMPs and regulations.
 - Post-construction, we revegetate sites, including with native seed mixes, and monitor whether the sites are returning to vegetated conditions.
- Conducting field surveys for special-status species and their habitat.
 - Performing ecological studies for threatened or endangered species.
 - Mapping and delineating wetland areas.
 - Assessing fisheries and surface and groundwater quality.
 - Developing plans for bed/bank stabilization, erosion and sediment control, and stormwater management.

Our diverse team includes soil scientists, avian and bat specialists, wetland scientists, threatened and endangered species biologists, aquatic ecologists and fisheries biologists, environmental permitting specialists, and hydrologists. They support our clients' ecological responsibilities by:





PROJECT SPOTLIGHT

CHARITON HILLS CONSERVATION BANK

A major milestone in our efforts to establish a nationwide network of mitigation banks occurred in 2018. With approval from the U.S. Fish & Wildlife Service, Burns & McDonnell opened the 1,300-acre Chariton Hills Conservation Bank, the first conservation bank approved in Missouri and the first conservation bank in the United States to protect the Indiana bat and northern long-eared bat.

Chariton Hills offers credits to offset habitat impacts throughout the state of Missouri. “Collaborative conservation projects are an integral component of listed bat recovery in Missouri,” says Shauna Marquardt, a U.S. Fish & Wildlife Service biologist. “The conservation bank provides upfront compensation for future impacts to species and helps streamline the regulatory process. It’s a beneficial tool to listed species and project proponents.”

The bats inhabit caves and forests in the eastern and midwestern U.S., and upon emergence from hibernation in the spring, they migrate to establish summer maternity colonies throughout northern Missouri, southern Iowa and western Illinois. The newly established bank provides conserved summer foraging and roosting habitats for both the Indiana bat and the northern long-eared bat, both federally listed under the Endangered Species Act.

Chariton Hills is protected by a conservation easement held by the Missouri Conservation Heritage Foundation. “We’re proud to work with Burns & McDonnell to develop this resource,” says Kevin Roper, the foundation’s executive director. “By working with a locally based strategic partner, we know this habitat will be responsibly managed and protected in perpetuity.”



PROJECT SPOTLIGHT

ALLIANT ENERGY

Burns & McDonnell performed a mitigation study for parcels of land that Alliant Energy owned in Iowa. The study assessed the potential value of the land if used for Indiana bat and northern long-eared bat mitigation. The utility's goal was to create a conservation bank to protect threatened or endangered species and offset potential adverse impacts of its wind farms.

Alliant selected Burns & McDonnell because of the firm's experience setting up a conversation bank in Missouri — the first of its kind in the United States — and because of our professionals' knowledge about the Indiana bats and northern long-eared bats that are specific to that part of the country.

The conservation bank helps effectively manage and protect the bats by conserving land and consolidating smaller mitigation parcels into larger, more ecologically viable sites. Conservation banks provide value with credits that help the bank's clients control costs and provide a permanent, expedited environmental permitting solution.

In addition to being more cost-effective, setting up its own conservation bank gives Alliant Energy the ability to use land it owns versus creating mitigation, which is difficult to preserve. This type of work also is applicable to other utilities dealing with similar issues.

PEOPLE

Our company's greatest strength lies with our people, so we work to develop processes and policies that empower opportunity. Through a culture of safety, excellence, well-being, entrepreneurship and giving back, we encourage all employee-owners to reach their highest potential.

This section illustrates our commitment to community, corporate culture and how we support our employee-owners in their pursuit of personal growth and client success.



COMMUNITY

We do work that matters every day, for our clients and our communities. In our project work, we build highways, improve water quality and deliver sustainable energy. Through our charitable work, we build homes for our neighbors, improve access to education and deliver breakfasts for families in need. We believe that building strong communities starts from the inside, by reaching out to help those in need because of circumstance or crisis.

We are in a special position to help — because of our technical knowledge as engineers, scientists, architects and builders — and because we are employee-owners who can make tremendous contributions through our Burns & McDonnell Foundation and other charitable organizations.

2018 COMMUNITY INVESTMENT

**NEARLY
\$7.5
MILLION
TOTAL INVESTMENT**

500+
ORGANIZATIONS
BENEFITED

20K+
TOTAL VOLUNTEER
HOURS DONATED

\$3.68M+
RAISED COMPANYWIDE FOR
UNITED WAY, SUPPORTING
INITIATIVES ACROSS THE U.S.

\$140K+
RAISED THROUGH THE
EMPLOYEE MATCHING GIFTS
PROGRAM, CULTIVATING THE
CAUSES OF EMPLOYEES BY
SUPPORTING ORGANIZATIONS
THAT MATTER TO THEM

1,050+
UNITS OF BLOOD DONATED
COMPANYWIDE

5K+
DONATED TO THE RED CROSS
FOR DISASTER RELIEF

\$56K+
DONATED COMPANYWIDE
THROUGH DENIM DAYS

10
SCIENCE CENTERS SUPPORTED
IN EIGHT U.S. STATES

\$250K+
AND MORE THAN 1,000 VOLUNTEER HOURS DONATED AT
ORGANIZATIONS RESTORING HOPE FOR THE HOMELESS
AS PART OF THE 2018 CHARITY OF CHOICE, A CAMPAIGN
THAT FOCUSES ON A SPECIFIC SOCIAL CONCERN EACH YEAR



GIVING BACK SPOTLIGHT

Sometimes, giving back happens in athletic wear. The Burns & McDonnell Foundation sponsored 20 walks, runs and bike races in seven states in 2018. These activities provide employees the opportunity to make an impact in the community while taking steps towards their personal wellness.

Employee-owners in the Calgary, Alberta, office joined 1,900 other riders from across the province to bike the Enbridge Ride to Conquer Cancer, with all donations going to the Alberta Cancer Foundation to support breakthrough cancer research. And Team Courage Coneheads from the Portland, Maine, office continued its 11-year commitment to the Pan-Mass Challenge, a 200-mile bike ride for the Dana Farber

Cancer Institute. The team has raised over \$1 million for cancer research over the years.

Employee-owners have also made a long-term commitment to pedaling and fundraising toward a world free of multiple sclerosis (MS). Team members from the Omaha, Nebraska, office participated in the Omaha Bike MS ride for the fifth year with their largest team ever, while nonbiking colleagues staffed an aid station. Over five years, the team has raised more than \$30,000 for the cause. In Kansas City, Missouri, Chairman and CEO Ray Kowalik and his wife joined a large team of employee-owners for the Kansas City Bike MS, raising more than \$75,000 in 2018 alone.

BURNS & McDONNELL FOUNDATION

The Burns & McDonnell Foundation reflects our belief in corporate citizenship and philanthropy. A 501(c)(3) organization, the Foundation directs giving, volunteering and grant programs in support of three primary areas: education, community

development and health. A Corporate Citizenship Committee, which includes a representative from each business practice and regional office, supports program implementation and encourages employee-owner involvement.



“

Given how strongly our employee-owners feel about giving back, I'm never surprised by the continuous growth our Foundation has seen — but I am constantly gratified by it. Over the years, we've been able to amplify the impact on causes that desperately need our support. I'm so proud that our intrinsic sense of duty is to take responsibility for others around us.”

Julee Konkak

Director, Burns & McDonnell Foundation





STEM EDUCATION

It's in our DNA to inspire a passion for STEM (science, technology, engineering and math) in the next generation. Our objective is to encourage these future leaders, thinkers and makers to push beyond their expectations — to dream big, plan smart and take initiative.

With support from the Burns & McDonnell Foundation, we bring our time, talents and monetary contributions to students and the institutions supporting them. This can come in the form of donations and volunteer judges for science fairs, or something bigger like the Burns & McDonnell Battle of the Brains — a K-12 academic competition where kids design a million-dollar science exhibit, then watch — and even help — as we design and build it at Science City In Kansas City.

The STEM resources webpage — at burnsmcd.com/STEMresources — appeals to a wide audience with personal stories of our employee-owners' career journeys and paths to STEM, as well as activities, how-to videos and other STEM-related experiments.

In 2018, Burns & McDonnell employee-owners offered:

- Students and teachers the ability to explore STEM careers through job shadowing.
- Engineering U, a free academy where students take part in hands-on engineering projects.
- Your World Empowered, a program introducing students and their parents to opportunities in the industry.
- Women's Shadow Day, an outreach effort in the Chicago office for local STEM students.
- A National Engineers Week event featuring NASA astronaut Jack Fischer, who highlighted some of his most inspiring achievements.
- Prospective student nights with local universities.
- Career-jumping sessions, where school groups explore STEM disciplines and career paths.
- Volunteer time at STEM events, including FIRST programs, science fairs and MATHCOUNTS.
- Educators Summit, a capacity-crowd event providing teachers with resources to engage STEM learning that they can take back to their classrooms.



STEM SPOTLIGHT

For nearly a decade, our partnership with Science City in Kansas City, Missouri, has helped transform the center into a vibrant place that delivers both fun and learning. In 2018, we made it official. With a backdrop of fireworks and a massive balloon drop, test tubes full of bubbly — some champagne, some apple juice — were raised to toast a multimillion-dollar, multiyear union that will benefit the entire region.

Burns & McDonnell will invest \$2.5 million to \$3 million over the next five years, bringing the total investment over the last decade to an excess of \$8 million. New initiatives are continuously being

developed, including a public celebration that reduces admission costs to the value of pi, a field trip and transportation fund, a series of pop-up science demonstrations and enrichment for summer camp activities.

Another significant opportunity is the Burns & McDonnell Battle of the Brains — a one-of-a-kind academic competition where area students inspire Science City's next great exhibit — which, so far, has provided an immersive educational experience for more than 20,000 area students and produced four new million-dollar exhibits.

EMPLOYEE-OWNERS

Thirty-three years of employee ownership have molded the Burns & McDonnell culture. Our prosperity is shared with all employee-owners who created that success, rather than just a few leaders or outside investors. Our hard work leads

to client success, which leads to our company's success. It's a profitable cycle that directly benefits each employee-owner financially and drives us to achieve our best.



HIRING AND RETENTION

We're growing rapidly, with hiring targets of 1,000+ new employees annually for the next several years. To support this expansion, our Human Resources (HR) department is highly focused on identifying, recruiting and retaining top talent worldwide. With an average of 46 applicants per opening, HR representatives can find ideal candidates with exceptional skills and the drive to succeed. Our chief administrative officer monitors progress toward formal recruiting, retention and diversity goals.

We aggressively recruit new graduates and experienced professionals, and we onboard them into an extensive training program. Many of these new team members are graduates of our robust internship program that recruits more than 280 college students each year.

On their start date, new employees attend a comprehensive orientation and meet their mentor, selected based on shared areas of interest or knowledge. Thanks to employee ownership, team members walk through the door into a supportive environment driven by entrepreneurship and collaboration.

1,000+
PROJECTED NEW EMPLOYEES
HIRED ANNUALLY

12%
JOB GROWTH

1 IN 3
NEW HIRES BY
EMPLOYEE REFERRALS

15%
OPENINGS FILLED BY
CURRENT EMPLOYEES





CULTURE SPOTLIGHT

The Burns & McDonnell Internship program is set up to introduce interns to the work that we do and the company culture that surrounds them. Starting from day one, interns are given many opportunities to engage with each other and full-time employee owners. With educational components built in throughout the summer, the interns have a chance to not only learn about the work we do and connect with the leadership of

the company, but further develop their technical skills and passions in a variety of experiences taking their knowledge from the classroom to the workplace. From a social hour at the end of their first day to baseball games, intramural sports, and giving back opportunities, the program is designed to expose interns to all that Burns & McDonnell has to offer in their careers.



WORKPLACE DIVERSITY

We value diversity in race, ethnicity, religion, gender and sexual orientation. As a growing and thriving company, we benefit from more than 7,000 unique perspectives on solving some of the world's most complicated challenges. While we are different in many ways, we are alike in using strengths gained through our backgrounds, experiences, education and more.

Our 31-member Diversity Advisory Committee champions efforts to heighten appreciation for diversity and inclusion. In June 2018, a monthlong celebration of diversity showcased differences that exist within our employee population.

Among events from our 2018 Diversity Month:

- A repeat visit from international speaker, award-winning entrepreneur and author Justin Jones-Fosu, who led a conversation about how to better utilize the knowledge of our differences in strengthening our community.
- A presentation about gender communication differences in the workplace, exploring how our distinct experiences inform how we talk and listen.
- Training about the generations in our workplace and what drives each of us, providing knowledge to create a supportive environment.

Additionally, the committee hosts a quarterly event that brings in such speakers as Dr. Bernard LaFayette for our Martin Luther King Jr. celebration.



2018 WORKPLACE DIVERSITY



45

DIFFERENT
LANGUAGES SPOKEN

800+

UNIVERSITIES
REPRESENTED

74

DIFFERENT PROFESSIONAL
REGISTRATIONS EARNED



VETERAN RECOGNITION

With their drive, perspective and problem-solving acumen, military veterans bring unique value to our company. We show our appreciation for their service every Veterans Day by hosting a breakfast at our world headquarters and lunches at regional offices.

We also offer a luncheon presentation for all employee-owners at our headquarters, complete with the traditional honoring of each branch with its service song. In 2018, attendees heard the

story of Max DeWeese, a former staff sergeant in the U.S. Marine Corps and two-time Purple Heart recipient who served during World War II in Guadalcanal, Tarawa, Saipan and Tinian.

Burns & McDonnell is also an active participant in the Society of American Military Engineers, U.S. Army Partnership for Youth Success, and the U.S. Chamber of Commerce Foundation's Hiring Our Heroes initiative.

HEALTH AND WELLNESS

All eligible employee-owners are offered a robust health and welfare benefit plan. We review our benefits annually to evolve our offerings according to the needs of team members across the company. Some of the changes for 2018 included starting new employees with paid time off (PTO) and a plan to allow PTO banking for those on short term disability/maternity leave.

Understanding health starts at home. Our wellness program extended to spouses and domestic partners in 2018 with an incentive to use fitness trackers and other metrics to help couples meet health goals and earn an insurance premium discount. The on-site health center and pharmacy at world headquarters debuted a newly upgraded electronic medical records system, which provides convenient access to providers, records and visit history.

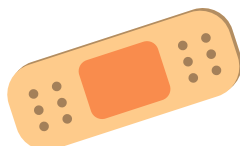
Employee-owners can take fitness classes at the headquarters fitness center and can utilize the fitness center attendant on staff either in the fitness center or by phone. In other offices, they benefit from free access to on-site gyms and discounts at off-site gyms. Company-sponsored intramurals and corporate challenges provide additional opportunities to encourage physical fitness. We offer programs such as bone density and skin cancer screenings, flu shots, tobacco cessation and more. Other wellness benefits include a bike at work program, health fairs, on-site farmers markets and a community-supported agriculture delivery program.



3,000
BIOMETRIC SCREENINGS
CONDUCTED IN 40 LOCATIONS



80%
OF EMPLOYEE-OWNERS RECEIVED
OUR WELLNESS INCENTIVE
PROGRAM DISCOUNT



7,137
TOTAL HEALTH CENTER VISITS



11,500
PRESCRIPTIONS FILLED
AT THE PHARMACY

PROFESSIONAL DEVELOPMENT

All employee-owners benefit from a robust training program designed to encourage ongoing growth and opportunity. Our Education and Training team helps professionals fulfill continuing education requirements for professional registrations and offers more than 1,600 internal classes annually. Taught by employee-owners for employee-owners, these classes reflect an effective and cost-efficient approach to knowledge sharing.

Professional development support includes:

- In-house training through Burns & McDonnell University on a wide range of technical, computer, safety, and personal and professional development topics. For many classes, employee-owners earn professional development hours after course completion.
- Tuition assistance for an advanced degree in a technical field or a Master of Business Administration, after six months of employment.
- Paid time off to take examinations for professional registrations and 100% coverage of the initial registration fee.
- Dues coverage at 100% for select professional or technical organizations.

1,600+
INTERNAL CLASSES
ANNUALLY

183
EMPLOYEE-OWNER
INSTRUCTORS

48,100
TOTAL HOURS OF
TRAINING

\$6,298
AVERAGE TUITION
REIMBURSEMENT





EMPLOYEE-OWNER SPOTLIGHT

CHRISTOPHER RAIDER

Some people take a nontraditional path to engineering. Christopher Raider joined the U.S. Navy right out of high school, and his aptitude for electrical systems earned him a position as an electronics technician. When he decided to pursue his college degree as part of the GI Bill, he didn't know much about his future profession. "I met an electrical engineer and — while I didn't really know what he did — he seemed to know my systems very well," he says.

Christopher joined Burns & McDonnell after graduation and worked his way up to a role as manager for the Networks, Integration & Automation department. When his duties demanded a greater focus on strategic management and personal development, he pursued and earned his MBA. The company covers half the cost of an employee's MBA program after six months of employment, and the full cost after three years.

He has returned the favor of the firm's support by leading training and professional development on topics such as mentorship as a behavior and owning your career. "I feel empowered here. When I have a good idea, I get to pursue it," he says. "I see a similar entrepreneurial drive in my colleagues, and I work hard to nurture it, because the rewards are worth the hard work."



SUPPLIERS

Working around the world demands broad knowledge, so we build our practice on proactive inclusion of small and diverse business partners. Suppliers with specialized experience, skill, equipment or local know-how help us deliver successful projects, increasing our capabilities and value in the marketplace. We count on these partners to provide essential materials and innovative services at competitive prices.

Businesses owned by women, veterans, minorities and others from underrepresented sectors help prepare us to exceed our clients' expectations, creating results that are critical for the success of all.

We seek suppliers and contractors who share our values and priorities, beginning with safety. We evaluate companies by strict criteria before awarding work, including:

- Safety record as evaluated against industry norms.
- Ability to comply with performance standards, indicated by experience in work of comparable magnitude and complexity.
- Financial strength, measured by comparative data, bank references and credit reports.
- Record of business, including evidence of capability, integrity and business ethics.

- Adequate staffing of experienced managerial, technical and supervisory personnel.
- Written evidence of quality certifications and quality assurance/quality control programs.
- Existing trade and/or working agreements and records of labor relations.

We actively participate in more than 15 chambers and organizations that positively impact business diversity and inclusion. We engage in both informal

and formal mentoring for small businesses through the U.S. Small Business Administration's Mentor-Protégé program.

Our annual Supplier Diversity Awards recognize outstanding diversity partnerships that strengthen local businesses and empower communities. The awards also inspire our project managers to continue broadening our sourcing and project inclusion initiatives.

25%

**OF PURCHASE ORDER
EXPENDITURES COMPANYWIDE
WERE AWARDED TO
DIVERSE BUSINESSES**

27%

**OF CONTRACTS WERE AWARDED TO
DIVERSE BUSINESSES, INCLUDING \$4.6M
TO WOMEN-OWNED ENTERPRISES, ON OUR
WORLD HEADQUARTERS EXPANSION**

**ON A RECENT PROJECT FOR THE
CITY OF KANSAS CITY, OUR TEAM
INCREASED USE OF MINORITY-
OWNED BUSINESSES AS PRIME
CONSULTANTS BY**

400%



Constantly striving for a better Burns & McDonnell.

Our focus on sustainability makes us a more innovative, compassionate, resilient and competitive organization. We fulfill our commitment through our devotion to the safety and well-being of our employee-owners, our investment in supporting our communities, and our mindfulness of the environmental impact of the projects we bring to life.

We are engineers, architects, construction professionals, scientists, consultants and entrepreneurs who care deeply about the short- and long-term impact of our work. In a time when the built environment is constantly and significantly reshaping the world around us, we believe we have a significant opportunity to be a catalyst for positive change.



To learn more about
our sustainability
efforts, contact us
at [sustainability@
burnsmcd.com](mailto:sustainability@burnsmcd.com).





CREATE AMAZING.

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